

Steps towards circularity in hotel operation

K.M. Karakasné

Department of Hospitality, Budapest Business School, University of Applied Sciences, Budapest, 1054, Hungary

Keywords: hotel, circular economy, sustainability

Presenting author email: karakasnemorvay.klara@uni-bge.hu

After the COVID-19 pandemic there is an understandable desire to return 'back to normal' in tourism. Yet, this crisis offers a unique opportunity to reflect and ask important questions about the future, including those related to the industry's adverse environmental and social impacts, overall resilience, risks and opportunities amidst 21st century sustainability challenges (Einarsson and Sorin, 2020). Over the last two decades, it has become clear that excessive consumption by society and immeasurably increased pollution have serious consequences. In the current linear economic model, the technical and biological components are taken out of nature, transformed, and then treated as waste after use, thus burdening the environment. In the circular economic model, on the other hand, material processes take place in a closed loop. Tourism is essentially an interconnected network of multiple assets and activities. It includes accommodation and leisure facilities, transport from origin to destination and local transportation, and many activities ranging from attractions and festivals. These are coordinated by tour operators, travel agencies, booking agencies and the like. This new model is still little known among economic actors, although it has great business potential and can actively help achieve sustainability goals. In this article, the author presents the components of a circular economic model and enumerates the options that can be incorporated into hotel operations.

It is difficult to define the tourism industry, as unlike with other industries, there is not one clear product. It incorporates many industries, including lodging, transport, attractions, travel companies, and more. In its broadest sense, tourism is defined as when people travel and stay in places outside of their usual environment for less than one consecutive year for leisure, business, health, or other reasons. Globally, travel and tourism's direct contribution to GDP was approximately 4.7 trillion U.S. dollars in 2020. The market size of the hotel and resort sector worldwide peaked at 1.47 trillion U.S. dollars in 2019. As a result of the coronavirus pandemic, the market size dropped to 610 billion U.S. dollars in 2020. In 2021, the market size was forecast to climb back up to nearly 950 billion U.S. dollars (Lock, 2021). Environmental studies, reports, foresights and other documents published before the COVID-19 outbreak were focusing mainly on the high level of greenhouse gas emissions and increasing carbon footprint of this vast and complex industry. Making the industry greener and more sustainable is the increasingly central issue as the negative impacts of tourism development can gradually destroy environmental resources on which it depends.

Sustainability has become an important strategic objective for tourism destinations and stakeholders worldwide. All analytical tourism competitiveness models make direct or indirect positive references to sustainability. Sustainable tourism is defined by the UN Environment Program and UN World Tourism Organization as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities." (UNEP&UNWTO, 2005)

Although sustainability and environmental protection have long been the focus of hotel management, the circular economy is not yet widely known. The circular economy (CE) contradicts the traditional linear economy, in which companies take resources from the environment, design and make products that are distributed to customers, who often use or consume them for a limited amount of time before they end up as waste. A circular system, on the other hand, aims to maintain the value of products, materials and resources for as long as possible by returning them into the product cycle at the end of their use while minimizing the generation of waste (European Commission, 2015). One of the most popular and influential visual representations of the circular economy is the so-called "butterfly chart" by the Ellen MacArthur Foundation (EMF, s.d.). It represents the circular economy as the continuous flow of technical and biological materials through the "value circle". The biological cycle includes natural, biodegradable materials and enables the return of valuable nutrients to the biosphere and allows for the regeneration of natural capital. The technical cycle generally contains non-biodegradable products, such as metals or plastics. The most effective technical cycles involve maintaining and reusing products, thus preserving their value and increasing their usage length. Even when the customer no longer needs the product, others might still reuse it; it can be resold or redistributed to different markets. Should it not be possible to reuse the product, most of its value can be retained by refurbishing or remanufacturing it. If reuse or refurbishment is not viable, the materials that make up the product can be recycled. This way, even if the value of the product diminishes, the value of the material is preserved.

Biodegradable materials, such as food or wood-based products, can be cycled in biological cycles. They are renewable by nature, but they can add value when cascaded for additional applications in different value streams. Each of the alternative reuse possibilities reduces the need for new virgin materials. Bio-refineries, which can convert organic materials into high-value chemicals and fuels, are also examples of biological cycles. Organic materials that can no longer be used further can be composted to regenerate soils (PWC, 2018).

Based on these, CE seems to represent new solutions for the manufacturing industry. To what extent can these principles be applied to services, such as hotels? This article

- describes the operation and principles of CE,
- In addition, activities that can be included in the technical and biological scope of CE must be found in the various functions of hotel operations.
- As the essence of the CE model is that the surplus or waste of one company can be used as a raw material by another company, hotel partners should also be involved, thus some best practices are mentioned.
- To shaping attitudes, an important goal is to examine the applicability of the principles of the circular economy.
- The study aims to gather opportunities that have already been proven or are being tested in other sectors of the economy to transform the operation of domestic hotels.

The present study is intended by the author as a targeted basic research. The concept of basic research is defined in Act CXXXIV of 2004 on Research and Development and Technological Innovation in Hungary. The law defined as follows:

„4. § 1. a) basic research: experimental, experiential, systematic or theoretical work aimed primarily at expanding scientific knowledge of the essence of phenomena and observable facts, which may be

- pure basic research: research aimed at increasing scientific knowledge and not having the direct benefit of producing social or economic benefits or of applying the results to practical problems;
- targeted basic research: research aimed at expanding scientific knowledge which is likely to serve as a basis for solving identified or anticipated current or future problems. "

Basic research is thus experimental or theoretical work carried out primarily to acquire new knowledge about the background of phenomena or observable facts.

The EMF model is used as a basis for summarizing the results.

In reviewing the operation of hotels, the author first examines “material flows”.

Purchasing plays a key role, as supplier relationships determine in advance where, what quality and quantity we can buy. Hotels’ resources can also include energy, fixed assets, current assets and human resources. For each group, we can choose the behavior according to the circular approach.

Production phase typically takes place in the F&B department of hotels in the kitchen and confectionery. The author reviews the menu layout, storage practices, cooking techniques, and leftover handling.

In the case of hotels, the services provided to guests, such as excursions, transport, horse riding, wine tours, etc. should be examined separately.

The cornerstone of the model is the collection and disposal of the used tools and materials at the end of their life cycle. There are many options in hotels for maintenance, reuse, donation and composting.

In conclusion, there are many opportunities to apply the CE principles in hotels. The idea of reducing waste and using resources more efficiently as a trend is playing an increasingly important role globally. In addition to sustainability, circular models can increase the efficiency of companies, reduce costs and stimulate research and development and innovation, giving pioneers, actors ready to change, a competitive advantage.

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