

THE FIRM OF THE FUTURE

A BUSINESS INSPIRED BY NATURE



Guidelines for Sustaining Organizations Towards 2020



FOREWORD

The central theme of this paper is: The Firm of the Future is a Business Inspired by Nature.

We are entering a decade of changes that are likely to be both very fast paced and very fundamental across all areas and which will impact the rules of business, the environment, technology, the attitudes of the new workforce, and the global socio-economic balance. If organizations want to survive the “Decade of Transformation”, continuing the way we run our business today will not be an option.

In the past we operated businesses like monolithic, centralised, top-down, hierarchical machines. This approach emerged out of command-and-control structures of military organizations and worked pretty well in a world with broadly limitless access to natural resources and narrowly limited access to communication. However, we now realize that the resources upon which our business empires are built are limited and even running out, while communication channels are rapidly shifting from broadcast to broadband, networks to networked, limited to limitless.

Today’s rapidly changing business environment calls for businesses that are resilient to rapidly changing environments – such as in nature, where waste is food, where consumption is beneficial, where the focus is optimizing rather than maximizing, where relationships are synergistic.

The Firm of the Future has to be an organization more akin to a dynamic living organism which thrives within ever-changing business, socio-economic, and environmental systems, all interdependent and operating within the largest system of all – the ecosystem of Earth. The Firm of the Future is a business inspired by nature. It is collaborative, decentralised and multifunctional. It is adaptive, responsive and resilient. Furthermore, it plays a positive role in the ecosystem, creating conditions conducive to life. And it’s a great place to work!



INDEX

EXECUTIVE SUMMARY	5
1. THE FIRM OF THE PAST	6
2. THE DECADE OF TRANSFORMATION	7
2.1 External drivers for transformation	7
2.2 Internal drivers for transformation	8
3. THE FIRM OF THE FUTURE	10
3.1 Business Inspired by Nature	11
4. THE JOURNEY	13
4.1 The Real 10	13
4.2 Resilience Audit	13
4.3 Creating a Business Ecosystem	14
5. CONCLUSION	15
6. BIOGRAPHIES AND PICTURES	16
7. APPENDIX: CASE STUDY EXAMPLES	17

EXECUTIVE SUMMARY

The Firm of the Past is no longer fit for purpose. Firms of the Past, and the economies in which they operate, have become brittle and retrograde. We are now entering the Decade of Transformation, and transformational times call for transformational change. This decade will be about winding down the unsustainable business models of the 20th Century and evolving new 21st Century business models that are fit for purpose.

In the Firm of the Future, the essence of the business is social, economic and environmental value-creation that emerges from core values based on a common sense of purpose, a holistic understanding of value and values, and impacts to the social, economic and environmental dimensions of the world.

It is our belief that those organizations which re-shape themselves using nature's wisdom will flourish through the enormous opportunities these volatile times bring. It is our belief that the Firm of the Future is a Business Inspired by Nature.

A Business Inspired by Nature follows the successful principles, strategies, and practices developed by and used within nature. In short: Nature has had over 3 billion years to figure out what works and what doesn't – evolution eliminates unsuccessful strategies.

A Business Inspired by Nature is resilient and can leverage myriad unpredictable disturbances. A Business Inspired by Nature operates like nature, where waste is food, form fits function, consumption adds value, productivity is optimized, and self-interest benefits the system.

The Firm of the Future is one that is:

- » Open to radical transformation using the catalysts of education, innovation, inspiration and collaboration and the tools that a Business Inspired by Nature provides.
- » Encouraging synergies across its business ecosystem, engaging with multiple stakeholders in an open, transparent way, and where common values create connections.
- » Harnessing the power of social networks and the 'pull' media, using crowd sourcing, co-creation, transparent branding and values-based leadership for differentiation.
- » Aiming at zero-emissions through innovation, closed-looping and ecological thinking.

1. THE FIRM OF THE PAST

Independent, strong, competitive, controlled, stable, focused on ROI, secure... these are words that describe the successful Firm of the Past. The structure, attitudes, and goals of the Firm of the Past were born from military organizations where command-and-control was crucial and from wartime battlefields where the only outcomes were kill or be killed. The Firm of the Past was born in a time when resources seemed limitless, communication was easily controlled and world citizens and communities were largely disconnected.

The Firm of the Past was the engine for the incredible growth, expansion, and technological development of the past 150 years. This rapid growth has brought great successes, learning and benefits - but at a cost. This consumption-based growth has been out of kilter with the wider system from which it grew. The over-emphasis of consumption with no limits has caused an imbalance to the economy, society and environment it set out to serve. We are now painfully aware of the costs which are mounting up: the pollution and degradation of our lands, seas, air and human cultures. We have reached the limits and carrying capacity of our Earth.

Is/was the Firm of the Past bad or wrong, or just a natural phase we had to go through to evolve? The purpose of this paper is not to judge the past but rather to clarify that the structures, assumptions, models, and goals of the Firm of the Past are no longer viable or fit for purpose.

In nature, healthy vibrant ecosystems are constantly transforming, cycling through stages of rapid growth, maturity, disruption, release, and reorganization. Transformations are occurring continuously at different scales and timeframes. Ecosystems that stay in the mature phase too long become brittle, degraded, and prone to catastrophic collapse.

Our current business structures – the Firms of the Past – and the economies in which they operate - have become brittle and retrograde. The current financial crisis is but one early indicator of the type of collapse and release we can expect – unless we choose to choreograph more graceful and healthy pathways through the coming times of transformation.



2. THE DECADE OF TRANSFORMATION

The decade that we are now entering - 2010-2020 – has been called the Decade of Fear, the Decade of Hell, the Decade of Volatility, the Decade of Transparency, the Decade of Creative Destruction, and the Decade of Transformation. Whatever it is called, the message is clear: change is happening; disruption, release and reorganization are happening; transformation is happening.

The need for radical business transformation is driven by both external and internal drivers.

2.1 EXTERNAL DRIVERS FOR TRANSFORMATION

External drivers for transformation will come from 5 inter-related areas:

- » Resource limitations
- » Responsible business
- » Globalization
- » Digitalization
- » Cultural diversity

Resource limitations: Living standards, and thus resource demands, are rising among burgeoning world populations on a planet whose resources are already in 'overshoot'. We are all aware of "peak oil", yet few have strategies to deal with the havoc that approaching petroleum limits will wreak. And that is not the only limitation. How many businesses are even aware of "peak phosphorus" and its implications?

Responsible business: There is a growing awareness that profitability in business must be accompanied by social and environmental responsibility implemented through values-based leadership. Supply chains are transforming into value networks which extend into the communities and ecosystems in which businesses operate. One aspect of this is the set of

new policies and regulations requiring organizations to measure and reduce their carbon footprint.

Globalization: Globalization used to refer to accessing and exploiting new resources and new markets. As other parts of the world drive to modernize and westernize, they are increasingly becoming competitors – competitors that are agile, dynamic and unconventional. Supply chains are becoming increasingly complex with multi-cultural stakeholder demands and differing standards and risk factors.

Digitalization: The rapidly increasing interconnectedness through mobile phones, web 2.0, social networking, cloud technologies, crowd sourcing etc. brings the era of 'radical transparency' and "endless" collaboration. The second half of the last century saw a shift in power from governments to corporations. Now digitalization is driving a shift from corporations to the individual.

Cultural diversity: Organizations are facing increasing socio-cultural diversity, in part due to globalization and digitalization. New entrants to the labour market have different values and ambitions with regard to the work place. They no longer seek lifetime employment and view work as just one aspect of life which stimulates and complements (not contradicts) a varied and balanced lifestyle. Future employees expect to be able to flourish in a fluid environment where the culture is rooted in strong values shared across a diversity of ecosystem partners.

There are more people in the world with access to mobile phones than access to toilets.

2.2 INTERNAL DRIVERS FOR TRANSFORMATION

The external drivers for transformation are reflected in internal drivers for change that each organization must address in order to survive this turbulent era:

- » Costs and risks
- » Sustainability
- » Value Creation
- » Operational Excellence

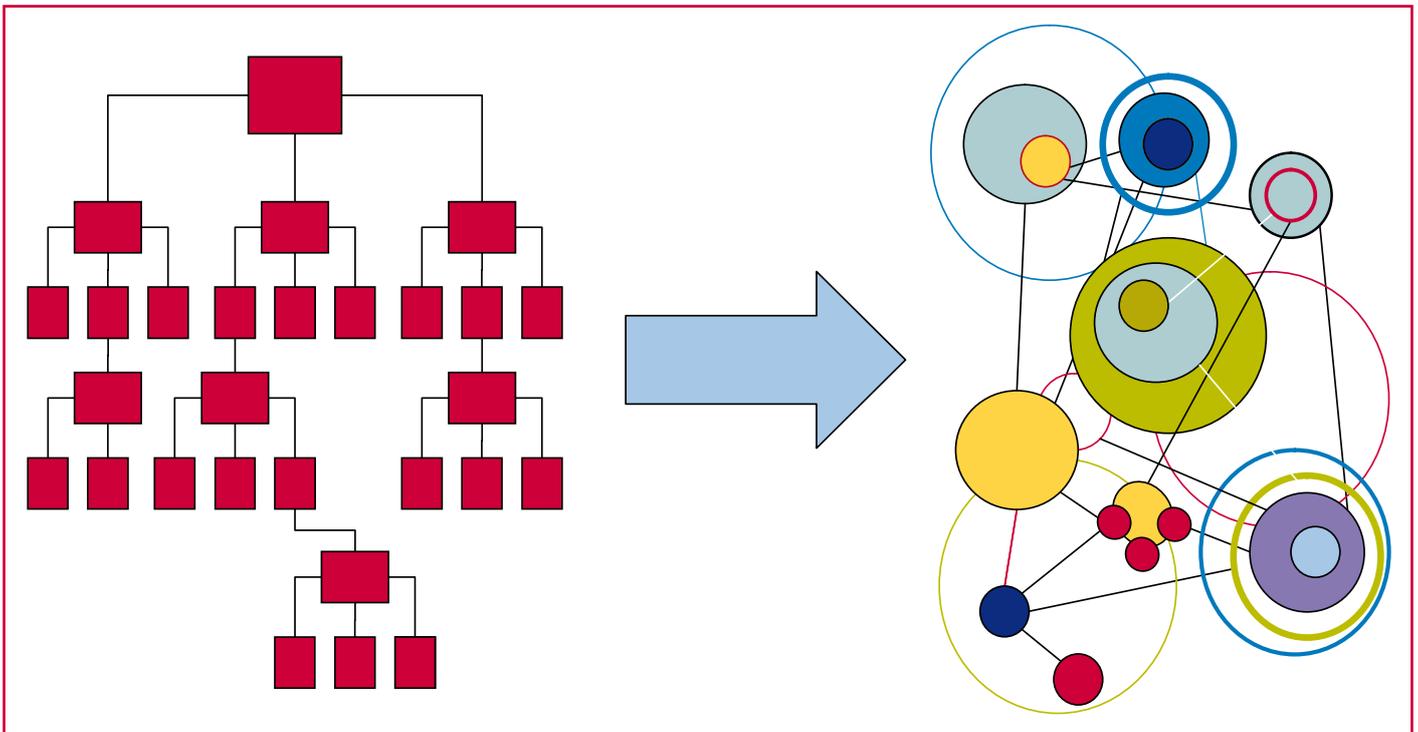
Costs and Risks: As we approach limits of finite resources and face increasing regulation, costs will increase and become more volatile. Volatility in costs as well as increasing uncertainty caused by climate change, disruptive technologies and changing socio-cultural context means greater unpredictability, making risk management ever more challenging. Tracking and managing all asset and waste flows through the organization is the 'new norm'.

Sustainability: Social and environmental responsibility will drive the demand for reporting systems and transparency, and will require sustainability to be incorporated throughout the whole operating system of a company and its extended supply chain. Minimizing all social and environmental impacts of process flows through the organization and its supply chain is the 'new norm'.



Value Creation: Value creation will no longer be based on exploiting finite resources and ‘externalities’. Instead it will be driven by innovation, responding to the customer as a collaborator, unlocking the creative potential of all stakeholders and, above all, accelerating the time to market of products and services. Optimizing the connections and value streams throughout the organization and business ecosystem is the ‘new norm’.

Operational Excellence: Operational excellence will expand beyond cost effectiveness and will focus on agility and the capability of management and employees to work within a business environment larger and more blurred than the traditional company boundaries. Operational excellence that thrives on empowerment and responsibility, and which leads by shared values instead of hierarchy and command and control, is the ‘new norm’.



Transformational times call for transformational change – and in fact radical change is needed. Organizations must change their way-of-working in a fundamental way to survive the turbulent decade that they are facing. The Firm of the Past must transform itself into the Firm of the Future. The Firm of the Future is based on embedding sustainability, agility and adaptability into the culture, values and operating model of the organization. This new way of working requires a new mind-set within the leadership and employees, and also a redesign of processes, products, services and delivery models. Emergence of the Firm of the Future from within is not limited to the boundaries of the organization; the change permeates throughout the value chain (the business ecosystem) within which the business thrives.

Sticking to the business rules of the Firm of the Past is no option. The real message for this decade is: **adapt or die.**

3. THE FIRM OF THE FUTURE

In the Firm of the Future, the whole essence of the business is social, economic and environmental value-creation. Value-creation emerges from a set of core values based on a common sense of purpose, a holistic understanding of value and values, and transparency on the positive and negative impacts generated around the social, economic and environmental dimensions of the world in which the organization operates. The Firm of the Future, put simply, is one that is fit for purpose in a world heading towards 9 billion people and already in 'ecological overshoot'.

Forward-thinking business leaders already understand that sustainability has to be at the core of best practice business strategy and that sustainability is the driving force for innovation, value-creation, differentiation and productivity for this decade and beyond.

The core values that form the culture of the Firm of the Future are:

- » **Social justice** – valuing human dignity and culture within all operations and throughout the value chain and business ecosystem, which also extends into communities touched by the organization.
- » **Environmental excellence** – having a value-added role in the ecosystems in which the organization operates, understanding and emulating nature's genius in all ways.
- » **Economic adaptability and resilience** – embedding effective feedback loops, encouraging innovation, leveraging disruption, embracing flexibility. Organizations planning to benefit from the opportunities this turbulent landscape provides must design strategies that build in agility and sustainability: **SUSTAINABILITY**.

The attributes of the Firm of the Future are:

- » **Governance** – Board commitment to core values integrated into the business strategy, performance related pay/bonus for executives related to core values, monitoring of goals embedded into the day-to-day decision making process, open engagement, collaboration, and disclosure with a diverse group of stakeholders.
- » **Culture** – The value and values of the company are clearly defined and inter-linked (making profit is not in spite of the core values, but because of them). All stakeholders, external and internal to the company, live and breathe the core values. Lead and do by example. Stakeholders engage with the company because of its values and its brand transparently emulates those values. Values-based leadership with sustainable lifestyles actively promoted through education and benefit options.
- » **Leadership style** - There is a general trend where leadership is shifting away from an individual and intellectual skill towards a combination of intellectual, emotional and spiritual skills. The leadership style in the Firm of the Future is about developing a management style that focuses on inspiration and vision, on collaboration and values, on people development and on creating room for trust and accountability.

**Mark Parker,
CEO of Nike:**

'Integrating sustainability is not just a good opportunity for business. It is essential for success in a world of constrained resources. Right now every business has a choice to make. We choose to move fast, using sustainability as a force for innovation. We choose to embrace transparency, collaboration & advocacy as tools to unlock opportunity & enable us to thrive in a clean & green economy.... to prototype the future, not retrofit the past'.

**Hans Wijers, Global
CEO Akzo Nobel:**

'All of our Top 1000 will have 50% of their bonuses measured against sustainability for 2010. Sustainability is at the heart of our business strategy, operations and culture'.

- » **Operations** – The throughput of ecosystem-supporting materials are measured against all aspects of operations (business support, plant, distribution). A zero or beneficial emissions strategy (GHG, waste, water, pollutants) in place with closed-looping and industrial ecology based processes (business ecosystem shaped by nature). Social ethics are applied to all.
- » **Supply Chain/Business Ecosystem** – All stakeholder partners and suppliers connected within the business ecosystem have aligned sustainability goals and share openly and transparently. Innovation and collaboration are embedded values. There are localized logistics networks, local manufacturing and local community engagement.
- » **Products & Services** – Designed and delivered to realize the sustainability goals and optimized customer value by assisting the customer in realizing their sustainability goals too. There is business model innovation for transition towards sustainable service provision, where product design and use are aimed towards creating conditions conducive to thriving ecosystems. R&D and capital investments are aligned to zero or beneficial-emissions strategy. Strategic and tactical collaborations provide innovation and new ways of operating (e.g. open source, crowd sourcing).

This decade of creative destruction and reconstruction will be about winding down the unsustainable business models of the 20th Century and evolving new 21st Century business models that are fit for purpose. Perhaps the 'Decade of Fear', as referred to by The Wall Street Journal, will become the decade of opportunity, of collaboration and of creativity. It is our belief that those organizations which re-shape themselves using nature's wisdom will flourish in the enormous opportunities these volatile times bring. It is also our belief that the Firm of the Future is a Business Inspired by Nature.

3.1 BUSINESS INSPIRED BY NATURE

A Business Inspired by Nature -- The Firm of the Future -- follows successful principles, strategies, and practices developed in nature. The basic idea is that: Nature has had over 3 billion years to figure out what works and what doesn't – evolution eliminates unsuccessful strategies.

In the past we operated businesses like machines with highly engineered components and controls. We are now shifting from growth based on consumption to growth based on knowledge and from value extracting to value sharing. However, the pace of change is extremely fast. To succeed we must be agile, creative, alert, spontaneous and responsive – operating in completely new ways.

We desire our organizations to be living systems that can learn, not structured and siloed, stifling learning. We desire our organizations to be bottom-up, decentralised, interdependent, multifunctional, self-organizing units, not centralised, top-down, hierarchical monoliths. Hence today's rapidly changing business environment calls for businesses that thrive in rapidly changing environments.

A Business Inspired by Nature is more akin to dynamic adaptive living organisms that thrive within ever-changing business and socio-economic systems, all interdependent and operating within the largest living ecosystem of all -- Earth.

A Business Inspired by Nature is resilient and can leverage myriad unpredictable disruptions. A Business Inspired by Nature operates like nature, where waste is food, form fits function, consumption adds value, productivity is optimized, and self-interest benefits the system.

A Business Inspired by Nature strives to form symbiotic relationships with the ecosystem. Historically, businesses have considered themselves to be separate from nature. Nature was viewed as a place to obtain resources, a place to protect against, a place to look at from a distance, a place to dump waste. The transformation we are witnessing is coupled with a shift in consciousness from **taking from nature** to **learning from nature** to **being part of nature**.

Characteristics of the Firm of the Past and the Firm of the Future

Firm of the Past	Firm of the Future
Independent	Synergistic
Competitive	Collaborative
Controlled	Conducive
Closed-source	Open-source
Stable	Dynamic
Maximizes/Minimizes	Optimizes
Resists change	Leverages diversity
Linear	Networked
Short-term	Long-term
Function fits form	Form fits function
Proactive, planned	Responsive, emergent
Self-focused	System-focused
Exploitation	Mutualism
Avoids disturbance	Leverages disturbance
Manages risks	Fosters resilience
Protects	Adapts
Forces	Fits

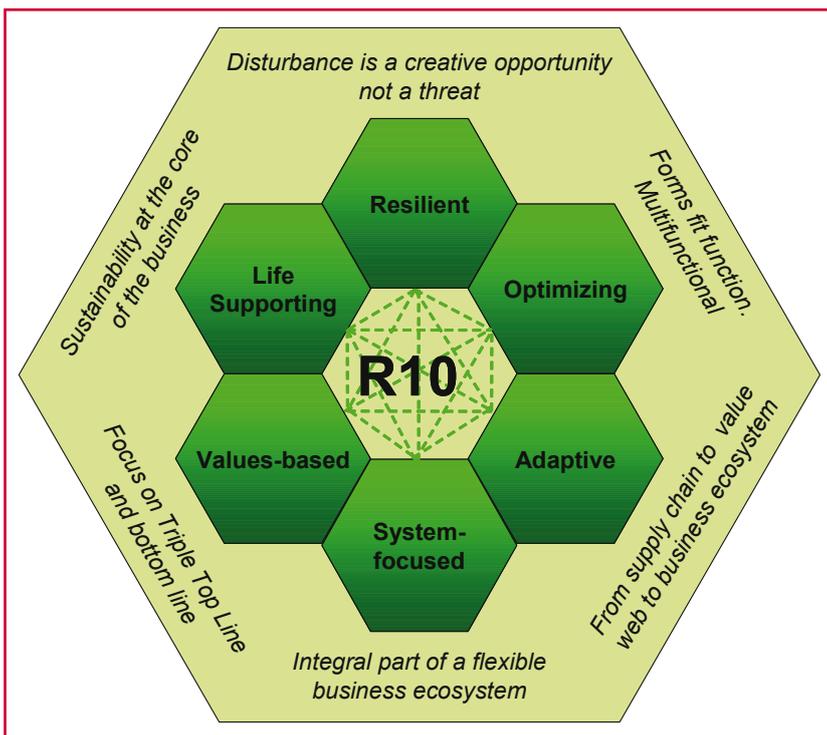
4. THE JOURNEY

The transformation from The Firm of the Past to The Firm of the Future is a journey that begins with a business recognizing the need for radical change and a desire to seek an alternative pathway. Along the journey, your business will develop the knowledge, understanding, and capacity to leverage myriad benefits by becoming a Business Inspired by Nature. Three elements of the journey include envisioning the Real 10 (R10), conducting a Resilience Audit, and building a business ecosystem.

4.1 THE REAL 10

Once a business chooses to begin the journey the first step is envisioning what “R10” looks like. In the Firm of the Past, the best that a business could envision for itself and for sustainability was what we call “P10”, which is a 10 on the 1 to 10 scale of the past. “R10”, the “Real 10”, is the best that can be envisioned by the Firm of the Future, where the best for the business and the best for sustainability are one and the same.

A business that is fully “R10” will mimic nature by demonstrating the attributes below:



4.2 RESILIENCE AUDIT

While R10 is the long term vision of becoming a Business Inspired by Nature, near-term benefits can be derived from a Resilience Audit. One of the attributes of a Business Inspired by Nature is a shift from managing risks to fostering resilience, i.e. the ability to recover after a disruption. The decade of transformation will bring many new types of disturbance ranging from disruptive technologies to climate-change-induced natural disasters, to acts of terrorism and resource limitations.

We have all heard of Peak Oil but how many companies could withstand a multi-day oil shortage caused by some combination of natural disaster (hurricane, for example), terrorist act, or political disruption (such as a transport workers’ strike)? Our food systems are also

intimately linked to oil. So even if your company does not appear to be oil-dependent, what would happen if your employees could not get to work or have access to food for several days? And how many companies have even heard of Peak Phosphorus and have any idea of the consequences of crossing that peak?

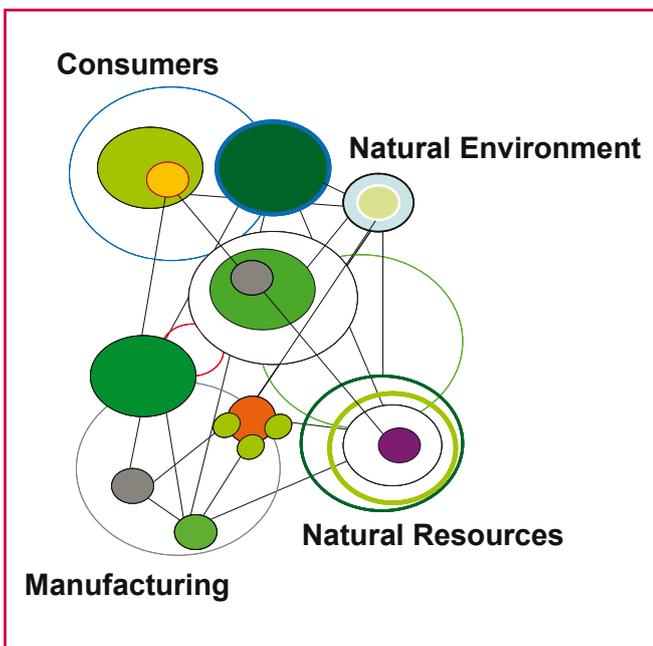
Resilience disruptions can also come from non-environmental fronts. Disruptive technologies are now coming on-line regularly. So what does a business do when their consumers have access to better and faster technologies than they do, and have the freedom to use them creatively? And what about when their employees feel the need to go home to get their work done effectively, opting to set up skype meetings after hours rather than

use an expensive and cumbersome company conference call line? Or employees that leave the company all together to seek or create their own jobs with dynamic creative working conditions that are more aligned with their lifestyle and sense of purpose?

A Resilience Audit for your company, your industry, and your extended business ecosystem will identify potential disruptions and ways to start fostering resilience – and leveraging its myriad benefits -- rather than focusing on risk and protection.

4.3 CREATING A BUSINESS ECOSYSTEM

The Firm of the Past considered a supply chain as something that began with a set of natural resources and ended with the consumer.



The term supply chain is slowly being replaced with the term value chain to capture the concept that value is added as resources flow down the chain. A Business Inspired by Nature recognizes that it is part of many interdependent value chains that extend back to the ecosystems from which natural resources are obtained, and that extend forward to the communities and ecosystems in which consumers live and in which the business operates. A business ecosystem is composed of myriad dynamic synergistic relationships. A Business Inspired by Nature recognizes that, like organisms in nature, self-interest for the company results in value-add for the system, and benefitting the system will in turn benefit the company.

5. CONCLUSION

We have entered the Decade of Transformation and transformational times call for transformational changes. Businesses that wish to survive and thrive through these volatile times must transform themselves from a Firm of the Past to a Firm of the Future.

The Firm of the Future brings the values of sustainability to its core and, in doing so, generates value for itself, its communities and the ecosystems in which it operates. The Firm of the Future is a Business Inspired by Nature, functioning like an adaptive living organism, thriving within ever-changing business and socio-economic systems, resilient to disruptions and interdependent within the largest ecosystem of all -- Earth.



6. BIOGRAPHIES AND PICTURES

Denise DeLuca



Denise is a professional engineer (PE) and a LEED-Accredited Professional (LEED-AP). She has used her education in Civil Engineering, focused on hydrology, to evaluate the environmental impact of a range of human activities and to seek more sustainable solutions to our human challenges. Her career has spanned the public and private sectors, including running her own sustainable resource consulting business.

As Outreach Director for The Biomimicry Institute (2007-2009), Denise worked to advance the tools and concepts of biomimicry and to integrate biomimicry into university-level education. Denise now lives in North Wales (UK) where she is working as Project Lead for Swedish Biomimetics 3000 and using inspiration from biology for accelerated product innovation. She is also continuing her work as an Outreach Representative for The Biomimicry Institute and working as a founding partner of BCI-Biomimicry for Creative Innovation to bring nature's strategies to business organizations.

Giles Hutchins



As Global Director of Sustainability Solutions at Atos Origin, Giles Hutchins balances educational and operational responsibilities. His goal is to bring sustainability into the mainstream of all business behavior and to develop focused and practicable sustainability initiatives for Atos Origin and its clients. With over a decade of business and IT transformation experience, Giles is focused on helping organizations evolve to become more sustainable. He is particularly interested in how business models can mimic those found in nature to create resilience under volatile conditions

Jos Kok



Jos A.A.M. Kok is executive partner at Atos Consulting. Jos is responsible for People and Change Leadership. The core business of this group of professionals is the development and implementation of fundamental business transformations. The focus in these change management programs is on developing skills and abilities on leadership and employee level to be able to participate in these programs. Jos expertise is consulting and coaching on management team level. Jos often uses the INK (EFQM) Excellence Model as a philosophy and framework for change. Recently his focus is on the New Way of Working. In this respect he participates in several groups to think about new ways of structuring en leading organizations from the perspectives of new technology, sustainability, globalization and cultural diversity.

Polly Williamson



Polly is an experienced change consultant who spent 13 years with Barclays PLC and Barclays Capital specializing in organizational design and change management spanning people, processes and systems.

Following post-grad studies in Environmental Decision Making with the Open University, Polly now bridges the environmental and business worlds, focusing on sustainability and ecological thinking for radical business transformation.

7. APPENDIX: CASE STUDY EXAMPLES

Diversity:

Time Warner cultivates diversity in its people, content and products, and audits the breadth and diversity of their content, analyzing the appeal of content to new and emerging audiences, developing diverse talent and rich content in the process which in turn fosters market leadership as well as strong social values and brand.

Zero-emissions:

Frito-Lay, Casa Grande in Arizona have a crisp plant which turns corn and potatoes into bagged crisps, a high energy, waste and water process. With solar fields, biomass boiler generators and high tech filters to recycle water, the left over sludge is burnt to form methane which then runs the plant boiler, reducing electricity and water consumption by 90%, natural gas use by 80% and GHGs by up to 70%.

Closed-loop:

InterfaceFLOR ReEntry 2.0 carpet fibre cleanly separates from its backing to ensure post-consumer material can be recycled into new material without contamination. This diverts millions of pounds of waste from landfill sites. InterfaceFLOR aims for a zero footprint by 2020.

Supplier diversity:

A Hackett Group survey found that leading companies with higher supplier diversity achieved 133% higher returns on the cost of procurement as new sources of revenue were achieved. Every \$1m in procurement operating costs translates into an additional \$3.6m to the company's bottom line.

Supply Chain Collaboration:

Green Giant works with growers to reduce water consumption and the use of agrochemicals. A 50% drop in water use for broccoli farmers made by helping to convert irrigation operations saves 1.2bn gallons p.a. and the target over the next three years is a 30% reduction in insecticide use on sweet corn.

Localized Logistics:

UPS eliminated 100 million miles from delivery routes using packaging flow technology and designing local pickups and drop offs.

Product innovation:

GE sold \$17bn in 'ecomagination' products (to help customers become more sustainable) in 2008, and plans to sell \$25bn by the end of 2010.

P&G introduced 'sustainable innovation products' (SIPs) which lower the environmental impact by 10% compared to other products. They aim to sell \$20bn of these by 2012.

DuPont are doubling R&D investment to \$640m by 2015 into Environmentally Smart Market Opportunities.

Dow Chemicals have designed Breakthrough Product Innovations to help address their sustainability goals.

Sun Microsystems (Oracle) say 'Every Job an Eco Job' which helps employees consider how their jobs help the company's sustainability goals.

Collaboration:

Google & GE collaborate on a 'smart grid' to help the energy efficient home. GE brings utility-scale industrial expertise; Google brings global-scale software and security/data expertise. Elsewhere Ford teamed up with research institutes (EPRI) to devise a new infrastructure for connecting electric vehicles to the grid – a vehicle-grid communications & control system.

Open-source Collaboration & Innovation:

Eco-Patent Commons provides an open source platform for bring technology patents with environmental benefits into the public domain (Xerox, Dow, Bosch, Nokia, Sony, etc.).

Nike, Best Buy & Creative Commons formed **GreenXchange** where sustainability innovations are shared in a community-based knowledge transfer environment with patent-pool communities and public licensing for patents

Industrial Ecology:

In Denmark, the town of **Kalundborg** has the world's most elaborate prototype of an ecopark. Four

companies are co-located and all of them are linked, dependent on one another for resources or energy. The Asnaesverket Power Company pipes some of its waste steam to power the engines of two companies; the Statoil Refinery and Novo Nordisk (a pharmaceutical plant). Another pipeline delivers the remaining waste steam to heat 3,500 homes in the town, thus eliminating the need for oil furnaces. The power plant also delivers its cooling water, now just warm, to fifty-seven ponds full of fish. The fish revel in the warm water and, as a result, the fish farm produces 250 tons of sea trout and turbot each year.

Waste steam from the power company is also used by **Novo Nordisk** to heat the fermentation tanks that produce insulin and enzymes. This process in turn creates 700,000 tons of nitrogen-rich slurry a year which used to be dumped into the fjord. But now, Novo gives it free to nearby farmers – a pipeline delivers the fertilizer to the growing plants, which are in turn harvested to feed the bacteria in the fermentation tanks.

Meanwhile, back at the **Statoil Refinery**, waste gas that simply used to go up a chimney is now purified. Some is used internally as fuel, some is piped to the power company and the rest goes to Gyproc, the wallboard maker next door. The sulphur squeezed from the gas during purification is loaded onto trucks and sent to Kemira, a company that produces sulphuric acid. The power company also squeezes sulphur from its emissions, but it converts most of it to calcium sulphate (industrial gypsum) which it sells to Gyproc for wallboard.

Examples of Firms of the Future:

Hans Wijers, Global CEO Akzo Nobel:

'All of our Top 1000 will have 50% of their bonuses on sustainability for 2010. Sustainability is at the heart of our business strategy, operations and culture.'



Henry Ward, Global Head of Sustainability, Dow Chemicals:

'Its all about win-wins with you and suppliers/customers. The future is two companies coming together, defining a joint business model with both benefiting and innovating in the process – synergy.'



Dawn Vance, Global Supply Chain Director:

'Organizations have 3 options: Hit The Wall; Optimize and delay hitting the wall; Redesign for Resilience – simultaneously optimizing existing networks whilst creating disruptive innovations and working collaboratively with partners.'



Jeff Imelt, Chairman and CEO General Electric:

'Sustainability IS the business strategy. Its our roadmap for how we operation and how we innovate.'



About Atos Origin

At Atos Origin, we believe that sustainability, the pursuit of financial profitability with a conscious environmental and social impact, is not simply a matter of fashion, but a key driver shaping the post-crisis economic environment. The world in which we all live and work is essential for our collective future and has rightly become a strategic axis of corporate management.

Sustainability challenges are tightly linked to issues that we deal with on a daily basis in our business. Recent reports clearly indicate that Information Technology can make a significant contribution to reducing the carbon footprint generated by the IT sector and many others. In fact IT can positively impact the environment and help to combat climate change.

Here service providers such as Atos Origin have an important role to play in two key directions. We can help minimize our own operations' impact on society and environment, and, through developing sustainability solutions, enable our clients to aid their own transformation towards sustainability and optimizing their environmental efficiency. Therefore our goal is to be a globally performing IT services company and recognized as a credible, trusted and sustainable player in order to help our clients to reinvent their growth model.

Atos Origin is deeply committed to implementing sustainable best practices throughout its organization and in its business. Moreover in this difficult environment, our company has raised employment and employability as top priorities. In the medium term, our ambition is to be recognized as one of the best companies to work for, by anticipating new and sustainable ways of working.

Contact us: GMNL-sustainablegrowth@atosorigin.com

About BCI

BCI is a collective of professional change agents, biologists and design professionals who work in collaboration with our clients to leverage ecological thinking for radical business transformation. We approach effective performance through three connected lenses - people, products and processes. In recognizing the interdependence of these elements, we create value by linking challenges in each area to opportunities with multiple synergistic benefits. At the heart of our work is an appreciation of the need to move away from an obsession with output-based measurement towards a passion for a resilient value-based system with sustainability as a central principle. It's what we call Business Shaped by Nature.

Contact us: info@bci-biomimicry.com