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A PORSCHE COMPANY

MHP WHITE PAPER

SET THE COURSE FOR SUSTAINABLE BUSINESS MODEL INNOVATIONS

How companies combine sustainability and profitability with the alignment of their operating model

CONTENT

Abstract

On the one hand, the transformation to sustainability is a major challenge for companies, on the other hand, it offers huge business opportunities. In order to harness this potential, the operating model needs to be realigned. In addition, sustainable business model innovations should complement companies' product portfolios. To achieve this, a company's operating model must be holistically, iteratively, and integratively aligned in terms of its business model, processes, products and services, data, and organization. This requires proactive shaping of the relevant dimensions. Individual business models must be economically, ecologically, and socially aligned according to the "triple-bottom-line" approach and considered in the context of their respective ecosystem, beyond the boundaries of the company. Anchoring sustainability criteria in the innovation process ensures that a company's business system is only expanded by sustainable business model innovations. Data and the digitalization of products play a pivotal role in the product development processes of the future. They enable "everything-as-a-service" business models, which offer considerable economic potential for companies, not to mention ecological and social potential for their environment. New organizational forms within the company create a purpose-driven culture and make sustainability a priority in the minds of its employees.

The integrated interaction of these dimensions in the operating model of the future enables a profitable transformation to sustainability. In this white paper, we will show you how to start your individual transformation and thereby lay the foundations for long-term business growth.

Introduction

For companies, the question is: How can we ensure that the transformation to sustainability is profitable and in harmony with the planet's ecosystems?

By definition, our economic system is intended to create long-term prosperity for everyone through the optimum allocation of scarce resources [1]. The most important indicator of economic success is gross domestic product [2] – this means that success is now determined exclusively by (financial) growth and is considered the single most important indicator of prosperity. With a glance at today's dominant economic model, it is becoming increasingly clear that this system is not capable of creating long-term prosperity for everyone. Quite the opposite, in fact: Studies show that the system primarily creates short-term material prosperity for a few people [1] – material prosperity that is defined in particular through the increasing consumption of goods. Acting within the current economic model observes the principle of growth, but ignores the consumption of resources and its effects on our planet. The "Great Acceleration" clearly shows the extent to which the consumption of resources has increased in the industrial age [3]. Our society is now facing enormous challenges due to this "business-as-usual" economic model: We would currently need the equivalent of 1.6 planets every year to meet the demand for natural resources. At the same time, we generate 51 billion tons of CO2 emissions a year, which is around 6.5 tons of CO2 per person, and this figure is increasing all the time. Around one ton per person would be appropriate for the climate [4]. According to Johann Rockström's model, some of the natural planetary boundaries are about to reach irreversible tipping points that seriously threaten ecosystems and endanger life on the planet [5]. Last but not least, the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) shows that every region of the world has already been affected by climate change and that the CO2 budget for limiting global warming to 1.5 degrees Celsius under the Paris Climate Agreement will already have been exhausted by the early 2030s [6]. The pressure to act is increasing dramatically. A "business-as-usual" approach will not work in the long term, so transformation to sustainability is critical.

Our common mission is to structure our economic model in such a way that sustainable business practices are promoted and contribute to achieving the UN's global Sustainable Development Goals. Thinking about the economic model as an interaction between governments, financial institutions, and companies demonstrates the key role that companies play in the transformation to sustainability. Companies need to align their corporate purpose, organization, strategy, and business models with sustainable economic management [2]. A first declaration of intent to redefine the economic model of the future was drawn up at the 2019 World Economic Forum in Davos with the manifesto "The Universal Purpose of a Company in the Fourth Industrial Revolution." According to this, the main purpose of a company is to engage all its stakeholders in shared and sustainable value creation based on the triple bottom line [7] of people, planet, and profit [8]. As early as 2019, 99 per cent of CEOs of companies with sales above $1 billion said that sustainability will be crucial for future corporate success [9]. Looking ahead, we can see one trend in particular: the neo-ecology megatrend.

> **We either choose to recognize that business as usual isn't worth the devastating price we're paying and make the necessary transition to a more sustainable future — or we accept that we're investing in our own extinction.**

Patricia Espinosa
Executive Secretary UNFCCC, at the Opening Plenary COP26

The "Global Generation" is creating a new system of values. Consumption is being critically questioned and a new way of consuming is emerging. In addition, the new global identity of companies calls for a sustainable and fair economy [10]. The Covid-19 pandemic has reinforced this trend and thrown the lack of resilience of the economic system into sharp relief. Companies therefore need to work out how to maintain and expand their strengths, while at the same time transforming their weaknesses within the ecosystems into sustainable economic management. The transformation to sustainability is possible if companies pursue a clear vision instead of just sticking to the previous "business-as-usual" approach [1]. Sustainable economic management and the associated decarbonization that result from a new economic model have the potential to spark a wave of innovation. In addition to the ecological benefits, this primarily brings with it huge economic potential and redefines how we do business, which enables sustainable and long-term economic success [11].

The aim of this white paper is to provide companies with an approach for developing, establishing, and scaling innovations for sustainable business models in a targeted way within their company – ensuring that the transformation to sustainability is economically profitable and in harmony with the ecosystems.

The role of companies

The pressure to transform to sustainability is increasing due to the political situation, the financial sector and demand from customers. Political institutions – such as the EU Green Deal and its expansion through the "Fit for 55" measures – set targets including targets for reducing EU greenhouse gas emissions by 55 per cent by 2030. They also provide large sums of money for investments to implement these measures [12]. The growing demands from politicians and customers for increased sustainability present companies with new challenges.

A glance at global greenhouse gas emissions is all it takes to see the environmental impact of industrial companies: The transport sector is responsible for 14 per cent of global greenhouse gas emissions, while 21 per cent of emissions are attributed to industry; mainly generated in the manufacture of products such as metals and cement, but also through waste. A further 11 per cent is the result of the energy requirements of industrial companies [13]. However, looking at emissions alone is not enough to carry out a holistic analysis of the ecological role of companies in the industrial sectors. The consumption of resources and global supply chains mean that industrial companies also have a high level of social responsibility – examples of this include upholding human rights, ensuring fair wages, and preserving biodiversity. A key task for these companies is therefore to understand their role within an ecosystem, to quantify their impact, and to identify opportunities to exert an influence on the overall system. Once the scope of the company's impact has been defined in the overall ecosystem, a systemic approach is required to address three main points for a successful transformation to sustainability:

1. To look at the combination of digitalization and sustainability
2. To initiate the change to a purpose-driven organization, and
3. To shape the sustainable business model of the future through innovations

For companies, the necessary transformation means one thing above all else: substantial investment in all areas of the company, which could impact profitability. A study by the Swiss Re Institute, which predicted an 18 per cent loss of GDP in the global economy if no action is taken to combat climate change, shows that this fear is rather short-sighted [14]. It is therefore imperative that business investments are reassessed using clear sustainability criteria. Companies therefore have to break away from the culture of "business as usual" and become purpose-driven organizations. They have the opportunity to influence the transformation to sustainability through innovations both within and outside the company. Sustainable business model innovations play a central role in this, but what does that mean? We will go into more detail in the next chapter.

Sustainable Business Model Innovation

A business model describes in a holistic way how a company generates value for itself and benefits for its customers. Business model innovations modify existing concepts of value creation and/or define new business models in order to maximize the benefits for customers as well as the company itself [15]. Following the "business-as-usual" principle means that the current traditional approaches of business model innovations are reaching their limits. However, sustainable business model innovations can significantly broaden their scope. The basic idea behind these innovations is to test the current business model in terms of time, society, and space, so that the limits of the business model and its susceptibility to external factors are laid bare. The purpose of sustainable business model innovations is to overcome the current limits, identify social and ecological potential, and link financial performance with a value for sustainability [16]. They are designed to create value in a changing social, environmental, and business environment and foster companies' resilience and stability.

The aims of sustainable business model innovation are multi-dimensional: Economically, they ensure differentiation in the market and therefore boost competitiveness. At the same time, however, they are effectively scaled without decreasing the company's earnings. Ecologically, they reduce the potential for mass production and counteract increased consumption of resources. They also use or shape business ecosystems and produce network effects by redefining value chains. This redefinition has an immediate positive impact on the social dimension.

Overall, sustainable business model innovations generate positive returns for all of the company's stakeholders – not just monetary, but also in the form of "ecosystem services" for society [17]. They redefine the purpose of the company and create long-term loyalty to the company among investors, employees, customers, and other stakeholders [16]. Sustainable business model innovations are therefore a key element for companies to secure their license to operate. But not only that: Studies also show that companies that transform their business model to sustainability perform significantly better. A comparison of 875 companies from ten different sectors over the period 2013 to 2020 shows that sustainable companies outperform the market by up to 60 per cent [18].

However, the key question remains: How can industrial companies enable sustainable business model innovations, implement the innovations in a scalable way and ensure a holistic yet profitable transformation to sustainability?

The literature supplies three relevant enablers, whose interaction is crucial for success [19]:

- **A "need seeker mentality"**
- **A portfolio approach for business models and**
- **organizational ambidexterity**

"Need seekers" actively and directly engage with current and potential customers in order to develop new products and services based on a better understanding of the user. They often deal with unexpressed needs and strive to be the first to market the resulting products and services. The mindset of the need seekers is closely related to the "lean start-up" and "design thinking" approaches. The Global Innovation 1000 study shows that 60 per cent of the most successful innovators work according to the need seeker mentality [20]. The portfolio approach to business models aims to ensure that all innovations are evaluated using clear metrics, which creates a balance between the risks of individual innovations in the overall system. This means that innovation portfolios can be better aligned to the specific corporate targets and therefore contribute to the overall value creation. The third enabler, organizational ambidexterity, is the ability of a company to continuously develop its existing core business as well as to establish modern ways of thinking and future collaboration models [21]. Studies show that innovations by organizations with this type of structure are successful in 90 per cent of cases. With other organizational structures, innovations are more than 25 per cent likely to fail [22]. But what does this look like in practice in the business world?

At MHP, we argue that a transformation to sustainability in business practice can only be successful if the company's operating model is holistically, iteratively, and integratively aligned.

To answer the key question, we will look at the individual dimensions of a company's operating model and show what steps are necessary to successfully master the transformation to sustainability from a "business-as-usual" company to a "sustainable organization." The dimensions are: business model, processes, products and services, data, and organization.

Operating Model Transformation

Reactive vs. proactive alignment of the operating model

Business as usual

Reactive alignment

Business cases for sustainability

Purpose-driven

Proactive alignment

Business system for sustainability

Sustainable organization

The "business-as-usual" economic model is not sustainable. The pressure on companies to act is set to increase significantly in the next few years, primarily due to regulatory requirements, customer requirements, and the availability of resources.

A reactive alignment of the operating model and the definition of a corporate philosophy are a first step in the transformation toward sustainability. However, just making the operating model a bit more sustainable does not do justice to the necessity and complexity of the transformation.

Making a company sustainable, future-proof, profitable, and scalable, requires a proactive and orchestrated transformation of the entire operating model. The goal of a "sustainable organization" is fundamental for companies in order to harness the potential of the transformation to sustainability in a holistic way.

Business Model Dimension

As mentioned above, business models describe holistically how a company generates value and creates benefits for its customers. Central elements in the creation of business models today are customers, their needs, and the individual customer journeys for the product or service to be sold. It is important for companies to understand that every touchpoint with customers offers value for the business model and is therefore crucial for the company's success [23]. The focus on customers and the consideration of touchpoints is not new, but is becoming considerably more important. This is because customers demand direct connections to products, but at the same time want ever more flexibility and shorter innovation cycles, which means ownership is no longer paramount. These requirements play an important role in the profitable transformation to sustainability. If companies see different business models as a business model portfolio, they have the opportunity firstly to incorporate new business cases into their existing business models and secondly, to iteratively transform their business model into a holistically sustainable form of economic management with the aid of "everything-as-a-service" (XaaS) models.

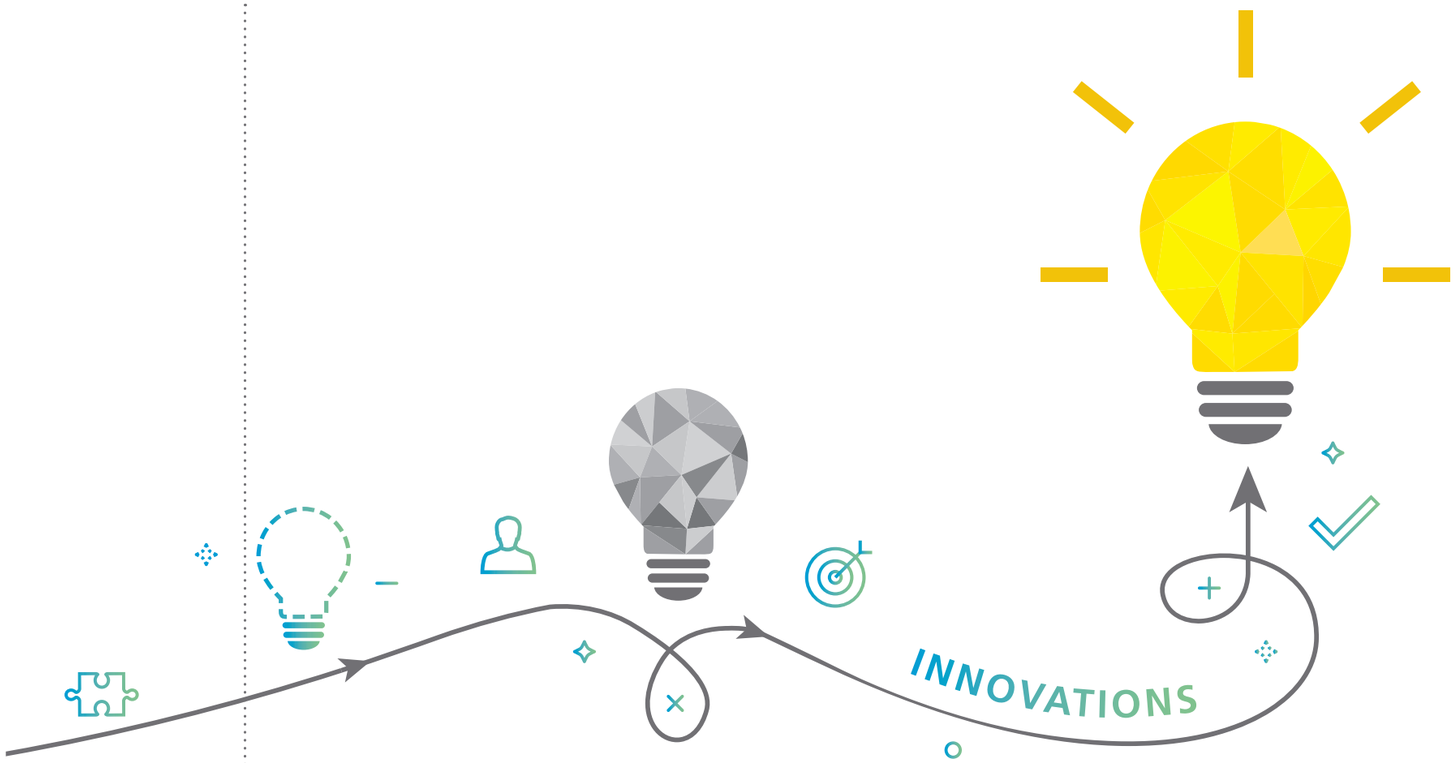
Reactive alignment

The first step toward a sustainable business model, must take into account the interactions between the existing business model and the overall ecosystem and, in particular, evaluate economic, ecological, and social effects. Expanding the already established Business Model Canvas is an ideal solution for this. This should be expanded to show who the main stakeholders in the overall ecosystem are, what trends and other topics such as regulatory requirements arise in the context of sustainability, and how these challenges directly and/or indirectly affect the business model. Using scenario methodologies, companies can develop robust strategies for addressing the challenges as efficiently as possible. The expansion of the Business Model Canvas is a first step in responding to the volatile market requirements, developing the first sustainable business models, and starting the transformation to sustainability.

Proactive alignment

A reactive approach, however, does not meet the demands for sustainable business models. To successfully shape the transformation to sustainability, proactivity and speed are required to make use of the potential and benefits of sustainable business models for the company as a whole. It is not enough to simply integrate sustainable business models into the business model portfolio. Instead, sustainability requires redefining the entire economic system. One possible approach is the new logic of the Business Model Canvas, which is based on the concept of "shared value" developed by Michael E. Porter and Mark Kramer and looks at the entire ecosystem in which a company operates [24]. In order to redefine the Business Model Canvas, the focus must be on the entire product and service lifecycle as well as the customer. In addition, all stakeholders must be taken into consideration over the entire lifecycle and across all sustainability dimensions. Business model innovations are essential for ensuring the necessary proactivity and speed of companies and their transformation into a "sustainable innovation organization." That is why we will be looking at innovations and the innovation process in greater detail in the second dimension.

The Process Dimension



From an economic perspective, innovations can be used to tap into new market segments or to achieve differentiation or cost advantages over competitors in existing markets. However, only through planned management of the innovation process can the idea become a successful, marketable innovation [25]. The innovation process (known as the "innovation funnel") includes a gate after each stage of the process, at which a check is carried out to ensure that the respective requirements have been met. In recent years, many companies have streamlined their stage-gate system by analyzing the value stream, simplifying the process, and getting rid of any activities that do not add value. However, this does not overcome all the challenges: Dealing with uncertainties and ambiguities, coping with rapidly changing customer needs and adapting to the realities of a fast-paced world are still problematic. Experience has shown that there is a need for a more adaptable, agile, and faster stage-gate system. The hybrid agile stage gate approach, a new approach that involves integrating principles and methods of agile project management in the stage-gate system, promises to be able to conquer these challenges and is intended to serve as the basis in the following [26].

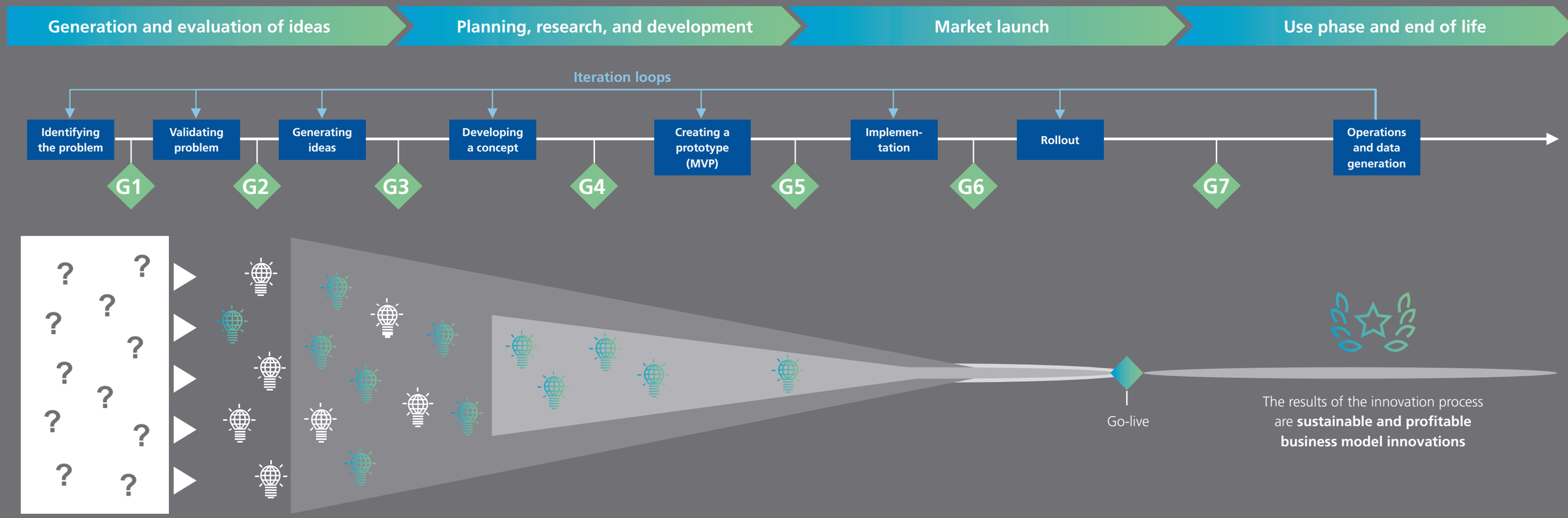
Reactive alignment

Product requirements can change significantly and rapidly due to environmental and social influences. As a result, the innovation process needs to be adapted to this change so as to be able to respond to these volatile requirements. Expanding the innovation process to include the sustainability dimension means that sustainability requirements are continuously assessed throughout the entire process. The focus here is on value creation and continuous improvement, which together can promote collaborative and sustainable innovation. According to the agile hybrid stage-gate model, the defined requirements must be met at each gate or iteration loops must be rotated until the requirements are met. In order to promote sustainable innovations, clear sustainability criteria need to be defined and ensured so that an innovation can be continued. What is essential here is that companies adopt a specific sustainability focus on products, services, and business models and break down this holistic approach down into smaller categories. For example, feasibility requirements with regard to resource efficiency/material circularity, stakeholder requirements, the decarbonization rate, and supply chain optimization can be defined and established at the appropriate gates. Overall, sustainability requirements of a product or service must be set at the same level as the core requirements of reliability, feasibility, and profitability [27].

Proactive alignment

The integration of sustainability criteria into the agile hybrid stage-gate process is a reactive adaptation to the requirements of stakeholders. However, a successful transformation requires more than that. It requires an approach that is more like an open innovation approach. The focus of the company and the innovation process is the overall ecosystem, including all the stakeholders in this system. The open innovation approach has the advantage of turning the reactive approach of the hybrid stage-gate model, which has been extended to include the sustainability dimension, into a proactive approach. This allows companies to pass on the requirements they have developed to other players in the market (inside-out process) and therefore establish another business model, for example through licensing or investing in promising partners. External knowledge input, such as through crowd contests, can also contribute in this way to the optimization of the company's sustainable innovation process (outside-in process). In addition, it is also possible to link the two processes, which primarily involves specific cooperation with other business partners (coupled process). This option should be seen as an excellent opportunity to carry out the sometimes very complex integration of the sustainability dimension using cooperation and joint approaches. After all, by opening up the process, not only do the stakeholders and their interests have a greater influence on the innovation process, the company also has a greater influence on the stakeholders. It can therefore increase the positive impact of the sustainable business model [28]. Overall, the innovation process serves as the basis for the creation of products and services, which in turn depend on data and are considered the primary source of value generation. In the next section, we will therefore take a closer look at the products and data dimension.

Innovation Process Graphic



Criteria of every gate

- Profitability
- Feasibility
- **Sustainability**
- Reliability

Examples

- Pre-defined recycling rates based on feasibility studies are fulfilled
- CO_2 accounting according to GHG completed in full
- Guidelines for working with suppliers and their requirements are specified

G Gates

Products and Data Dimension

Currently, the success of products and services in a business model context is measured almost exclusively according to economic criteria such as profit and margin. But what will products and services be like in the future? Put simply, both must be designed so that they do not have a negative impact on the environment or society, yet still generate a profit. A key element in achieving this transformation is the circular economy, which we looked at in our white paper entitled "Enable Circular Economy."

In order to make products and services sustainable, companies have to establish clear sustainability criteria in the innovation process, as described in the previous chapter. However, there are also ways to make a company's current product and service portfolio more sustainable. In this chapter, we will discuss one possible approach and take a look at the future of products and services.

Reactive alignment

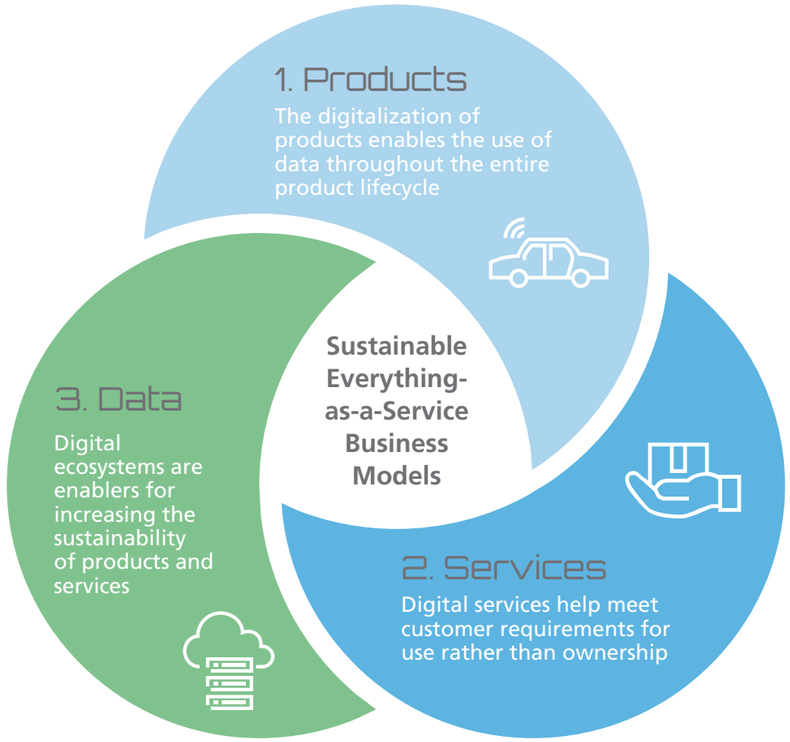
Regulatory requirements, the pressure from various stakeholders, and the length of development processes for new products are prompting companies today to reactively adapt their product portfolio [29]. First of all, it is important to create an understanding of the effects of a product or service in the economic, ecological, and social dimensions. The methods for doing this are various (impact) assessments such as a lifecycle assessment, a social impact assessment, or a sustainability assessment [19]. The result of one or more assessments is an up-to-date overview of the product and service portfolio, which can be divided into three categories:

1. Products and services that meet the defined sustainability requirements
2. Products and services, the negative effects of which can be optimized through actionable adjustments
3. Products and services for which adaptation to sustainability requirements cannot be economically implemented

This status quo analysis enables the product and service portfolio to be reactively adapted to quickly reduce the negative environmental and social effects and to meet stakeholder requirements.

Proactive alignment

Because products and services are essential to the success of the company, reactive action is not enough in this dimension. Instead, products and services need to be proactively designed to be sustainable so that they can withstand future competition. It is therefore necessary to realign the development process as well as the innovation process. As part of the transformation to sustainability, it is fundamental for companies to understand that they have an extended responsibility for products and services throughout their entire lifecycle. One consequence of this is that business models are increasingly developing in a service-oriented manner. At the same time, customer's requirements are changing because they attach more importance to the benefits than the product or its ownership [30]. A proactive approach to the transformation to sustainability in combination with the realignment of the development process provides a great opportunity for companies, in which data plays a crucial role. If companies use the data of products from the use phase, this helps the companies to better understand products and services in the market and to align development processes specifically to the actual needs of users. The digitalization of products and services is therefore a critical tool that companies can use to proactively shape the transformation to sustainability. The aim is to integrate material and physical products in combination with services into an associated digital ecosystem [30]. This enables companies to establish new business models based on the "everything-as-a-service" approach and to have a direct, data-based influence on the sustainability of products and services in the future.



The business model innovations that are becoming increasingly important in industry are "everything-as-a-service" (XaaS) business models, in which physical products are offered with corresponding services and a digital ecosystem, and therefore collectively meet all the different needs of customers. XaaS business models make an important contribution to the transformation toward sustainability – economically, ecologically, and socially.

Organization Dimension

To promote sustainability in the company as a material asset and integrate it in a way that is profitable long term, it is advisable to create an ambidextrous organization. Ambidexterity literally means "two-handedness", or the "ability to use both the right and left hand equally well", and enables organizations to strike a balance between the efficiency-driven core business (exploitation) and the promotion of innovations (exploration) – with simultaneous success in both areas [31]. For the path to an ambidextrous organization to be successful, a holistic transformation process needs to be initiated. Many leading companies see this transformation as a journey toward a "purpose-driven organization" [1].

During implementation, the organizational framework conditions in particular provide guidelines for the transformation process. This means that depending on whether the course is set for exploitation or exploration, other design factors must be considered and coordinated so that the behavioral orientation of everyone involved can be achieved in terms of the objective, task, cultural development, and cultural change [31]. This is because various disruptive factors often limit the success of a transformation process – such as resistance from employees. It is therefore important to understand the needs, emotions, and views of all those affected by the transformation in order to enable active involvement and participation in the change process [32].

While exploitation focuses mainly on fulfilling customer requirements in the short term in order to generate short-term profit using a cost-saving and incremental approach, exploration focuses on long-term, currently unknown customer requirements. The company's aim is to build up new knowledge and modern structures in order to develop new products and services, promote innovations, and therefore guarantee the long-term success of the company [31]. Consequently, both exploitation and exploration must be promoted within the company to ensure short-term and long-term success.

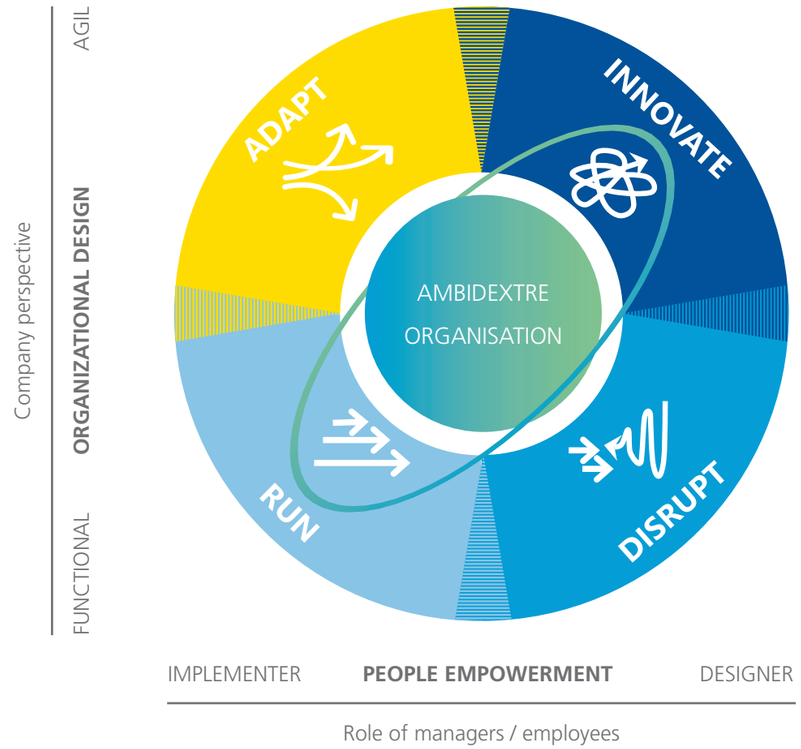
In the literature, there are fundamentally three design options for creating an ambidextrous organization: structural, sequential, and contextual separation [31]. The structural approach is pursued in the section below with regard to promoting and anchoring sustainability. This is supplemented by network structures, as clear orientation and specialization of organizational units makes the transformation easier.

Reactive alignment

First of all, it is advisable to set up a central unit within the company that acts as a kind of "nucleus" from which company-specific sustainability concepts are developed and initiatives tailored to the various business areas are designed. This central unit is also given the authority to roll out and integrate sustainability concepts across the company [33]. For the "nucleus" to be able to fulfill these tasks, it is essential that the company's existing knowledge about sustainability is pooled in the central unit. The tried and tested way to do this is to first place the focus of the "nucleus" on selected sustainability targets that are closely related to the company's core business [34]. The role model function of the company management in building up the central unit should not be underestimated here. It is up to the management to not only be a living example of sustainability as an attitude, but also to formally empower the "nucleus" so that the employees can drive process-related and structural change toward an ambidextrous organization [35].

Proactive alignment

As well as structural and process-related changes, the second phase of the transformation focuses on promoting and strengthening an interdisciplinary network. In addition to establishing a central "nucleus", taking into account the technical, human, and financial resources as well as the corporate culture is an important success factor for implementing sustainable business model innovations in a company. The employees from the "nucleus" can act as promoters, who convey the topic of sustainability to all areas of the company by establishing cross-departmental communities. This enables the existing corporate sustainability capabilities to be effectively used, passed on, and enriched in a simple way [36]. The interplay of business cases and capabilities is relevant for the profitable and effective transformation to sustainability and to an ambidextrous organization that is ready for the future. In simple terms, this means that for the implementation of business cases, there must be capabilities available within the company and, conversely, only capabilities within the company will enable the adaptation of new business cases. We will go into this in more depth in the next chapter.



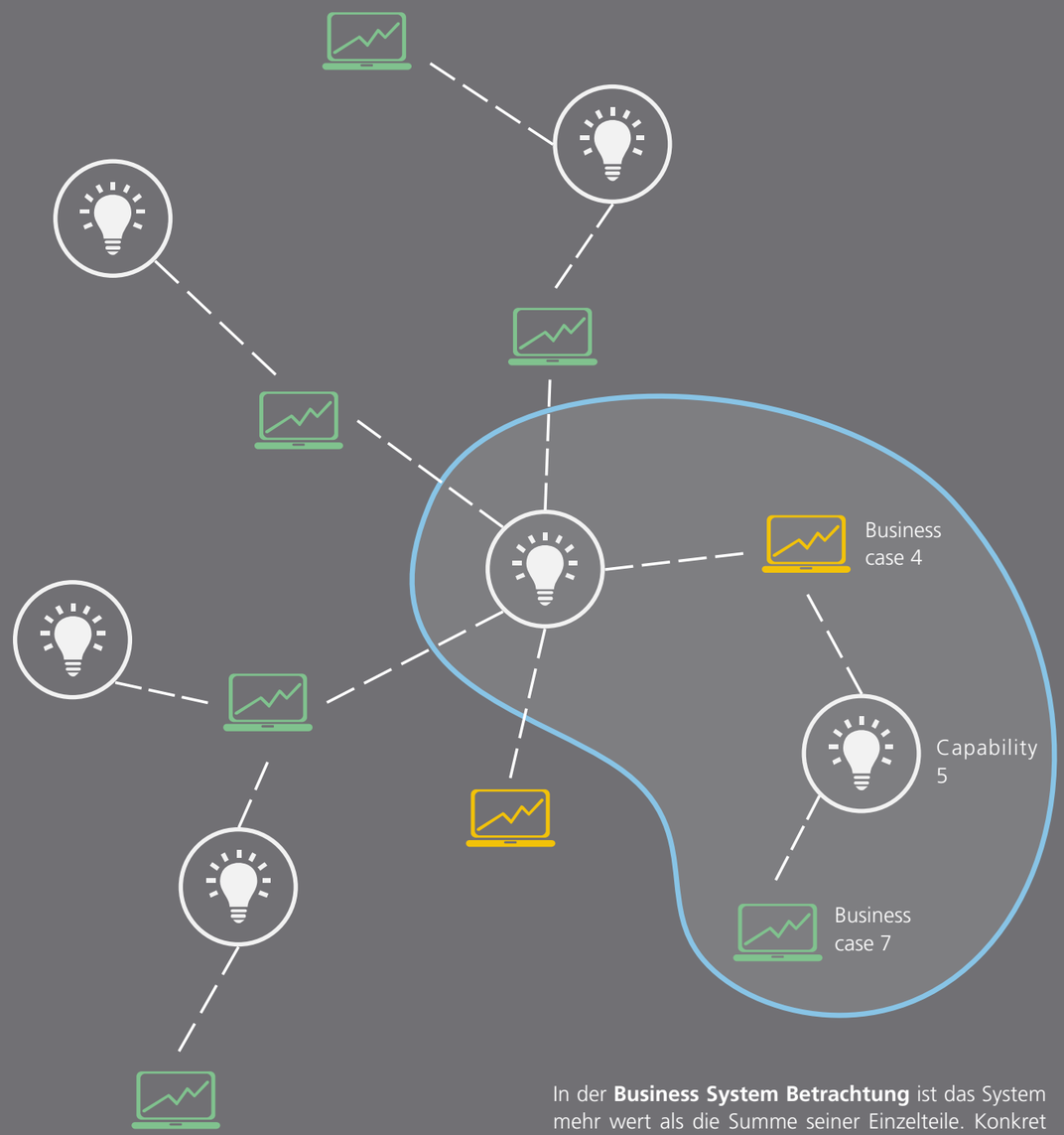
Source: Based on Kienbaum: Kienbaum thinking model: The ambidextrous management of organizations and leadership of people

Sustainable Business System

The challenges of the planet's ecosystems and looking at the operating model of a company through the dimensions of business model, process, products and services, data, and organization show that the transformation to sustainability is complex but necessary. But how can companies make this change while still ensuring long-term profitability and sustainability? We will demonstrate exactly this with our "sustainable business system" approach.

Proactively adapting business models to sustainability and understanding the ecosystem in which the company operates require innovations that are geared toward both sustainable impact and economic success. The resulting business cases can expand existing business models. We regard the interplay between capabilities and individual business cases as a network that needs to be set up and analyzed. The individual consideration of sustainable business cases can be rejected due to high investment costs and/or capabilities that are not (yet) available. The aim of our approach is to establish a link between business cases and capabilities, to identify synergies, and to show the individual effect of each element on the entire business system. With the aid of this network analysis, companies are able to develop scenarios for the iterative implementation of individual business cases and to model the economic, ecological, and social effects on the entire business system at each iteration stage. But not only that: By taking the entire ecosystem into account as part of the network analysis, the company is also able to evaluate partnerships with other companies within the industry or across different industries. In this way, capabilities can be pooled, new markets tapped into and data exchanged, which in turn can be used to speed up the transformation. This enables strategies and roadmaps for implementing individual sustainable business cases to be derived, using the network analysis and scenario modeling. This approach makes it possible to iteratively transform the company's whole business system sustainably and profitably, taking into account overall cost-effectiveness, and therefore to occupy a leading position in the future market.

Business System



In der **Business System Betrachtung** ist das System mehr wert als die Summe seiner Einzelteile. Konkret bedeutet das, dass eine Ablehnung des Business Case 4 dazu führt, dass Business Case 7 nicht implementiert wird. Nicht betrachtet wird dabei allerdings, ob die Implementierung von Business Case 4 und 7 zu einem **Gesamtoptimum** führt, das im Gesamtsystem zu **Wettbewerbsvorteilen** und **zusätzlichen Kundenwerten** führt. Die optimale Konfiguration des Business Systems ist das Ergebnis der Netzwerkanalyse und grundlegend für eine profitable Transformation zur Nachhaltigkeit.

Application Example

Using an example of a sustainable business model innovation, we will illustrate our approach and list arguments that support our view on the realignment of the operating model:

The business model innovations that are becoming increasingly important in the automotive and manufacturing industries are "everything-as-a-service" (XaaS) business models, in which physical products are offered with corresponding services and a digital ecosystem, and therefore collectively meet all the different needs of customers [37]. The main focus is on the benefit of the product or service, unlike previously widespread business models, in which the physical purchase of a product was and is a necessity for meeting customer needs.

Let's look at the example of the "car-as-a-service" (CaaS) model and its effect, which can be achieved by transforming the individual dimensions in the operating model. The CaaS business model expands the existing business model portfolio and offers the potential to have a positive impact on the company's ecosystem – economically, ecologically, and socially. The CaaS approach results in a higher utilization rate of vehicles, which generates recurring sales throughout the entire lifecycle and increases the profitability of individual vehicles. This has a direct impact on resource productivity and, in conjunction with circular economy principles, the additional negative environmental impact is reduced, so the ecological perspective is optimized by a CaaS model. This can reduce the CO2 footprint by up to 44 per cent, compared to the traditional business model. From a social point of view, individual mobility is made accessible to a wide range of end users by reducing mobility costs by up to 39 per cent [38]. A CaaS model is therefore a transformation to sustainability in the business model dimension. However, a prerequisite for sustainable implementation is having an innovation process that adheres to sustainability criteria. For instance, a full reduction in emissions is only possible if circular economy principles are implemented in their entirety. The CaaS model also provides a lot of additional potential through incorporating additional value-creation partners. If we think about self-driving vehicles, for example, the vehicle can be used as a means of transporting people or goods as required. The resulting innovation potential should be investigated and established in the mobility ecosystem together with relevant partners using an open innovation approach. So innovations based on this approach offer opportunities to establish (sustainable) business models with relevant partners in the ecosystem. They are therefore also an important element for the future operating model in the company.

If we take the vehicle as the product in the CaaS model, it becomes clear that this type of business model is not possible without digitalization and the corresponding use of data. The use of data is an essential component when it comes to increasing utilization and boosting customer loyalty. Digitalization is also a really important element for resources. For example, to extend the service life, you need to monitor the battery status to be able to estimate when the high-voltage battery will reach the end of its life and need to be replaced in order to optimize the overall system. Usage data can then be included in future product development processes and the product creation process can be optimized on the basis of sustainability criteria. A digital twin, as the aim of product digitalization and data use, is therefore a crucial element in the transformation toward sustainability and the establishment of a CaaS model and "X-as-a-service" (XaaS) business models in general. If you look at the organizational dimension of the company, it becomes clear that the complexity of even just implementing a CaaS business model requires the cooperation of several areas of the company. This means that sustainability capabilities need to be available in all areas internally.

So we can see that implementing CaaS and XaaS business models in general within the company calls for a realignment of the entire operating model, but this is the only way to achieve a profitable change to sustainability in a holistic business system logic.

"The decision we take now, will affect the direction of growth and innovation, for the entire next decade."

Nico Rosberg
on LinkedIn

Outlook

The transformation to sustainability is indeed a major challenge – but it should be seen as a major business opportunity. The question is not "whether" the transformation will take place, but "how" we can make it a success. In order to harness the potential and implement sustainable business systems holistically, an orchestrated transformation is required within the dimensions products, process, organization, and data.

We at MHP have the necessary in-depth industry expertise in all of these dimensions. Thanks to the systemic approach of our MHP sustainable operating model, we can provide our customers with end-to-end support throughout the whole transformation to sustainability. Together we can create sustainable, future-proof, profitable, and scalable companies.

Are you looking for a holistic-thinking sustainability partner? Get in touch with MHP!

"SUSTAINABILITY IS ONE OF THE DOMINANT PURCHASING FACTORS OF THE FUTURE"

BMW boss Oliver Zipse

BMW boss Oliver Zipse kicked off this year's IFA Congress with his keynote speech entitled "Beyond Green Electricity." In the speech, he put forward the theory that sustainability will in future be one of **the key purchasing factors at the point of sale** and therefore must **play a part in all business decisions**. We have to "take climate neutrality seriously" and not just pay lip service to it, Zipse warned.

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Publisher

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Layout
Freiland Design

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