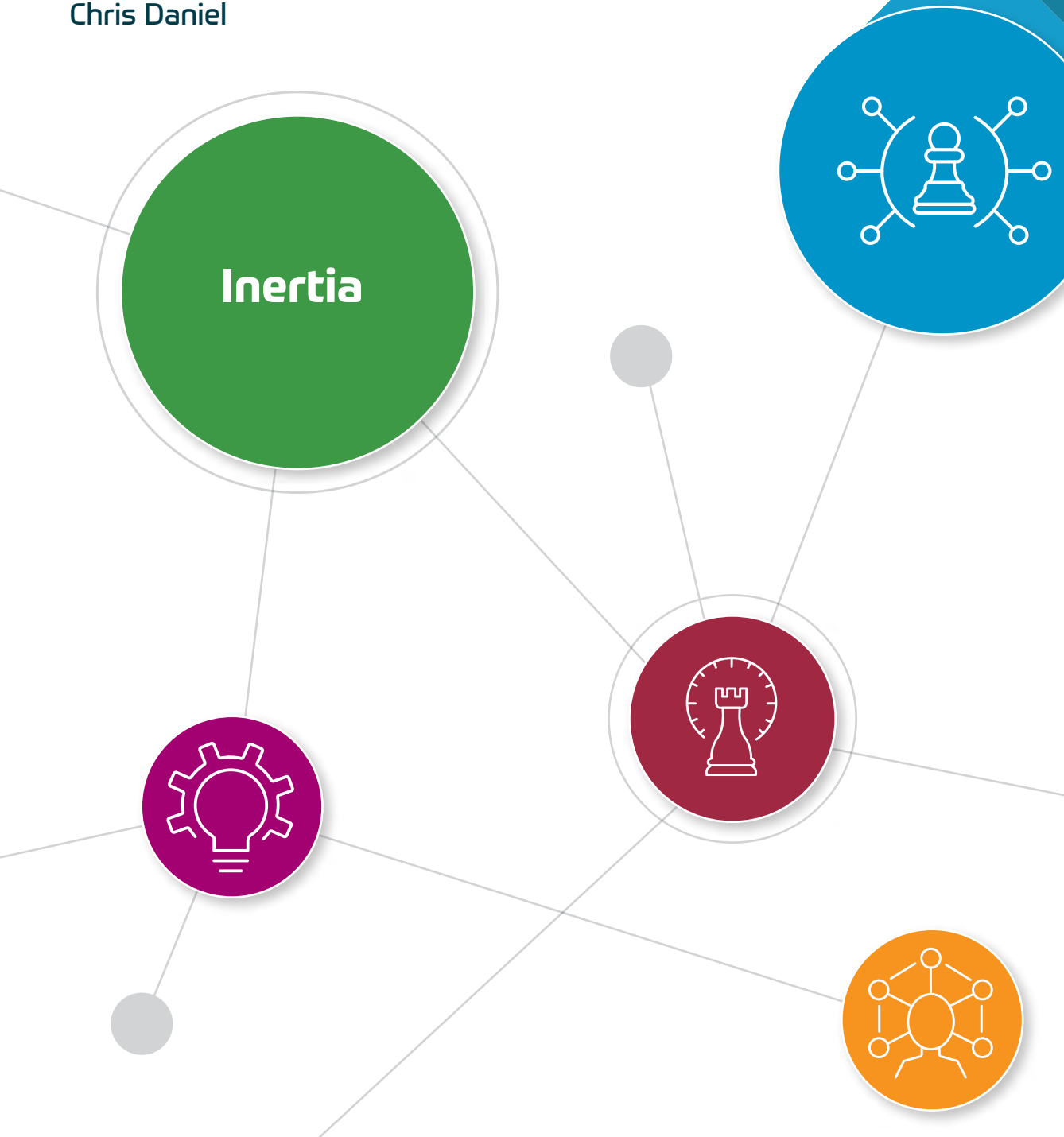


Mapping #2: Remaining Nimble... ... Despite Your Mass

Practice Paper

Chris Daniel





Our world is complex and full of uncertainty, which means we live with constant change. As time passes, new situations emerge and new conditions become visible; we have to learn and adapt, and, paraphrasing Charles Darwin's work, our ability to adapt determines our success far more than any other skill, asset or capability.

Changes come in many different forms. Some are part of a clear trend and can be anticipated. The phrase 'anticipating the future' has a quite broad meaning – even discounting any kind of crystal ball. For example, we might observe that certain market conditions will become unsupporting in the future. We mean that we expect something new to appear – though we have no clue what it will be. In other situations, we expect certain things to happen, but have no idea when. A good example is Artificial Intelligence – many people expect that most day-to-day customer care will be handled by AI robots, but cannot say when. But some changes are completely unpredictable.

The ancient Greek philosopher Heraclitus observed that the only thing that is constant is change. Though history likes to repeat itself, each blink of an eye makes things different, and we learn all the time. Once we understand something new, we can see further into the future, and we can see more things we do not understand.

“Our ability to adapt determines our success.”

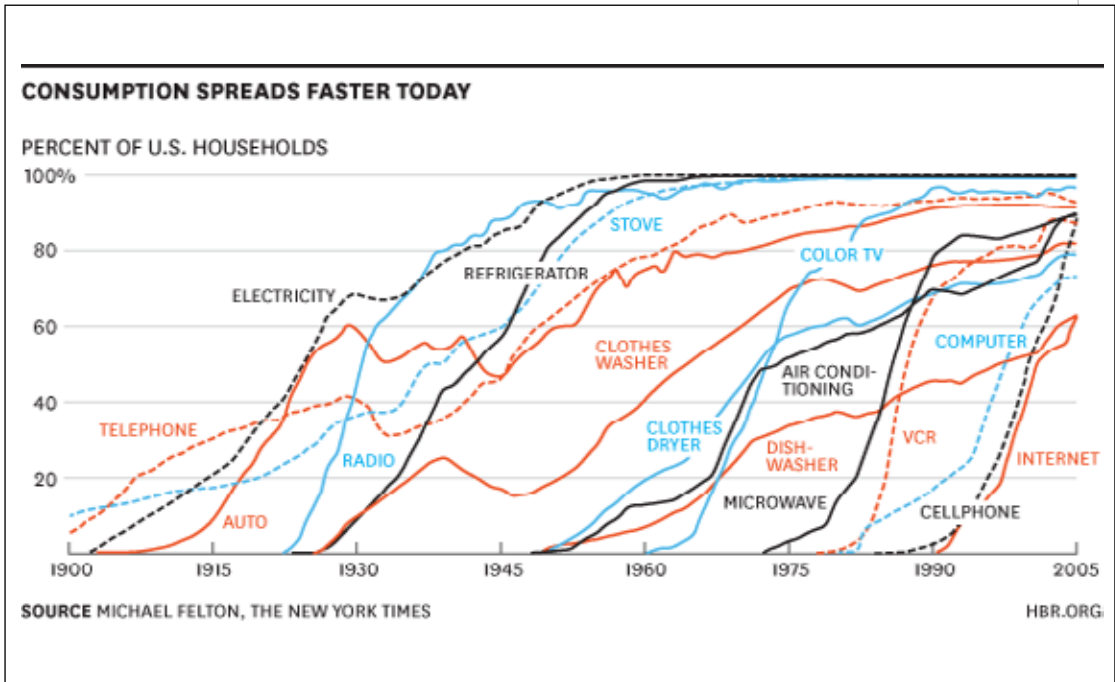


Figure 1: Conquering the market was never ‘faster’, but that does not mean ‘easier’. On the contrary, it means increased competition

But this barely scratches the surface of the situation. The reality is that change itself changes, in the sense that it happens at a faster and faster rate. Dramatic improvements in key communication areas (such as logistics, transport of people, marketing and even social dynamics) have greatly reduced the time it takes to conquer the world in the business sense, as Figure 1 illustrates.

We are better at knowledge management and at collaboration; we create new and exciting things faster than ever before; and we know how to reach our customers in no time at all.

Such changes are formed of two co-dependent streams: a *basic stream* driven by the basic laws of competition, which makes products and activities ever more efficient without tampering with their nature; and a *macro stream* consisting of dependencies between different products. For example, widespread computerization was not possible without prior electrification and the invention of cheap semiconductors. Since important inventions and optimizations enable other inventions, market focus follows industries with the biggest potentials – long ago, electricity was a high-margin business; today, other industries have become ‘hot’¹.

“The only thing that is constant is change.”

1. This perceived ‘hotness’ can be quite amusing to watch. For example, a past photography giant announced its own cryptocurrency and its shares instantly soared (up 89 percent). <https://techcrunch.com/2018/01/10/kodak-stock-price-up-89-after-announcing-ico/>

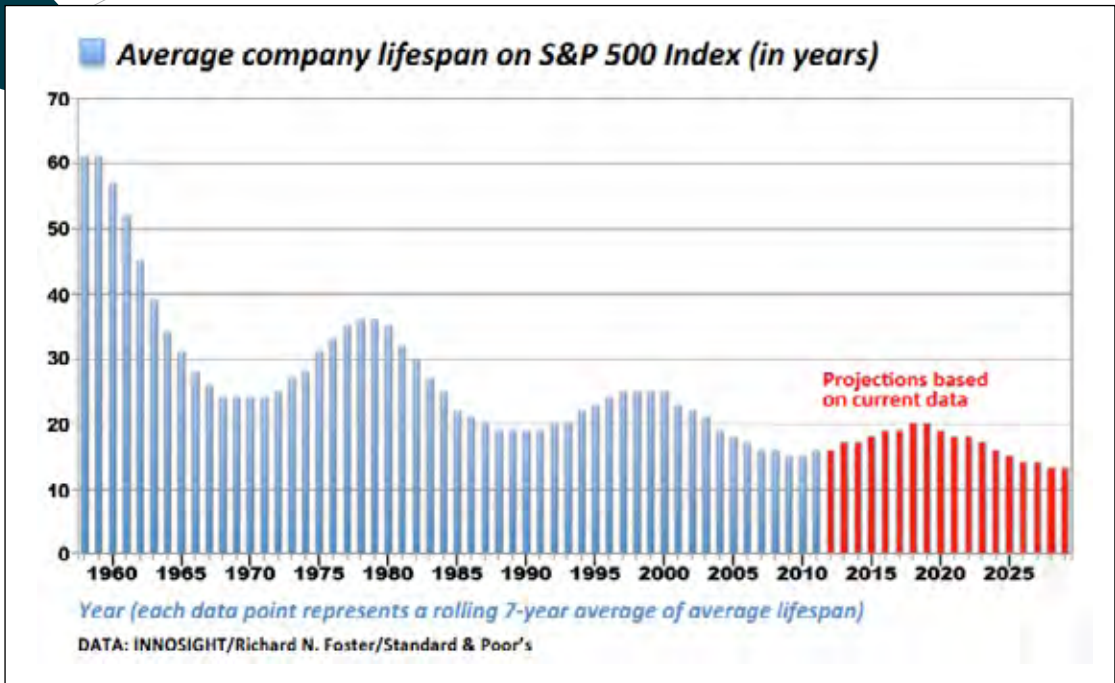


Figure 2 – How the increasing rate of changes affects company lifespan

Most existing companies can handle (though not without trouble) change at the basic level, but industrial-scale shifts are too much. Companies do attempt pivots, but (as the data in Figure 2 shows) without much success. As the rate of change has increased, company lifespans have shrunk.

Why change management is so difficult

Nokia started in 1865 as a wood pulp mill. Over decades, it acquired and operated businesses in many industry sectors, before focusing on telecommunications and mobile telephony in the 1990s. It has continued to explore new opportunities and at the time of writing is a world leader in next-generation services and technology, including personal health gadgets. But Nokia is exceptional. The majority of companies are not capable of continuous transformation, and cease operating shortly after (or before) their primary market closes.

There are two important reasons why this happens. The first is so simple and so trivial that it can be easily overlooked, discounted or laughed out of court, and therefore it needs to be explicitly stated: We want to protect what we already have².

Note that this ‘protection’ is often contradictory to the company’s long-term interests, as people taking decisions or even just advising others will put their own good before the good of the company, especially if the accusation of such an approach can be plausibly denied. Such ‘protection’ may take many different forms, and be exercised by many different actors:

- Shareholders may want to protect their profits and demand that the board cuts costs, even if it means the company will not have money for critical R&D/investment in the future.
- CEOs may protect their reputation, position and bonuses by ensuring that everything looks good at the end of their watch. Calling out wrong decisions and poor management choices can be postponed nearly indefinitely.
- Employees may protest or even blatantly sabotage a change if it threatens their position or business unit.
- Customers may not be willing to pay to invest in new know-how or more modern solutions, and they want to retain their profits as long as possible. Hence they will demand backward compatibility and long-term support.

“We want to protect what we already have.”

2. https://en.wikipedia.org/wiki/Loss_aversion

This last source of protection may be surprising. Customers have a dual role: if you have customers, your company is successful, but those customers have committed to a certain approach and will resist any change that costs them money. Do not be fooled – when enough market pressure to change mounts on your customers, they will switch without sentiment to a more efficient solution, leaving you alone with your outdated product.

In an ideal world, you would dispose of that product and every associated part of your company, in order to get some liquidity and invest in something better. Unfortunately, that is rarely possible – first, because you may still have some loyal customers, and second, because some of those assets are of extremely low liquidity, as you cannot easily sell processes, knowledge or products that are outdated. What is more, these assets are intangible and not present in the company balance sheets because modern accounting practices rarely handle them well. Depreciating or amortizing processes or knowledge is still not a standard practice, even though we know their value diminishes over time.

The more low-liquidity assets you have, the more difficult it will be for you to adapt, and the greater the incentive to postpone write-offs, especially those that are not material or plainly visible.

In his book *The 7 Habits of Highly Effective People*, Stephen Covey's second recommended habit is to begin with the end in mind. This observation has very interesting consequences:

- First, you have to think about the *exit conditions* for every decision, and especially for every investment that creates low-liquidity assets. (Examples include management practices and the systems supporting them, company culture, the reward system, and potentially many, many more.) Just assessing the risk of the company's chief source of income drying, and anticipating a possible date when it might happen, may completely change your perspective and render certain investments unattractive, especially if better approaches are already appearing in the market.

- Second, the more assets you own, the more difficult it is to adapt. As the photograph on page 1 illustrates, large mass does not support rapid manoeuvres. The bigger your company, the more people have their own trophies and territories, and the more they will protect the status quo. And the bigger your company, the more assets you will have to write off when you change. Using outsourcing wisely³ helps to limit the size of your company, cut costs and increase efficiency.
- Last but not least, success cannot be considered to be permanent. It is short-lived by its nature and has to be recognized as such. This forces you to consciously take more risks and look for new potential sources of future successes.

No business can exist without assets. Monitoring the assets you are responsible for (which is much broader than pure ownership) means you have to constantly monitor whether generated value offsets induced risks.

What adds to your mass?

Organizational issues

There are two failings in particular that will cause an organization of any scale to add or retain excess mass:

1. **Duplication** – if your company has multiple local systems doing the same thing (for example, multiple CRMs in a bank), it is very difficult to measure their efficiency, and if rationalization is proposed at least some of their owners will not see a reason to change or will even actively fight the change.
2. **Insufficient outsourcing** – it is far easier to terminate or not renew a contract with a vendor than to close a factory. Proper use of outsourcing can not only save costs, but also lower exit costs and transfer some risks to your vendor. (See footnote 4.)

As well as these two major organizational issues, we have identified 16 other forms of inertia⁴, which we have divided into four major groups:

Past success

Every successful undertaking results in natural aversion to any change. We have observed the following mechanisms:

“Begin with the end in mind.”

3. See our paper *A Practical Guide to Avoiding Outsourcing Problems* <https://leadingedgeforum.com/publication/mapping-1-a-practical-guide-to-avoiding-outsourcing-problems/>
4. In physics, inertia means a tendency to remain unchanged. See, for example: <https://en.wikipedia.org/wiki/Inertia>

3. **Declining unit value** – as time passes, the cost of producing any good or delivering any service usually falls, because experience enables you to optimize. However, if the competition leapfrogs you and becomes even more efficient, you may be tempted to cut your costs to keep margins high rather than investing in learning and introducing changes. We call this path the ‘spiral of death’, as a reduced workforce does not have the capacity to invest in new knowledge.
4. **Data for past success misleads** – humans think in a linear way. Forecasts based on past successes will indicate a rosy future even though the market may be close to saturation.
5. **Resistance to changed rewards and culture** – new business models may bring less generous rewards and drastic changes to how the company operates. It would be in the interest of every involved party to keep status quo.
6. **External financial markets reinforce existing models** – shareholders may be pushing the board to exploit the current, apparently more certain market, hoping they will cash in profits in the near future.

Past norms

This group covers various intangible, off-balance-sheet assets that change may mean have to be written off, yet the natural tendency is to retain them:

7. **Business relationships** – your customers may not be willing to invest in the new way of doing things and will thus give you a false sense of security – until they switch provider to restore margins; your suppliers, after many years of successful cooperation, may have become your friends, which makes it harder to cancel contracts with them.
8. **Financial/physical capital** – nobody is keen to make wrong decisions or mishandled investments public and write off their consequences, especially if it is possible to give the impression that all is well.
9. **Political capital** – a shift in corporate strategy will mean some careers will end and/or some people will lose their power. Those affected will object to the change, perhaps indirectly.

10. **Barriers to entry** – this one is slightly different. A barrier to entry, whether it is a rare asset or specialized knowledge, protects the business from competition. But what few people realize is that the barrier to entry is temporary. Since everything evolves, if the market is attractive enough, competitors will appear, and the barrier to entry will be breached. When this happens, the affected business may attempt to carry on as usual, following outdated forecasts (see item 4) and to fulfil public promises given to shareholders (see item 6).

Agency of the new

This group includes significant risks that prevent adoption of a given solution even when it has been identified as the next ‘right’ thing to do:

11. **Suitability** – your customers may not be willing to adopt a barely known solution even if it is significantly better than the former one. They may fear that the risks are greater than the benefits.
12. **Lack of second sourcing** – if you are the only provider of a new approach, companies may be reluctant to become your customer because they fear lock-in.
13. **Lack of pricing competition** – if you are the only provider of a new approach, your potential customers may walk away because they are afraid you will use their commitment to extract more money than they are willing to pay.
14. **Lack of strategic control** – your customer certainly already has some control measures and processes set up; adopting your new solution may require some of those controls to be delegated to you. Giving up controls or strategic processes (e.g. cloud management) to a third party may be perceived as risky to the company and a reduction in its power.

Cost of the new

In the last group are four pure cost categories associated with introducing a new change. These costs can be used to argue that the current arrangement is the best:

15. **Knowledge** – hiring new people
16. **New skillset** – training
17. **New business relationships** – marketing, seeking and testing new suppliers
18. **Governance, management, practices** – new processes needed to cope with new risks.

The current state of affairs

The Wikipedia definition cited above says that inertia is a primary manifestation of mass, and while this definition was created with physics in mind, it applies to businesses, too. Coping with any change requires effort and the bigger the change, the bigger the mass likely to be affected and therefore the greater the effort. The only difference is that in business, the mass (in the form of assets) is not always visible; and those assets may be internal (where relevant decision-makers have their personal agendas) or external (where customers have their own plans).

Since most existing management frameworks do not seem to cover inertia at all, merely understanding it and taking it into account while taking decisions will constitute a powerful, long-term advantage.

How to cope with inertia

Understanding inertia is the first and most important step, because then you will not only be able to predict or spot what's preventing change, but you will be able to use it to guide your decisions. You will know the cost of getting out of a particular business or getting rid of a particular asset, even if you choose to ignore it to realize short-term benefits.

This section describes a mechanism for understanding the inertia in your organization.

Understand structure

In some cases, inertia is associated with the final product, and therefore it is very difficult to change the business model. In others, inertia affects simple components that need to be altered in order to increase efficiency. The first step is to visualize your organizational structure, as in the example in Figure 3.

The visualization starts with identification of the user being served (usually the customer) and his/her needs. This step provides an anchor – a reference point that shows what exactly the company is doing, what value is being delivered to the end user and how she/he perceives that value.

Then you create a chain of dependencies, by repeatedly asking the question 'What do I need to do that?' where 'that' initially means the user need, and in later stages refers to identified components.

The structure that results forms a dependency tree, where components closest to the user (needs and what satisfies them) are most visible, while those lower in the hierarchy can be assumed to be invisible or ignored by customers.

“The first step is to visualize your organizational structure.”

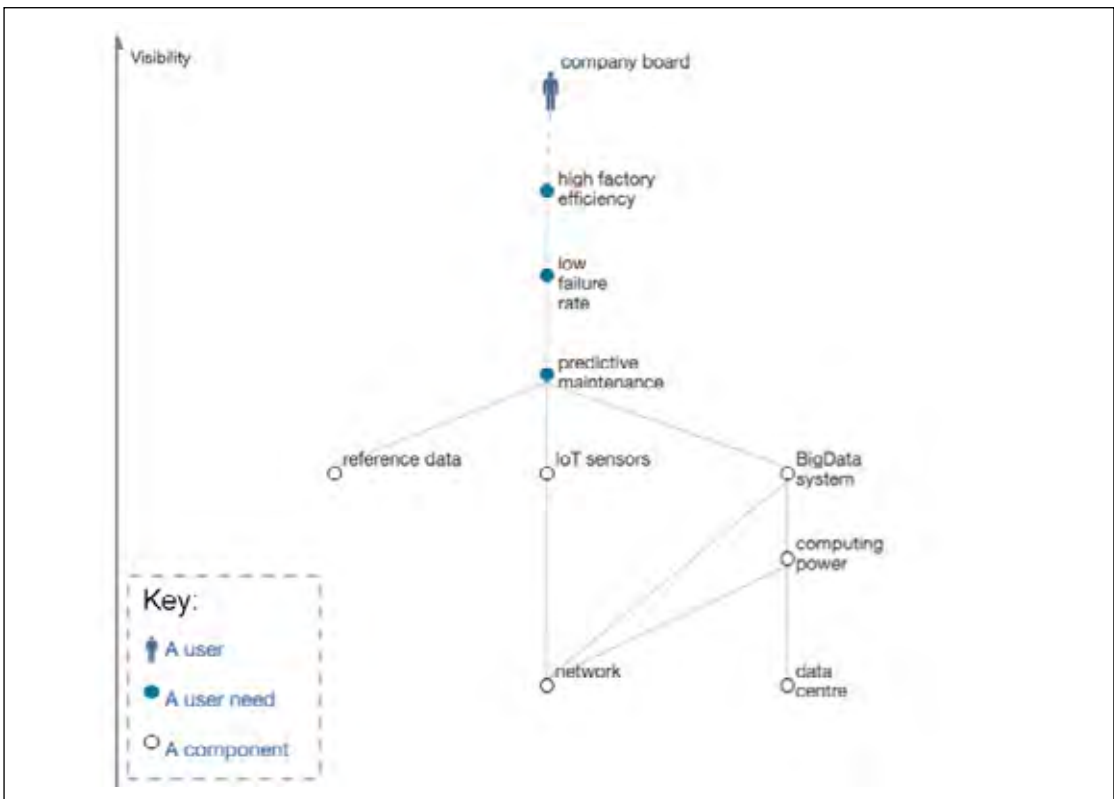


Figure 3 – A simple map of value chain components

Very often, questions arise about the subjectivity of such a representation, and they are justifiable. Two people in similar environments may have completely different understandings of the situation, and different things may be important to them. This is natural, and expected, and can be countered only by showing your diagrams to others and opening yourselves for honest discussion about what is really needed.

You may have to create more than one diagram if your company is large. At this stage, look at components that appear more than once and centralize them if possible.

Understand how components naturally evolve

Each component (whether a practice or data) starts as an experiment, as something immature, and over time and through being used, gets more efficient until it is a boring (or 'hygiene') cost of doing business. This evolution goes through four stages:

- **Stage I (Genesis)** describes something very new and highly uncertain. These components usually are not used commercially, but they seem to have some future value that needs to be identified by experiments and exploited.

- **Stage II (Custom-built)** describes components that are used commercially but are not yet offered by vendors. Whether skills or solutions, you have to create them for yourself, or have them created specifically for you. The uncertainty is high, but so too is the potential reward from using the solution.

- **Stage III (Product/rental)** describes components that are available as off-the-shelf solutions. You need them and you can buy them (though they may be expensive). The associated uncertainty is rather low, as you know what to expect from your investment.

- **Stage IV (Commodity/utility)** describes mature components with little to no uncertainty. They are so mature that they are often taken for granted and attract attention only when they fail.

LEF Researcher Simon Wardley has drawn up the table in Figure 4 to help identify the stage of evolution of any component by its characteristics.

Type	I - Genesis	II – Custom-built	III - Product	IV - Commodity
Characteristics				
Ubiquity	Rare	Slowly increasing adoption	Rapidly increasing consumption	Widespread and stabilizing
Certainty	Poorly understood	Rapid increases in learning	Rapid increases in use	Commonly understood in terms of use
Publication focus (Press, social media)	Wonder of the component	Building, constructing, awareness and learning	Maintenance, operations, installation, features	Use and what can be built with it
General properties				
Market	Not existing or undefined	Forming	Growing	Mature
Knowledge	Experimenting	Learning how to use	Learning how to operate efficiently	-
How people in the industry branch see it	Too early to say	Domain of experts	Expected to be used	Trivial and expected to be used
User perception	Exciting, surprising, confusing, different	Emerging	Expected	Standard
Perception of the business people	Possibly a competitive advantage	A competitive advantage. Focus on ROI and examples	Advantage through implementation or additional features	Cost of doing business
Focus on value	High future worth	Seeking profit	High profitability	Reducing margin compensated by volumes
Understanding	Unpredictable	Increasing understanding. Development of measures	Increasing education. Refinements of measures	Well defined, stable and measurable
When comparing with other companies using the same component	Difficult to understand what the other company is doing	It is possible to learn from other companies	It is possible to find feature differences and identify important ones.	It is possible to find out best practices worth copying
Failure	Tolerated if not assumed	Unsurprising	Not tolerated, focus on improvement.	Not expected
Marketing approach	Gambling	Exploring a found value	Market analysis	Metric driven
Efficiency	Reducing the cost of change	Reducing cost of waste		Reducing cost of deviation
Decision drivers	Heritage/culture	Analyses and synthesis		Previous experience

Figure 4 – Characteristics of components at each of the four stages

When you know what stage your components are at, you can transform your value chain into a *Wardley map*. Figure 5 shows this done for the example in Figure 3.

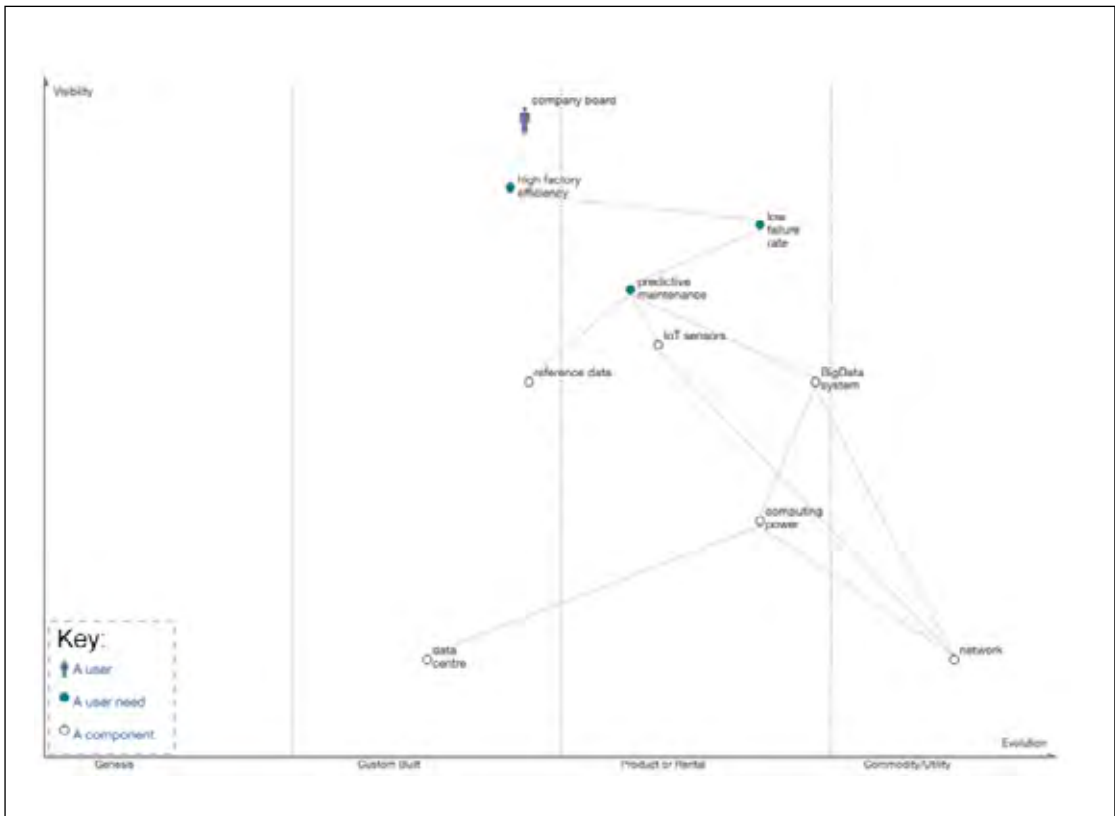


Figure 5 – Uncertainty gets added to the value chain

On this map, note areas where you have heavy investment, and things that are difficult to change. Pay special attention to the area on the border between Stage III (product/rental) and Stage IV (commodity/utility), where the focus shifts from doing things right to doing them right in volume. This transition usually requires a completely different approach and all associated processes have to be reengineered.

“Each component starts as an experiment and over time gets more efficient.”

Categorize inertia and use countermeasures

This is summarized in the table in Figure 6.

	Source of inertia	Countermeasure
1	Duplication	Merge different implementations, form a team around the new component, establish a centre of excellence and make all the associated practices consistent.
2	Too many assets	Use outsourcing where appropriate.
3	Declining unit value	<p>In the first place, be the one seeking efficiency and cutting price, even if it means disrupting yourself. Sticking to a cash cow for too long will put you out of business, as happened when Kodak persisted with film-based photography and missed the digital business.</p> <p>If the component is in late Stage III, and you are not the disruptor, prepare for external players joining the game. Stress-test a case of your competitor entering the market with a ten-times more efficient product.</p> <p>If you cannot cope with inertia, split your business, sell the part without prospects before anyone else notices inertia, and reinvest money into the new approach.</p>
4	Data for past success counteracts	In general, be aware that while linearity is often observed, it can be very misleading, especially if the industrialization process from Stage III to Stage IV has started (or any other significant event chips in).
5	Resistance from rewards and culture	Stress-test your sales process for a ten-times cheaper product. Will sales people still have proper incentives to work? Are your employees in a conflict of interest (e.g. the change threatens their jobs)? Educate them and teach them that any position and any power they have is temporary.
6	External financial markets reinforce existing models	Be clear about time perspectives and exit costs. Many projects will appear less interesting, and you will save a lot of money.
7	Suitability	Prepare strong use cases for how the solution should be used and how it will help your customers. Let customers run tests and pilots.
8	Lack of second sourcing options	Prepare an exit path for your customers. Ensure data belongs to them.
9	Lack of pricing competition	Ensure transparent pricing. Use 'open source' to actually create competition.
10	Loss of strategic control	Educate your customers. Be transparent if possible. Earn trust by working with new market entrants.
11	Changes to governance, management and practices	Educate your customers.
12	Investment in knowledge capital	This is inevitable. Plan for it.
13	Cost of acquiring new skillsets	This is inevitable. Plan for it.
14	Investment in new business relationships	This is inevitable. Plan for it.
15	Threats to barrier to entry	This is inevitable. You may slow down such a threat by spreading fear, uncertainty and doubt, but better to plan for it.
16	Loss of existing financial or physical capital	Plan your investments with Wardley maps to avoid investing in outdated activities, and take into account timespan coming from evolution.
17	Loss of political capital	Use maps to prevent unwanted investments.
18	Change of business relationships	Use maps to prevent undesired outsourcing contracts.

Figure 6 – Countermeasures to address the 18 causes of inertia

'Begin with the end in mind'

This quote is worth repeating as it summarizes our message. People tend to investigate and calculate the costs of building something and the cost of owning something, but rarely think what it will take to get rid of something. More often than not, exit costs are simply added to the cost of the new solution, which can render the new solution ineffective only because of those exit costs. Resistance to change can be caused by *neglecting* exit costs.

By repeatedly analyzing your business and looking for signs of existing inertia and upcoming market shifts, you can easily keep your company structure small and agile, without sacrificing any of your operational excellence.

Final note

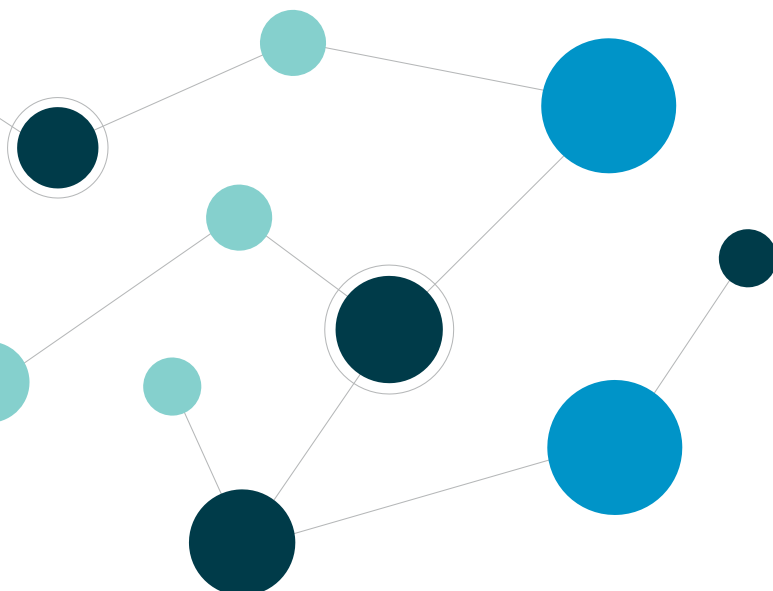
Keep in mind that inertia is not always a bad thing. It has some positive aspects, too. For example, your customers will not jump to a more efficient provider instantly when one appears; you will have some time to catch up (although the countdown has already started).

A more advanced, strategic, usage of inertia is to take into account the inertia of your business competitors. If you identify that your biggest opponents have substantial illiquid assets, you can storm the market without fear, confident that it will be a couple of years before they are able to react. However, such exploitation requires a significant level of situational awareness, which can be achieved by learning how to create the situational maps developed by Simon Wardley⁵.

Acknowledgements

This paper is based on the framework of Wardley Maps, created by Simon Wardley.

“Keep in mind that inertia is not always a bad thing.”



Regional Headquarters

The Americas

1775 Tysons Blvd
Tysons, VA 22102
USA

3000 Hanover St
Palo Alto, CA 94304-1112
USA

Asia, Middle East, Africa

Level 9, UE Biz Hub East
6 Changi Business Park Avenue 1
Singapore 468017
The Republic of Singapore

Australia & New Zealand

26 Talavera Road
Macquarie Park, NSW 2113
Australia

North and Central Europe

Schickardstrasse 32
71034 Boeblingen
Germany

South Europe

Tour Carpe Diem
31 place des Corolles
CS 40075
92098 Paris La Défense Cedex
France

UK and Ireland

Floor 4
One Pancras Square
London
N1C 4AG
United Kingdom

United Kingdom

Bracknell/Amen Corner B1-2, UK
Cain Rd. Amen Corner (Blgd BRA02)
Bracknell RG12 1HN
United Kingdom

About DXC Technology

DXC Technology (NYSE: DXC) is the world's leading independent, end-to-end IT services company, helping clients harness the power of innovation to thrive on change. Created by the merger of CSC and the Enterprise Services business of Hewlett Packard Enterprise, DXC Technology serves nearly 6,000 private- and public-sector clients across 70 countries. The company's technology independence, global talent and extensive partner alliance combine to deliver powerful next-generation IT services and solutions. DXC Technology is recognized among the best corporate citizens globally. For more information, visit www.dxc.technology.

Leading Edge Forum

Asia Pacific and Australia

135 King Street
Level 20, Sydney
NSW 2000
Australia

France

Tour Carpe Diem
31 place des Corolles
CS 40075
92098 Paris La Défense Cedex
France

Germany, Austria and Switzerland

Römerstrasse 11
D-82049 Pullach
Germany

United Kingdom, Ireland, Iberia, Italy, Benelux, The Nordic Region and South Africa

Floor 4
One Pancras Square
London
N1C 4AG
United Kingdom

United States and Canada

1775 Tysons Blvd
Tysons, VA 22102
USA

About Leading Edge Forum

Leading Edge Forum (LEF) is a global research and thought leadership programme dedicated to helping clients reimagine their organizations and leadership for a tech-driven future. We serve as a strategic touchpoint for CXO teams to provoke and challenge their thinking to help them win in the 21st century.

We believe that as business and IT become inseparable, virtually every aspect of work and the modern firm will need to be reimaged, and this creates exciting new digital opportunities.

Through an annual membership programme of research, events, onsite workshops and advisory services, we support senior leaders in areas such as strategy, organizational change, executive education, talent development and the future of the IT function. Members enjoy personalized access to our global network of thought leaders, clients and leading practitioners.

Leading Edge Forum is part of DXC Technology. For more information, visit leadingedgeforum.com.