

# All leads back to society: The missing social bottom-line of Circular Economy, an article by Dr. Shumaila Yousafzai



## The role of Universities in a Quintuple helix model to develop circular entrepreneurial ecosystems

In recent years, the need for a more holistic, sustainable and inclusive approach to business has become increasingly evident. The old linear model of production and consumption is no longer fit for purpose in a world where environmental, social and economic challenges are interconnected. A new model is needed which considers the interdependence of all stakeholders in the system, and which facilitates circularity at all levels. The Quintuple Helix Model is one such model which offers a system thinking approach to developing circular entrepreneurial ecosystems. In this blog post, I will explore the key features of the Quintuple Helix Model and how it can be used to create more sustainable businesses and economies.

### The quintuple helix model is a new way of thinking about the economy

The quintuple helix model is an innovative concept that seeks to reframe the economy in terms of a five-part system. This model considers governance and policy making bodies, private industry, civil society, academia and societal challenges as equally important components of an economic ecosystem. Policy makers need to understand these five interacting parts in order to develop strategies that will enable meaningful growth and development. Consequently, the quintuple helix model creates opportunities for new approaches to driving economic growth. It provides a comprehensive framework for understanding the complexity of today's globalized economies and offers valuable insights for policy makers as they seek to create sustainable development plans for the future.

### The model includes five different sectors: government, industry, academia, civil society, and media

All five sectors are critical components to a successful and effective system of governance. The role of the government is central to a healthy society, both in providing services that benefit citizens and developing policies to help shape its economic and social environment. Industry is responsible for much of the wealth achieved by modern societies and employs large numbers of the population; it demands clear incentives and secured investment. Academia plays an important role in research and development, helping to drive innovation and progress. Civil society offers resources, access, advocacy, and enhanced knowledge that fills critical gaps left by government and industry programs. Finally, media connects all these sectors by disseminating information among them. By interconnecting these networks, each sector brings unique contributions to the functioning of a well-rounded system.

Figure 1. The Quintuple Helix innovation model (Source: Carayannis, Barth, & Campbell, 2012).

### Each sector has a role to play in the economy, and they're all connected

When we consider the role of different sectors in the economy, it is clear that they are all

connected to each other in some way. The performance of one sector will invariably have an effect on other areas, either positive or negative. For example, if the retail sector experiences a surge in sales, then this could lead to increased demand for products from related industries such as manufacturing and transport and storage. Such increased demand can feed through into further economic benefits such as job creation and investment. Conversely, when economic conditions worsen, and a sector experiences a downturn, this can be exacerbated by issues in other areas - leading to periods of recession. As well as highlighting just how closely linked the various sectors are, this understanding provides valuable insights into how the economy works as a whole.

### **The goal of the quintuple helix model is to create a more sustainable and equitable economy**

The quintuple helix model is a breakthrough concept within the realm of sustainable development, specifically emphasizing the integration of both social and technological components in order to create systemic change and build a more robust, equitable economy. By establishing the fifth pillar of innovation alongside traditional stakeholders such as governments, universities, industries, and civil society organizations, the model seeks to leverage an ecosystem-based approach towards global economic development that takes into account environmental sustainability, social justice, and technological efficiency. In doing so, this model not only recognizes the need for increased collaboration between various stakeholders but also introduces innovative pathways towards creating lasting social impact as well as ensuring responsible resource use.

### **The circular economy is one example of how this model can be put into practice**

The circular economy has emerged as an increasingly popular concept among those looking to shift away from linear, take-make-waste models of development. This approach strives to create a cycle in which resources and products are used, recovered, and reintegrated back into production processes for continual reuse. From innovations in sustainable product design to initiatives for resource recovery and reuse, the principles of the circular economy are being implemented in communities around the world with exciting results. Economic models based on this approach can contribute significantly to reducing global greenhouse gas emissions and securing access to resources for future generations. Significantly, it demonstrates that sustainability is not only achievable but can be beneficial to long-term economic growth.

### **In a circular economy, waste is eliminated, and resources are reused instead of being thrown away**

In a circular economy, businesses operate like nature, in which there is no waste. Materials and products are reused or remanufactured into new products. This keeps valuable resources in use, reduces environmental pollution, and conserves energy. A circular economy is the opposite of a throwaway culture, in which goods are used for a short time and then discarded. The linear economy of make-use-dispose is not sustainable because it depletes the earth's resources and creates mountains of waste. The circular economy is a more sustainable model that can help to preserve the environment for future generations.

Circular economics is also a way of implementing the Sustainable Development Goals (SDGs: Figure 2), for example, SDG 6 (clean water), SDG 7 (affordable and clean energy), SDG 8 (work and economic growth), SDG 12 (responsible consumption and production) and SDG 15 (life on land).

Figure 2. Sustainable Development Goals

Adopting a circular economy is of paramount importance in order to ensure a sustainable and equitable future for all. By transitioning away from the traditional linear model of make-use-dispose, this approach places greater emphasis on reusing existing resources and materials in order to reduce environmental pollution and conserve energy. This is an especially important consideration as the world faces increasingly pressing issues regarding climate change, finite resources, air quality, and water scarcity.

Figure 3 – The linear economy's 'take, make and waste' approach of production. (Source: Wautelet, 2018)

The circular economy aims to close the loop by creating new value chains that foster resource recovery while also introducing innovative pathways towards job creation – particularly in

recovery while also introducing innovative pathways towards job creation – particularly in emerging economies. It is not just about reducing waste output but rather creating a system that enables materials to be reused multiple times in different ways while continually driving economic growth. This approach can lead to significant cost savings for businesses due to less reliance on external inputs, leading to an overall reduction in product costs which can then be passed on to consumers. Additionally, a circular economy can help encourage local manufacturing processes which not only helps create jobs but also keeps money within communities.

Figure 4 – Key Concepts of Circular Economy (Source: World Economic Forum)

On top of this, by focusing on remanufacturing instead of making new products from scratch, there are considerable energy savings that can be achieved. This energy efficiency can lead to reduced emissions as well as decreased strain on natural resources such as water and minerals – both of which are becoming increasingly scarce due to overconsumption and population growth. Furthermore, an increase in closed-loop production systems could also help reduce plastic pollution which has become one of the defining environmental problems of our time.

Ultimately, the shift towards a circular economy represents an opportunity for global businesses and governments alike to take meaningful action towards protecting our planet's fragile ecosystems while also promoting equity among citizens across the world. Through increased collaboration between stakeholders from all sectors – including businesses, universities, industries, civil society organizations – it is possible to create systemic change that will ensure responsible resource use and lasting social impact going forward.

### **What roles can universities play in achieving circular economy?**

Universities play a critical role in achieving a circular economy by preparing the next generation of leaders to take on the challenge of sustainability. Through their research, teaching, and engagement with society, universities can help to drive the transition to a more circular economy.

Firstly, universities can conduct research that advances our understanding of how to design and implement circular economy systems. This research can be used to develop new technologies and processes that enable businesses and industries to operate in a more sustainable way. Additionally, university research can help to identify and assess the potential environmental and social impacts of adopting a circular economy. This knowledge can then be used to inform decision-making at all levels, from individual consumers to multinational corporations.

Secondly, universities can prepare the next generation of leaders to take on the challenge of sustainability. By offering courses on circular economy principles and practices, universities can equip students with the skills and knowledge they need to drive change in the real world. Additionally, universities can provide opportunities for students to get involved in research and projects related to the circular economy. This hands-on experience is essential in order for students to gain a deeper understanding of how these systems work in practice.

Finally, through their engagement with society, universities can help to raise awareness about the importance of transitioning to a circular economy. Universities can host events and workshops on circular economy topics, and they can also partner with businesses and organizations that are working towards similar goals. By collaborating with other stakeholders, universities can help to create systemic change that will lead to more sustainable ways of doing business and living.

It is clear that universities have an essential role to play in achieving a circular economy. Through research, teaching and engagement with society, they can help us understand how these systems work and equip the next generation of leaders to drive change. However, it will take collaboration between all stakeholders – businesses, industries, civil society organizations – to create systemic change that leads to more responsible resource use and lasting social impact. Therefore, we must come together now if we are serious about protecting our planet's fragile ecosystems while also promoting equity among citizens across the world. Let's join forces today so that future generations can benefit from a healthy environment and prosperous societies tomorrow!

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