The Circulars 2017

Circular Economy Working Group

Point of View

2017

The New Business Norm

How technology dematerializes value creation and unlocks business potential in the circular economy

Over recent years it has become increasingly apparent that the incumbent and traditional model of doing business is no longer viable. This traditional and linear growth model, in place since the advent of the industrial revolution, is founded on a 'Take, Make and Waste' approach. This approach has allowed for rapid economic growth in a world of seemingly abundant and affordable natural resources. It has been a period of unprecedented population growth and economic prosperity, but also of waste and environmental damage.

The abundance of these natural resources however is depleting; by 2050, there will be over nine billion people on the planet, with an additional three billion people joining the global middle class, and we are on course to consume more resources each year than the earth can regenerate in three. The need for a drastic shift in our approach to business is urgent.

The circular economy is a solution to this challenge and is becoming increasingly adopted by business given the environmental, but more importantly, the economic benefits which can be realized. By definition, the circular economy seeks to remove waste, in all its forms, from societal and business processes by ensuring that materials are maintained at their highest possible value for the longest possible time within the product life cycle.

Much of the attention around the circular economy to date has been on the most visible form of waste in society; municipal waste and has resulted in a surge of activity in the recycling industry.

In reality however, recycling end of life products is just one small part a much wider solution. At the heart of the concept of the circular economy is the idea of shifting away from linear models and reinventing the way we create value: using processes that don't create waste, utilizing wasted capacity, regenerating resources or even succeeding without significant resource use at all. To implement the circular economy, we need to rethink not only what we waste, but how we do business, the models we use and critically, how we can use technology as a key driver in enabling a faster and more efficient transformational change.

New Business Models

Today, the developed world is characterized by increasing digital connectivity between people, products and systems, driven by the internet and mobile technology. This shift has been a direct catalyst to unlocking a host of opportunities that are driving and enabling circular business models.

Take the sharing economy, for example. This new business model, which is built on the sharing of assets that have untapped or unused capacity, has technology at its heart and a big part to play in the circular economy. These digitally enabled technology solutions, such as Uber and Stuffstr, connect customers by providing a product or service more cheaply, quickly and conveniently while focusing on utilization rates and increasing the capacity of existing products, rather than producing new ones. As a result, sharing

platforms not only increase the long-term usability of the materials, but can also generate more value per unit of material.

1. GET YOUR STUFF   2. SEE RECOMMENDATIONS   3. SWIPE TO GIVE
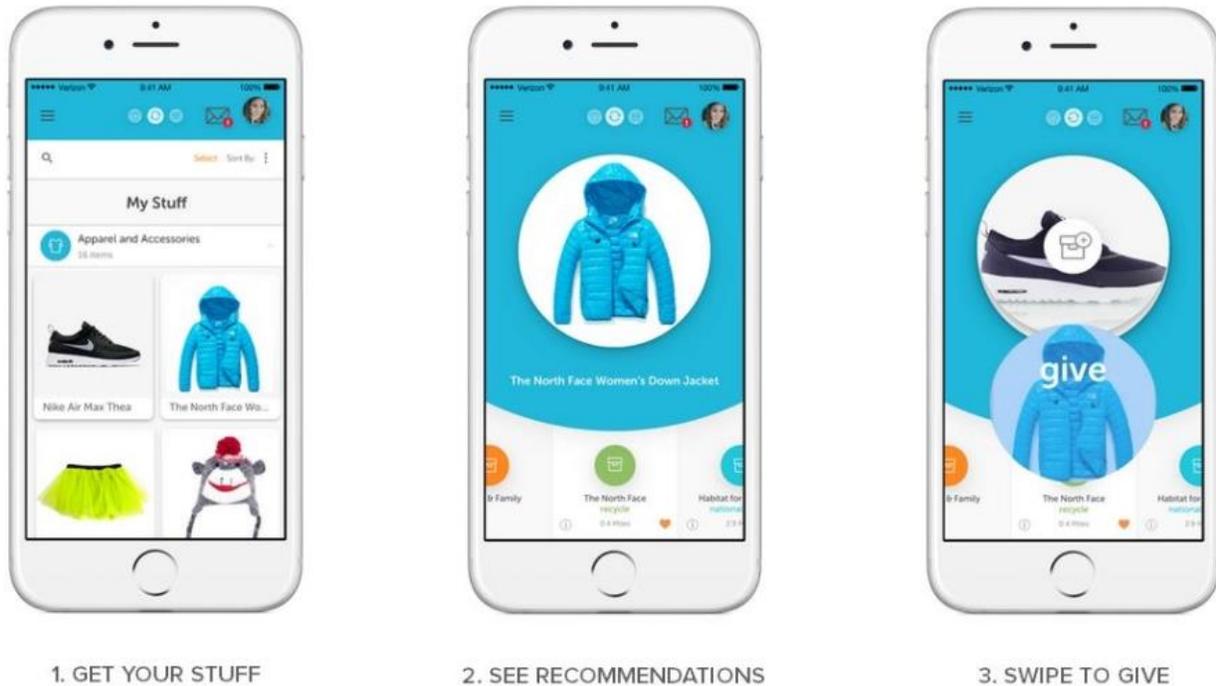
Stuffstr helps you put the stuff you don't use back to work using technology   Image: Stuffstr

The sharing economy is just one such circular model, with similarly innovative approaches across a range of business applications, from leasing models and connected buildings, to the Internet of Things and connected devices. These applications have been delivered across a range of business industries and geographies.

Dell and The Tech Sector

Indeed, the technology sector itself has catalyzed circular economy with technology innovators leading the way and driving the change.

Dell, one of the world's leading computer technology companies, and sponsor of The Circulars Awards 2017, have been leading the way in implementing technological solutions that enable the circular economy across a variety of applications.

Virtual Platforms as a Substitute for The Real

Take for instance, the efficiency and circular economy benefits driven by cloud computing. No longer do you need to have every program on your own computer (or indeed as before, in hard copy format); you can have a lighter, more energy-efficient laptop that can tap into the power of an efficiently run data center for computing power, special programs, or storage.

This can be taken a step further by virtualizing a whole desktop and freeing us all from specific computers. In a virtual desktop environment, a local terminal (like a thin client) can run in a super-

efficient manner while leaving its operating system, software and storage all accessible via the cloud. Think of a doctor's clinic or hospital: a practitioner can swipe his or her card to log into a station and get the information they need. This gives them fast access to patient data and greater security, while reducing overall resource and energy consumption, and even reducing the total number of terminals needed.

Process Efficiency

The Internet of Things, alongside big data analytics, are other examples of key drivers of process efficiency and they enable the elimination of waste as a result. They allow businesses and individuals to obtain detailed levels of information about the flows of materials and actions. This information provides unique insights into where waste is, enabling solutions to remove it. One such example can be seen with New Belgium Beer who, in partnership with Dell and their Vertex solution, have positioned technology at the heart of the business. The technology solutions implemented by Dell range from sales implementation tools, to real time data analysis of the production process that enables live adaptations to maintain a high quality of product and ensure the elimination waste, in the form of ingredients or system down time, from the process. In this way, technology has played a key part in enabling a business to simultaneously become less wasteful and more circular, efficient, effective and ultimately more profitable.

Michael Dell receiving The Accenture Award for Circular Economy Pioneer at The Circulars in 2015   Image: The Circulars

The Future

The evolution of technological advancement is so rapid that its role in business looks set to only accelerate. 3-D printing has the potential to revolutionize how we fix, service and upgrade our products. Before, a product's replacement part would be manufactured a long time in advance and would result in a large product inventory and huge amount of resource and capital tied up and wasted in stock. Imagine a future where products are designed in a modular fashion and when a part is required, it can be mapped out and printed on demand. The opportunity to make repair and reuse more efficient and reduce overall resource consumption is consequently vast.

This, whilst an increasing capacity of computing power is producing data and insights on a systems level to help us understand everything from traffic systems to supply chains.

Conclusion

Indeed, broadly speaking, the circular economy is about how systems work, and computing power that allows for deep analytical insights to look for inefficiencies, gaps, patterns, is a key enabler. Technology is at the nexus of circular economy innovation and improving business profitability. Its advancement and proliferation is simultaneously associated with driving real and transformational change across business through new models and approaches, whilst enabling businesses to adopt circular solutions that rely increasingly on digital connectivity and flexible design processes.

It is critical that, for the expansion of circular economy models, technology companies such as Dell continue to lead the way, embedding their technological solutions into a wide range of businesses across industry to embed circular and profitable solutions.

Technology is at the heart of the solution to this global resource challenge, and it is the role of the technology sector to take responsibility and help enable other businesses, and future societies', to reap the benefits of a technology focused and circular approach to business.

Written by The Circulars Awards, in collaboration with Dell