

BREAKTHROUGH BUSINESS MODELS: EXPONENTIALLY MORE SOCIAL, LEAN, INTEGRATED AND CIRCULAR

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and Sustainable Development Commission

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Emergence

Lean X

**The future's already here:
Lean X**

Current demographic data suggest that we are headed towards—and potentially beyond—10 billion people. Meanwhile, greenhouse emissions are pushing us towards—and very likely beyond—the 2 degrees Celsius limit that scientists tell us defines the upper limit of climate stability. So a central, existential challenge involves radically improving the carbon productivity of our economies, businesses, products and services.

The notion of carbon productivity surfaced back in 2008 with a key **McKinsey** study,³⁶ though there have been parallel threads in the life cycle analysis, cradle-to-cradle and circular economy worlds. Let's zero in on two organizations that have embraced the carbon productivity challenge.

Firstly **Interface**, the carpet company, has long worked to boost its resource efficiency.³⁷ It notes, "Our environmental footprint is one of the more important metrics we use to track progress towards our Mission Zero goals." As to where the spotlight shines brightest, "Because Interface has the greatest influence on the impacts through the Production Stage Carbon Footprint (cradle-to-gate), this is where we focus most of our activities. The average product carbon footprint of our carpet has been reduced by 31% since 2008."

Interface aims "to become a carbon neutral company by measuring, reducing and offsetting our carbon emissions. In addition, we implemented employee programs to help address their emissions and we sell carbon neutral products through our Cool Carpet program."

Interface's Mission Zero has now morphed into a new phase, Climate Take Back.³⁸ Taking back our climate is possible, they say, if we make four big changes: (1) only take what can be replaced; (2) see carbon as a resource; (3) restore nature's proven ability to cool; and (4) revolutionize our industries.

Another company embracing carbon productivity is **Covestro**, the former **Bayer MaterialScience**.³⁹ It has two main product lines: polyurethanes and polycarbonates. The first is used in applications like building insulation, the second in car components.

In both cases, there are energy benefits. Covestro estimates, for example, that during the life of polyurethane insulation panels, they save 70 times as much energy as they take to make—a 70-fold carbon productivity boost.

Covestro has also been developing **Base of the Pyramid** applications of its technologies through its Project Sunrise initiative. Among other things, it has been developing affordable insulation products for use in applications like cool chains (cutting food waste and enhancing farmer incomes) and low-cost housing. The aim: sustainable shared value outcomes.⁴⁰

Some call this *Jugaad*, a Hindi word suggesting "a hack or fix," but which has come to mean ways of finding intelligent, low-cost solutions to any problem. The approach is deep-rooted in India, but also widespread in other emerging economies. Brazilians say *gambiarra*, the Chinese say *zizhu chuangxin* and Kenyans say *jua kali*. In English, we say "frugal" or "bottom-up". As global warming continues, it is clear that *Jugaad*—and linked disciplines—will be needed right across the temperature spectrum.

From eco-efficiency to value creation

Eco-efficiency, how a business could save or make money through better management of its energy and resource flows, is but one early dimension in which the Lean agenda has evolved. Now new business models are being created to apply eco-efficiency at scale. Take the example of **Kaer** (pronounced 'Care') in Singapore, featured in Case 7 (page 23), which has transformed air-conditioning systems from a product into a service.

New versions of the Lean agenda apply efficiency principles to all forms of capital used by a business. Clearly, however, there are potential tensions to be managed across the different dimensions of value creation. Here's how Tony Greenham put it as director of economy, enterprise and manufacturing at the UK **Royal Society of Arts** (RSA): "Whilst lean design is good overall," he told us, "applying lean to processes with the sole focus on efficiency (e.g. just-in-time supply chain management, supplier streamlining, eliminating redundancy and so on) runs counter to economic system resilience."

In China, where the giant country's future moves in business will have enormous impact globally, it is interesting to see companies like **Alibaba** beginning to play into this opportunity space by **Repurposing Excess Capacity**. We feature this example in Case 8 (page 23).

But the need for value creation also extends to human capital. **DoctHERs**, a new healthcare digital platform set up by two female doctors in Pakistan, exemplifies this. Featured in Case 9 (page 23), DoctHERs is addressing two critical issues in Pakistan: the gender barriers affecting trained female doctors unable to secure employment, and communities at the base of the wealth pyramid unable to access quality health care.

A new wave of lean business models

The rise of Total Quality Management (TQM) and Lean Production models has had a huge impact in terms of squeezing out waste, or what the Japanese call *muda*, over the last several decades. Now new models are in the spotlight, among them **Fractional Ownership, Leasing, Modularity, No Frills** and **Product as a Service**—models used by incumbents and insurgents alike, including **Philips** (page 29) and **Fairphone**. At the more radical end of the spectrum, we see **Produce on Demand, Physical to Virtual** and **Sufficiency Models**. Clearly, Circular models (see pages 27–29) play into this newly developing space, too.

One interesting model that has emerged is **Differential Pricing**, employed by **GRIT**, which we feature in Case 10 (page 23).

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Case 7 Air-conditioning as a service	Case 8 Reverse logistics in China	Case 9 New resourcing for rural healthcare	Case 10 One technology, two products, two markets
Kaer	Alibaba Group	DoctHERs	GRIT
Country Singapore, operating across Asia	Country China	Country Pakistan	Country USA
Status For-profit	Status For-profit	Status For-profit social enterprise	Status Non-profit social enterprise
Founded 1993	Founded 1999	Founded 2014	Founded 2007
Website www.kaer.com	Website www.alibabagroup.com/en	Website www.docthers.com	Website www.gogrit.us
Purpose The company designs, builds and operates air-conditioning systems for commercial and industrial buildings on behalf of customers, offering reliable cool air, coupled with energy efficiencies and cost savings to customers. This is important, given that in South East Asia, where air conditioning is the norm within many cities, buildings are responsible for the bulk of many countries' total energy consumption.	Purpose Alibaba's new consumer e-commerce business, Taobao, is hoping to reach consumers from the lower income demographic in rural parts of China who face limited choices, high prices and poor quality—not surprising given the dispersed population and poor logistical infrastructure in these areas.	Purpose To connect female doctors to underserved patients in real time, using the latest technology.	Purpose GRIT's purpose is to use technology to improve the lives of wheelchair users in both developing and developed countries, rural and urban terrains.
Business model Building owners buy chilled water from Kaer at a fixed rate on a Pay Per Use basis. Utilizing a Product as a Service model, Kaer then shifts the responsibility of reducing energy consumption away from building operators and owners by taking over and optimizing a building's air conditioning system. It takes on all future costs related to operations and maintenance, including water, electricity, and repair bills. In the process, Kaer cuts costs to building owners, while potentially increasing their profit by lowering the rate of energy consumption using a remotely operated monitoring and verification system. ⁴¹	Business model Alibaba has invested 10 billion yuan (US\$1.5 million) in logistics, hardware and training to push its e-commerce model into 100,000 villages, setting up rural service centers where it provides computers and monitors, training villagers to serve as its representatives in the centers, and ensure timely delivery of purchases. Traditional business models employed by Alibaba include E-Commerce , Layer Player and Long Tail . Eventually, and this is the key to the Lean dimension, Alibaba has ambitions to Repurpose Excess Capacity by using this same infrastructure and digital platform to sell vegetables and fruits to the cities, whilst increasing incomes for farmers. It claims that this will help in attracting more of China's growing middle class to move back into villages. ⁴²	Business model DoctHERs operates a Multi-Sided Platform connecting female doctors with patients at the Base of the Pyramid . It converts existing community spaces into walk-in clinics where patients are first assessed by nurses or community health workers employed by DoctHERs. As part of a shift from Physical to Virtual , patients are then remotely diagnosed by doctors using a telemedicine system, alongside instruments operated by the nurses. Fees are kept as low as US\$1 per consultation, enabled by a No Frills model. As a Solution Provider , DoctHERs Co-locates various services within each clinic, including a mini-pharmacy, a family planning lab, a test collection point, and tertiary care referral services. ⁴³	Business model Starting out as an MIT school project to create a wheelchair that can be used in developing countries, the GRIT team utilized frugal innovation principles to work from the ground up. The result: a US\$250 wheelchair with a unique lever drivetrain that makes it faster than regular wheelchairs, and offers off-road performance well beyond other mobility aids. Designed using No Frills principles, GRIT utilizes steel and bicycle parts that can be found in any rural village, enabling the wheelchair to be easily repaired anywhere. It is within the price range of humanitarian organizations, to which GRIT sells the Leveraged Freedom Chair (LFC) in bulk domestically. Its experience with the LFC was then Reverse Engineered —and modified into a western version, the GRIT Freedom Chair. This now sells in the USA for US\$3,295, less than half the price of competing products. ⁴⁴



About the Business and Sustainable Development Commission

The Business and Sustainable Development Commission aims to accelerate market transformation and advance the world's transition to a more prosperous, inclusive economy. Our mission is to make a powerful case—supported by sound evidence, rigorous research and compelling real-world examples—for why the private sector should seize upon sustainable development as the greatest economic opportunity of a lifetime. Our flagship report, to be launched in January 2017 will show how the Sustainable Development Goals (SDGs)—17 objectives to end poverty, reduce inequality and tackle climate change and other urgent challenges by 2030—provide the private sector with the framework for achieving this market shift. The report will serve as the foundation for launching initiatives to inspire and mobilise businesses to achieve the SDGs.

www.businesscommission.org



About Volans

Founded in 2008, Volans is a London-based transformation agency. We work with global companies, innovators, government actors and civil society to help them move beyond incremental change to address systemic challenges. We call this 'Breakthrough'. Our work is focused on stretching thinking, mindsets and behaviours through a mix of agenda-setting, advocacy and advisory projects.

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