

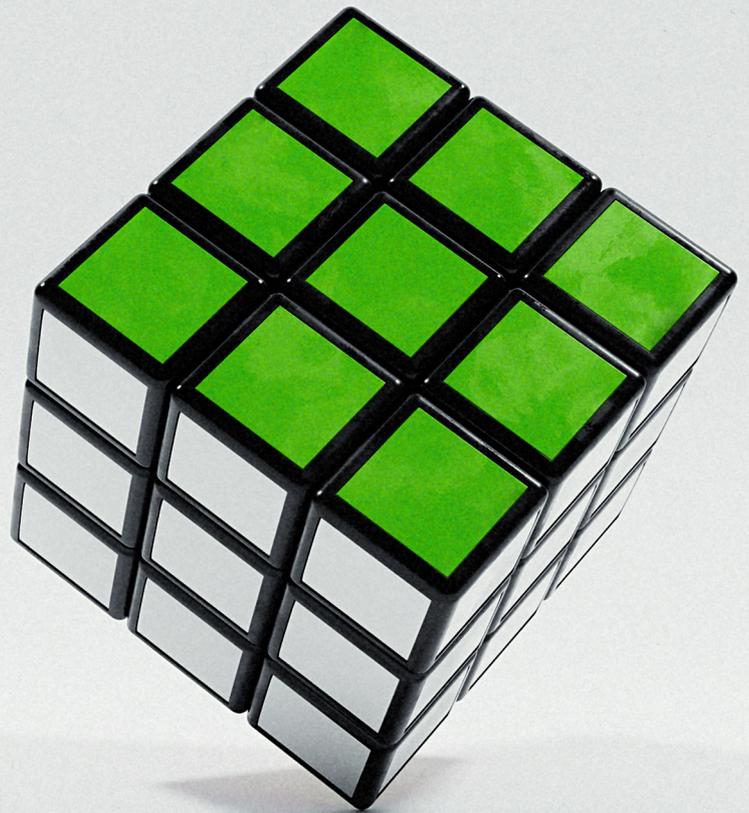
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Framing sustainability opportunities

— A key to success with
circular business model
implementation



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In light of the unfolding environmental crisis, companies are increasingly turning to circular business models as a potential solution. Yet, according to estimates by Bain & Co., only 2% of companies targeting sustainability goals end up achieving their targets. Our research shows that inaccurate framing and assessment of sustainability opportunities are key causes of failure.

The root causes of circular business model failure

A circular business model (CBM) is one in which a focal company together with its ecosystem partners uses innovation to create, capture, and deliver value to improve resource efficiency. By extending the lifespan of products and parts, environmental, social, and economic benefits can be realized. Designing and implementing a CBM is far from easy. In fact, organizational and ecosystem challenges related to CBMs often block the transformational efforts that firms make. These challenges can arise in all three dimensions of a CBM – namely, value creation, value delivery, and value capture. For value creation, manufacturers need to integrate their business activities more deeply into customers' operations, engage in value co-creation, and introduce new innovative services. For value delivery, sustainability-related solutions often require a new logistic and solution delivery setup on the customer side as well as strategic collaborations with technology and service providers. For value capture, there is a need to shift from a traditional CAPEX to an OPEX revenue flow since value is increasingly captured through offering availability and outcomes (i.e., solutions) rather than through up-front sales.

Academics have responded to these challenges by developing models and frameworks with actionable guidelines on how best to design and implement a CBM. Although beneficial, these frameworks typically ignore the front-end ideation and assessment phases – that is to say, the activities that take place before a CBM is designed and implemented. Our research shows that most companies “underinvest” in front-end activities. They do not devote sufficient time, resources, and attention to frame and assess the sustainability opportunity that underpins every CBM. By sustainability opportunity, we mean the idea that underlies how new innovative technology, processes, products, and services

are able to increase environmental, social, and economic value. Proficient early-stage opportunity assessment can help companies save both time and valuable resources. It also serves to enhance a project's legitimacy in the eyes of stakeholders, thereby improving the likelihood of a successful outcome.

Sustainability opportunities in practice

To understand how industrial firms frame and exploit sustainability opportunities in practice, we worked with two incumbent manufacturing firms and their ecosystem partners over the fall of 2020 and the spring of 2021. We studied four ongoing projects and conducted over 40 interviews and several workshops. In the first company, Project Alpha revolved around a radically new technology where magnetite particles were mixed with asphalt. This allows cold transportation of the asphalt as microwave-based technology can heat the asphalt directly before applying it to the road. In theory, this could achieve tremendous cuts in energy consumption and CO₂ emissions. Project Beta focused on developing new sustainable technology that could recycle mine waste into phosphorous, rare earths and fluorine (among others). The second company ran Projects Gamma and Delta that focused on refurbishing existing technologies and complex products and upgrading them into more sustainable versions. Project Gamma centered on developing a climate-friendly alternative to harmful atmospheric greenhouse SF₆ in circuit switchgears, and Delta concentrated on biodegradable ester fluids instead of fossil fuel-based oils in transformers.

When approaching their respective sustainability opportunities, all projects engaged in a preliminary opportunity assessment – for example, constructing a business case with expected revenues and operational costs, reviewing market trends and potential competitive offers, “testing the water” with customers to determi-

ne their readiness to accept a subsequent offer, and engaging with ecosystem partners to complete the offer. Some of these activities were successful. Yet, all projects lacked a systematic step-by-step approach to opportunity framing and assessment. For example, Project Beta initiated technology development before getting the equipment manufacturer on board – thus, creating uncertainty. Project Delta launched novel eco-efficient transformers with a strong sustainable value proposition. However, this value proposition was identical for all customers, even though each customer had identified its own sustainability concerns and required a co-creation approach that was tailor made. Could these challenges have been avoided? By studying the four projects, we learned what they did right and got to understand the struggles and pitfalls they encountered on the way.

A framing process for sustainability opportunities

Based on our in-depth case analysis, we have identified a number of factors that should be evaluated and clarified in the pre-phases, in order to avoid or mitigate future development problems and pave the way for the successful implementation of a CBM subsequently. We collated these factors into an actionable framework to better frame and assess sustainability opportunities (see Figure 1). The framework focuses on a focal company and the perspectives of its ecosystem partners. It outlines two key phases that companies and projects need to go through, and it identifies key activities and leading questions. The first phase deals with feasibility assessment – namely, approximating the green premium potential, conducting a competency review internally and externally, and forecasting buy-in from future key customers and partners. If the idea seems feasible, it needs to be “validated” early on by the ecosystem actors to get them on board. That is to say, the focal com-

Tabell 1. Analys av hög idékvalité

Phases	Activities	Leading questions
Phase A: Feasibility Assessment	Potential green premium	<p>What are the financial benefits of implementing a sustainable opportunity compared to existing incumbent or new entrant alternatives (e.g., improved performance or quality, cost, branding potential)?</p> <p>Are there any governmental or industrial initiatives that could incentivize sustainable opportunity market commercialization (e.g., subsidiaries, CO2 allowances, CAPEX/OPEX returns)?</p>
	Competencies fit	<p>Which internal and external competencies are required to implement this sustainable opportunity?</p> <p>Are these competencies readily available in the current ecosystem? If not, is it feasible (in terms of time, resources and proximity to current business logic) to internally develop or acquire them? If not, would it make sense for ecosystem actors to develop new competencies on their side?</p>
	Ecosystem buy-in expectancy	<p>Does the focus of potential customers' and partners' sustainability strategy align with sustainability-opportunity implementation (e.g., sustainability targets, history of previous sustainability-related initiatives and value-chain collaborations)?</p> <p>What are the key benefits and risks from engaging in opportunity development and implementation on the part of your ecosystem partners?</p>
Phase B: Stakeholder alignment	Partner orchestration	<p>What is required to incentivize ecosystem partners to jointly pursue the opportunity?</p> <p>What kind of formal or informal agreements are needed to secure partner alignment and fulfillment of commitments?</p>
	Customer onboarding	<p>What would it take to get customers' preliminary commitment to future buy-in?</p> <p>How can your firm gain customer trust and engage them in value co-creation?</p>
	Organizational commitment	<p>What requirements do internal stakeholders pose in turn for providing support and funding for your CBM project?</p> <p>What actions are needed to legitimize and promote the CBM project among internal stakeholders?</p>

pany needs to negotiate with partners and align incentives, engaging deeply with customers and learning how best to tailor the solution to their needs. Another key factor is to ensure that there is a sound internal organizational commitment so that the project has enough legitimacy to win support and funding in the future. Following these activities, a focal company can either proceed with CBM implementation or discard the opportunity depending on what is now perceived as the prudent option.

Practical implications

By taking a systematic approach to sustainability-opportunity framing, companies can increase their chances of success in going circular. A greater commercialization potential would follow since a sustainability opportunity that has passed a feasibility assessment and that is aligned with key stakeholders is more likely to deliver the economic, social, and environmental benefits companies seek by going circular.

Particular attention should be given to aligning the emerging sustainability opportunity with ecosystem actors' needs. Our study revealed that incumbent companies tend to underestimate the importance of "going into the field" – that is to say, taking direct contact with partners and customers. Instead, they often proceed with technology development based on assumptions stemming from publicly available reports and communications made by industry actors. However, this information can be misleading as

it is usually carefully filtered to avoid negative publicity. Thus, it often fails to reflect the real problems which the ecosystem is dealing with when it comes to sustainability. Another rationale for taking direct contact is that additional sustainability opportunities with high potential can be identified in the process of promoting discussions per se. We recommend that mana-

gers and engineers utilize the proposed framework to frame and assess multiple sustainable opportunities and proceed with exploitation of the most viable option among the alternatives. Their subsequent success with circular business model implementation is enhanced.



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