

FEATURE OF THE WEEK

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The sustainable path to profit: don't throw out the rubbish

By Sarah Murray



Few business schools spend much time promoting courses in waste management. But when seen in terms of resource management or industrial symbiosis (one company's refuse becoming another's raw material), waste starts to look like a hot topic for any manager wanting to cut costs, bolster raw materials supplies and promote environmental sustainability.

This is something few business managers have yet considered, says Bob Adams, business partnerships director at Sustainable Conservation, a California-based non-profit.

“It's about extractive resources and putting them through the same old system to get profit from them,” he says. “Somehow we can't quite make that leap to the next way of thinking.”

He believes this is where management education has a role to play. “It's going to be the generation of people coming through business schools that have a chance to rethink things and inspire new solutions.”

Pressure for managers to focus on waste is certainly increasing. With many raw materials diminishing in supply, there is a growing awareness of the importance of resource conservation to the long-term sustainability of many business models.

“In an age of plentiful and cheap resources you can afford to throw them out,” says Andrew Hoffman, director of the Erb Institute and professor of sustainable enterprise at the Ross School of Business. “But as the price and the scarcity starts to go up, capturing them and bringing them back will be critical.”

Case study

When it comes to persuading consumers to think differently about waste, reuse of materials draws not only on technical knowhow but also on marketing

Meanwhile, consumption is rising. Research from McKinsey suggests that growth in emerging markets could create up to 3bn more middle-class consumers in the next 20 years – good news for companies, but only if they have access to supplies of the raw materials needed to feed that consumption. Waste is also becoming part of risk management because companies are held increasingly

skills. This was something Jo Gilroy, an Exeter Business School student, discovered when she embarked on one of the sustainability consulting projects that forms part of the school's One Planet MBA.

Ms Gilroy worked with UK-based Elvis & Kresse, which produces expensive lifestyle accessories from recycled materials, such as handbags made from discarded fire hose. The company also uses military-grade parachute lining and metal-coated mesh from mobile phones.

The resulting products sell at high prices. "They've taken something that was totally unwanted and turned it into something that people are prepared to pay quite a bit of money for," says Ms Gilroy.

Working on the consulting project highlighted the fact that creating luxury products from unwanted items and marketing them in sophisticated ways can help change the way people look at waste, she says.

Ms Gilroy believes that resource management needs to become a more prominent part of business education.

"[Waste] is going to become more prevalent ... and the issue of diminishing resources becomes more pressing – for business, this is not something that's going to go away."

accountable for the environmental impact of manufacturing by-products.

Experts argue that to overcome such risks, managers will need to find ways of returning more industrial material to the supply chain and incorporating into their businesses concepts such as industrial ecology and biomimicry (following principles found in nature to maximise efficiency of materials and energy).

"These are critical areas that business managers will increasingly need to understand and are not being trained to consider," says Prof Hoffman.

Peter Laybourn, chief executive of International Synergies, also acknowledges the need for business students to learn how to manage and recycle waste. However, he stresses that future managers must also be equipped to look beyond internal processes and collaborate with others on waste management.

"Companies are so used to trying to solve their own problems, but the solutions might be right next to them," says Mr Laybourn, whose National Industrial Symbiosis Programme helps companies to discover how their waste, energy and by-products can be turned into resources and sold. "There's a lot of cross-fertilisation that companies might miss if they don't know about this."

In different forms, waste management is starting to crop up in business school content and activities, often through joint degrees.

This is the case at Yale School of Management, which covers such topics through a joint MBA and a master of environmental management. And at the University of Michigan, the MBA/MSc, run by the Ross School and Rackham Graduate School's School of Natural Resources and Environment, includes courses in resource management and industrial ecology.

Students at Rice University's Jones Graduate School of Business have the option of an internship at [Waste Management](#), a Texas-based provider whose services include collection, transfer, recycling, resource recovery and disposal.

At Exeter University Business School in the UK, the One Planet MBA elective on biomimicry explores how business can look to nature when designing products, processes and systems that increase energy and resource efficiency and reduce or eliminate waste. The school has also

published a case on Desso, a carpet producer in the Netherlands, which is incorporating waste materials into its flooring tiles.

Occasionally, industrial ecology makes its way into the core curriculum. At Presidio Graduate School, it appears in the operations and production course in the second semester of the school's MBA in Sustainable Management.

More often, topics such as waste and resource management and industrial ecology are found in technically focused parts of universities. The Cornell Waste Management Institute's home is in the College of Agriculture and Life Sciences at Cornell University, for instance, while Yale University's Centre for Industrial Ecology is housed at its forestry and environmental studies school.

However, some argue that resource management should also be part of the MBA programme because it involves organisational as well as technical challenges – particularly when it comes to collaborating with other companies on waste reuse.

“Industrial ecology is more of a systems-level approach and it drives the need to look outside the boundaries of the single organisation,” says Jennifer Howard-Grenville, associate professor of management at the University of Oregon's Lundquist College of Business.

“Engineers can look at industrial symbiosis and see it's obvious that a byproduct can be used as a raw material by another firm,” says Prof Howard-Grenville, who teaches an MBA elective on industrial ecology. “But from an organisational perspective, it's not that easy.”

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As well as demanding organisational shifts, the adoption of strategies based on industrial ecology and industrial symbiosis requires business managers to think differently.

“We'd like to see managers talk not about waste but about by-products and the opportunities not only to save money but also to make money,” says Malcolm Kirkup, director of MBA programmes at Exeter Business School.

He argues that waste should not be viewed as something at the end of the supply chain but as an integral part of business strategy. “Currently, not many operations management teachers think that way,” he adds. “What we have to get is a change of mindset in the MBA.”

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