A Brave New Virtualized World

MUCH MORE THAN TECHNOLOGY IS ON THE MOVE

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The irreversible growth towards virtualization

The emergence of new technology capabilities created a new standard out of virtualization. What was a mere technology approach aiming at expanding computing power a few years ago has turned into the default configuration for business, technology, science and a little bit of every day's life if you subscribe to Amazon or iTunes.

Storage and processing are now routinely dematerialized (anywhere, anytime) and commoditized (source and process irrelevant). The infrastructure components formally known as Fixed Assets are now fluid and the concept of ownership is rapidly diluting: who really owns the Dropbox server that you use to store your business presentation and share it with others?

Information is data and is being virtualized at fast speed too: any data posted or shared become a permanent, irreversible fixture of a new virtual reality. This new world is in fact growing faster than the one we live in. As nothing in it ever disappears; it is just a question of time before it gets bigger than our physical one. Searching on the internet is already providing so many responses that tools have been created to filter the data to a manageable volume. The localization of the knowledge is no longer the exclusive charter of libraries and universities, but is spread over thousands, millions of simultaneous sites unrelated to each other.

Finally, the bastion of data repository that used to be the Data Center is now turning into a large closet with remote connections into now immaterial sub-sites and other virtual networks. Big Data crashed through the front door and has forced the technology fortresses to open their inner sanctum to a flurry of data stores which are independent from the company and its business.

Welcome to the new world order. Beyond the immediate changes the Virtualized world brings, other changes are taking place at a deeper and less visible level, precursors of bigger transformations to come. Tomorrow's corporations will not look like the ones we know, and it's already happening.

A New (Virtualized) World Order

Newly empowered end-users and customers have been demanding that the same tools capabilities they enjoy in their private lives be available everywhere, including at work and when conducting business. The pressure of these masses made it happen, regardless whether organizations were ready or willing. Data centers and Enterprises have been evolving their organization along the way, to match this transformation.

Functions and departments that have been directly involved into the virtual domain have adapted, however slightly. But the use of virtual data and architectures permeates already all layers of the enterprise, impacting processes, tools, communications and even the very nature of the jobs. Beyond these pockets, very little has actually changed in the organizational structure, especially the IT and data-dependent functions such as Marketing, Sales or HR. Sales and Marketing departments might rely more on contractors and data-providers, but the recent access to massive data feeds remain sporadic and unstructured. Big Data remains a domain of specialists to which small and medium companies seldom gain full access.

It is conceivable that within the next decade, many companies will be operating without an IT department as we know it, and that functions of Marketing and Sales and Lead Generation will have become a network of satellite sources and functions. The new corporate culture that is emerging rapidly is still in its infancy: we do not know yet how much, how far the virtualization will carry on.
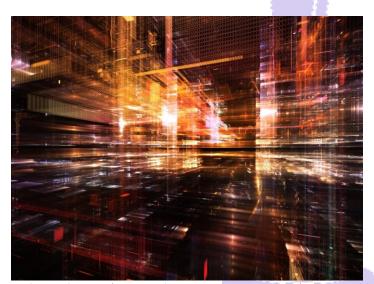
The dematerialization of the data repository erases national and geographical boundaries, as an aggregate data-mart might capture data streams from all over the world. Those seeking and managing these information flows do not care where and how the information gets to them, as long as it is there. Like electricity, we rarely know where it comes from and who the actual generator is. A correlated change: data miners, who used to know where to find the right information are being replaced with data aggregators whose skills include the recognition of patterns and correlations from massive amounts of data. Intelligent engines are already taking over large portions of the analysis, using complex algorithms and fractals. The value of "knowledge" is disappearing, to be replaced with analytical excellence and speed.

We need to rethink our core beliefs, such as how we value the years of experience and practice, how we acquire knowledge, analyze success and failures or bring valuable expertise to the enterprise. A whiz-kid with a tablet or an advanced engine might get the same knowledge equity at a fraction of the cost and time it would take to groom an expert. Sorry, Ivy League… It will impact all disciplines such as leadership, management, security, R&D. Why hire a veteran of M&A integration if a much less experienced manager can do the job with the knowledge of thousands of integrations at the tip of the fingers? It is not just cheaper: how can one lifetime compete with the collective experience available worldwide?

We are the participating spectators of a transformation which is going to change organizations to their very core, in ways we can barely comprehend yet.

Of course niche domains of knowledge and expertise will remain, that make an organization unique, Intellectual Property niches such as chemical formulas and privileged know-how. But even those are getting under siege, as the value of a nugget of IP has an expiration date, only lasting until someone else recreates it or finds a comparable knowledge; this time is getting shorter every day.

The flow of information and supplies in the Enterprise is rarely considered from a strategic perspective, as we have an engineering bias towards thinking in terms of process. We therefore seldom question the rationale or strategic value of the process, mostly focus on more immediate gains such as process cycle time and outcome value. There are some merits in looking at what would be the implications of looking at the Enterprise or the Business as a hub of supplies, processes, fabrication and delivery. The illustration below is a simple mapping tool assessing the strategic value of the information (a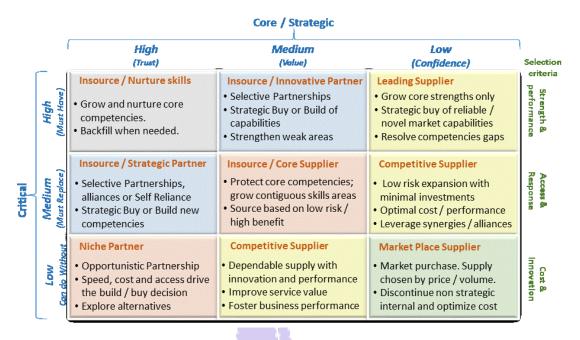lignment with Mission, Charter and Brand Equity) or supply against its criticality (operational impact of not having the supply in quality and quantity). Based on a past strategic mapping by McKinsey and Company, the breakdown in supply blocks shows only one of such blocks that should remain internal and insourced, linked to the core competencies. All other blocks are either open to opportunistic sourcing or are squarely sourced as a specialized provider will eventually be able to better manage, nurture and preserve the currency of the supply, in particular information and data.

It can be unsettling to consider the sourcing of critical data and functions, but this has been happening for a long time already: most lead generation mailing lists, market segments data and analysis, technology innovations are taking place somewhere else and provided to businesses through packaged deliveries. IT

takes only one more step to expand this sourcing to most or all of the information provision. Moreover, if managing a market analytics team in-house has obvious merits including the capacity to monitor the information flows and leakages, only very large organizations would have the means to maintain the currency of knowledge, methods, technologies and data patterns. Which company can afford to keep insourced specific, focused analysis such as customer profiling, employees skills mapping or market competitive SWOT when specialized providers can do it faster and in many cases cheaper?

At a time where leadership distraction becomes too high a price to pay, organizations have a vested interest in understanding the type of provider that they want to work with. A Niche Partner is a provider capable of exploring new paths and to accelerate time-to-market, when a Competitive Supplier will provide the supply at a cost preserving the operational competitive performance. Recognizing the strategic value and criticality of the supply can help establish the right relationship with the right provider, with in mind the future model of the Enterprise. The Criticality & Strategic Analysis table below illustrates this concept:

Business need to evaluate its providers not against the traditional cost / quality analysis, but also and primarily against the actual strategic value of the supply and its impact on the operational performance. The value of a core / Niche supplier is not just the capacity to deliver on-time, dependable supply, but to be able to expand the competencies / offerings through innovative supplies, or to offer new ventures in contiguous market segments.

Such supply (including of data, information and knowledge) is keeping a sharp edge for the organization ready to embrace its implications and willing to challenge its own beliefs. Requiring a competitive supplier to provide agility establishes a new model of relationship between a business and its suppliers, which leverages the strengths of each for greater joint future value. There lays the foundation for a sustainable model.

The Virtualization of technology, data and information reaches the core of an organization, and will eventually transform it. Those who can pro-actively navigate these yet unchartered waters will make many mistakes, find many dead ends. But for a few wasted efforts that do not achieve expectations, there will be at least a new diamond in the rough. This is where the future competitive performance and the future economic value will likely come from.

Insource / Nurture Skills	Core DNA and Brand equity. Critical to Brand equity and to customers
Innovative Partner	Areas of strengths where a long term partnership can bring value and market agility
Niche / Core Supplier	Expansion of core competencies and fast / cost effective innovation
Competitive Supplier	Around core strengths, a supplier who brings new skills, innovation and agility
Market Place Supplier	Repeatable provision of goods or services at optimal price. Not a core competency

How much are you driving the change?

Radical and in-depth changes usually show a pattern of adoption communities:

- Early adopters, embracing new potential at the risk of erring into a dead end at times
- Mainstream followers who conservatively adopt the changes after early adopters of sufficient numbers have demonstrated that it works, and
- Resisting tribes who either have a stake in the established order or simply reject any new idea or endeavor until they have no longer the choice.

This simplified profiling works for people as well as for organizations, which can decide how they want to handle changes. This is not a trivial decision.

In our heavily competitive business world, perception is key and customers, analysts, investors and employees alike observe who the key players, the solid performers and the laggards are. From there, they form a lasting opinion. A company or brand perceived to be embracing change enthusiastically will likely be considered a thought leader. Another one that resists the change will be catalogued as a conservative brand, cautious and long to adopt new trends. Those pro-actively adapting will reap the benefits earlier and will create a market, competitive advantage for themselves.

Of all changes, those altering our beliefs are the ones creating the highest emotional response, while being the most immaterial of all. With the Virtualization and the associated dematerialization of the knowledge stores, a pillar of our business structure is being shaken: how we value and manage knowledge. Excluding R&D, knowledge is either shared by someone with experience (indirect experience) or the result of a direct experience (aka: trial and error). In both cases, the learning process is partial and a comprehensive curriculum includes a structured, systematic coverage of complementary knowledge domains (e.g.: a MBA curriculum).

We value knowledge as a way to get things done without going through trial and error, or at least as providing an analytical framework (how to tackle this specific problem?). The knowledge carriers, whether they are leaders, subject matter experts, coaches or veterans of a domain, are recognized – and valued – by the depth and breadth of their useful knowledge.

The extent of knowledge carried by one individual is a key criteria to evaluate the practical "value" of recruiting, contracting or simply talking to this expert. The more experience, the more knowledge, the more desirable. Our business world is basically driven by those who command the money (investors) and by those who carry the knowledge and make decisions accordingly (leaders). A new business species is emerging, which is measured primarily against its capacity to analyze data streams, identify and recognized patterns and filter out data "white noise" to capture reusable knowledge elements. These new experts carry little or no field experience, as they rely on others' trial and error or teachings to assemble the knowledge they seek.

The value of this new discipline is to get the right knowledge at the right time, then to analyze and interpret it. When old-timers used to spend a decade of their lives appreciating the subtleties of logistics in a supply chain, or the potential gain to be made in trading stocks before anybody else in order to benefit from the market uplift, the new generation get on a computer and get the job done in no time. These new experts no longer need to spend their life on the floor in Wall Street or at FedEx; all they need is a communication line and computing power.

This change of the very nature of knowledge, no longer "owned" by one or a class of individuals as the result of a slow learning process, is going to shake up the business structure, the educational process and the speed at which new concepts or business ventures are being created and made obsolete. Valuing analytical excellence over knowledge and experience will certainly cause many to reshape their resumes and credentials. The life-cycle of knowledge assets (and their valuation) is also shifting: what was considered quasi-permanent proprietary intellectual property a decade ago, will likely be accessible on the internet (the virtual world) sooner or later.

Of course, your business strategy is confidential and reflects years of research and development. But someone posted a summary of it for an online meeting, and a student from a Business School in India published a thesis that contained both large excerpts and a complete analysis of its strengths and weaknesses.

This is for real: it took me less than a day of digging to capture the most part of a famous hospitality brand's 10 year strategic plan, without having to attend a single meeting or meet with any representative of the company. The knowledge and its value have now to be considered with a preemption date, reducing their useful life to sometimes very little. It can be so simple and fast to gain access to privileged information that it no longer is worth spending time and money to do your own R&D; getting the data is faster and cheaper, without the risks of failure as you only capture the successful results.

Choosing how much you want to embrace this new reality is not much of a choice but a necessity. Your competitors own a potential strategic advantage with their access to knowledge in the marketplace every day. Being able to access similar data before or at least in the same time as they are is key to preserve your capacity to operate and succeed. Working with leaders and experts with a blend of industry or domain experience and with smart analysts surfing the information waves is the new business-as-usual.

Shedding some core functions and activities, even some critical ones, to have them performed by partners or commodity providers with create a new agility and a more effective cost of operations (you only pay for the usable outcome). This multi-tiered transformation is already forcing companies to re-assess what is their true charter, what is their genuine "DNA", and what it means in the virtualized world.

So, which adoption community is yours? Beyond the buzz and the hype, are you preparing your organization to adjust and take advantage of this new emerging world order?

Being agile in a virtual world

Agility has become a critical operating concern, be it for sustaining operations in rapidly changing conditions, or for being able to change course without missing a beat. Organizations and operations do not naturally thrive with agility, as they both depend on a stable, predictable structure to be at their top performance. Lack of agility is often a good indication that an industry segment is ripe for a major transformation, take-over or extinction. It also is a key indicator for customers to look for a brand more "in touch" with the new trends. This has been true with retail, services, travel booking, bookstores and now in all activities where end-users have the power to choose.

The new agility is precisely the talent to flex and adjust areas and processes, while preserving the stability of the whole. Strategically sourcing market data mining activities to a team of independent agencies or tools can provide new knowledge and capabilities while reducing the price-point of well-established information gathering. The performance of the processes linked to the effective use of this information would remain the same or improve.

It would be presumptuous to lay down an already proven strategy for effects and dynamics of changes that are still emerging. There are nonetheless a few steps that could help get prepared.

1.	Engage now with an internal effort to redefine the flow of information into the organization, assuming that all non-internal sources will be sooner or later commoditized / externalized. Deploy strategies to preserve core information with special consideration to communication and key personnel turnover.
2.	Evaluate what constitutes your core business DNA, by LOB or by market, using a strategic sourcing analysis model.
3.	Determine which data is to be owned, aggregated or analyzed. From this classification, determine information sourcing and nurturing strategies aligned with the core DNA of the Enterprise. Assess the actual value and future value of your core information using a predictable model for you critical data to be accessible to data aggregators.
4.	Determine how your emerging competitors and the new market entrants would have access to meaningful information and what it means to your business and customers. Redefine the ease of access to key information as a competitive barrier.
5.	Assess the part of IT processing and data manipulation that is really unique to your business and which part is non-unique and proprietary, even if critical. This includes the storage of data and the current systems of record.
6.	Redefine the Sales and Marketing processes and value propositions assuming that all data that is not internally created will be publicly available, including your proprietary data.

7.	Redefine the core competencies of the enterprise at all levels, to enable hiring new employees capable to find the information as opposed to knowing the information; redesign an organization blueprint updating the flow of information and the expertise residence.
8.	Deploy information analysts in every key area or function to incubate new ways of thinking and engage with the virtual transformation pro-actively, including strategic and leadership functions.
9.	Create a role of Information Architect that complements Information Technology Architects and Data Architects, to map data flows and patterns, while providing strategic guidance to the Enterprise.

Some of the above steps will inevitably create tensions between the various adoption communities. A main benefit of launching this internal effort resides precisely in creating the discussion. In addition to whichever outcome that will be created in the process, the internal debate will generate a natural awareness of these evolving grounds, which in turn will enable the organization to capture and embrace those changes that are the most meaningful. With sufficient support and dedication, you could become one of the front runners of the adoption, mitigating the potential risk of impulse-adoption by letting actual practitioners decide on the merits of the new idea.