Changing the way we consume could lead to a positive environmental impact, research shows

Transforming our current consumption models, from "take-make-dispose," to a circular one where companies provide products as a service can power economic growth and competitiveness with increased positive environmental impact.

Source: Pexels

This transformation, called Everything-as-a-Service (XAAS), radically shifts ownership to the company - and away from the consumer - which means the entire lifecycle is extended, keeping products out of the waste stream and out of the environment.

The findings are featured as part of the "Everything-As-A-Service (XAAS): How businesses can thrive in the age of climate change and digitalisation" report launched by Systemiq on behalf of the Sun Institute at the World Circular Economy Forum on Monday, 20 September.

Circular consumption approaches can lead to positive environmental impact

The report focuses on the manufacturing sector and lays out how circular XAAS systems can be designed - and how these ecosystems can be catalysed through digital technologies, policy support and collective industry action.

It underscores that moving away from linear consumption models to circular approaches can generate positive environmental impact and reduce total cost of ownership (TCO) to up to nearly 40%. The report provides comprehensive insights gained from interviews with more than 50 experts from pioneering companies and leading academic institutions and analyses the advantages and challenges associated with circular XAAS models.

“People don’t need cars, but mobility; they don’t need washing machines, but clean clothes. XAAS provides an alternative way of doing business that meets societal needs with efficient resource management and lower environmental impact. Our report explains why and how innovative and bold XAAS models can deliver the much-needed shift to a circular economy,” Sophie Hermann, partner at Systemiq, said.

Red Cup Village helps save the planet by manufacturing biodegradable products

20 Aug 2021

A toolkit featured in the report presents four building blocks (value proposition design, business model and financial design, circular product and operating model design as well as ecosystem design) and design parameters to optimise for both economic and sustainability impact, as well as three deep dives that showcase successful transitions to XAAS for cars, industrial equipment and white goods.

XAAS business and operating models place the responsibility for the product life cycle on producers, who are incentivised to optimise for resource productivity - designing longer-lasting products and incorporating maintenance, repair, reuse, remanufacturing, refurbishing and recycling into their system thinking.

XAAS models promote circular materials systems, which, if designed ambitiously, have the potential to decarbonise Battery Electric Vehicles (BEV) by ~25-45% for Car-as-a-Service models. Through XAAS models, Equipment-as-a-Service can also reduce the footprint of metal laser cutting machines by ~37%-65%, and White Goods-as-a-Service models (such as refrigerators) can reduce residential laundry footprint by ~24-35%.

Transition to XAAS consumption models already happening

Challenges to scaling this approach, however, exist. If the four design building blocks are not applied and organisations do not holistically adopt sustainable strategies, integrating circularity through its value-chain, potential rebound effects such as consumption increase, and less efficient and frequent obsolete technology would result in environmental and circularity impact not reaching full potential.

But the report shows this transition is already happening. Across industry sectors, companies such as Rolls Royce (power-by-the-hour), Michelin (tires-as-a-service), ShareNow (car-sharing), Signify (lighting-as-a-service), CWS (workwear-as-a-service) and Trumpf’s (equipment-as-a-service) have successfully implemented XAAS models.

Contradictory human values complicate wildlife conservation, research shows

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In order to accelerate the economic transition towards dematerialisation and circularity - and XAAS, consumer behaviour needs to follow suit and adopt access over ownership and policy interventions need to encourage circular material use, rewarding innovation and mobilising industry action.

At a time when industrial companies need new solutions to become more sustainable while staying competitive, and technological progress provides the data, analytics and connectivity to transform how businesses operate, the report shows the XAAS is an opportunity to create systems that decouple natural resource use from economic growth and well-being, reduce waste and help economies on the path to net zero.