

Sustainable Business Model Design

Florian Lüdeke-Freund
Henning Breuer
Lorenzo Massa

45 Patterns

Dear reader,

You are holding a preview of our upcoming book *Sustainable Business Design* in your hands. This book will offer a comprehensive overview of 45 proven patterns to create business models for sustainability.

This preview mainly consists of an introduction and some exemplary patterns to give you an initial idea of what the final book will look like.

Your feedback is important to us! Send us your comments and ideas. You can contact us at www.sustainablebusiness.design

Thanks a lot for your attention and for your support!

Florian, Henning & Lorenzo

The eleven pattern groups at a glance

1

Pricing & Revenue Patterns
primarily address the revenue model of a business model, i.e. these patterns define how offerings are priced and revenues generated.

6

Giving Patterns
help donate products or services to target groups in need, i.e. these patterns define how costs are covered and social target groups are reached.

7

Access Provision Patterns
create markets for otherwise neglected target groups, involving modified value propositions, channels, revenue, pricing and cost models, i.e. these patterns define how value propositions are designed, delivered, and to whom.

2

Financing Patterns
address the financing model within a business model, i.e. these patterns define how equity, debt, and operating capital can be acquired.

3

Eco-Design Patterns
integrate ecological aspects into key activities and value propositions, i.e. these patterns define how processes and offerings are designed to improve their ecological performance over their entire life cycle.

8

Social Mission Patterns
integrate social target groups in need, including otherwise neglected groups, either as customers or productive partners, i.e. these patterns define how customers, partners, and employees are defined and integrated.

9

Service & Performance Patterns
emphasize the functional and service value of products and offer performance management, i.e. these patterns are special in how value propositions are defined and delivered.

4

Closing-the-Loop Patterns
help integrate the idea of circular material and energy flows into partnerships, key activities, and customer channels, i.e. these patterns offer alternative ways of how materials and energy flow into, out of, and return to a company.

5

Supply Chain Patterns
modify the upstream (partners, resources, capabilities) and/or downstream (customers, relationships, channels) components of a business model, i.e. these patterns define how inputs are sourced and target groups are reached.

10

Cooperative Patterns
integrate a broad range of stakeholders as co-owners and co-managers, i.e. these patterns are special in how partners are defined and how the organization is governed.

11

Community Platform Patterns
substitute resource or product ownership with community-based access to resources and products, i.e. these patterns offer alternatives to how value propositions are defined and delivered.

“The people can shape buildings for themselves, and have done it for centuries by using languages which I call pattern languages.

A pattern language gives each person who uses it, the power to create an infinite variety of new and unique buildings, just as his ordinary language gives him the power to create an infinite variety of sentences.”

Alexander, 1979, p. 167

Christopher Alexander (*1936) is an architect and key figure in the pattern language movement. His books *A Pattern Language* (1977) and *The Timeless Way of Building* (1979) are milestones in the development of pattern theory.

Why you should read this book (and why not)

This is a book *for* sustainability and not *about* sustainability. At its core, it is about designing next generation business models for sustainability; that is, business models designed to maintain and create value in ecological, social, and economic terms.¹ In the following we will simply call them sustainable business models or SBMs.

We will not go over once again the all too familiar ground about why sustainability matters, whether for all of us as individuals or for businesses. About why businesses should behave in a socially responsible way or whether it “pays to be green.” There are already many insightful books, articles, and talks on these topics. As you are reading our book, the chances are high that you are already aware of them.

This is a book for *creative and adventurous minds*. For those sustainability entrepreneurs and managers, innovators, product and service designers, corporate social responsibility (CSR) managers, and many more, who are eager to overcome the business-as-usual mindset and share with us the belief that business models could be a powerful tool in that endeavor.

Read this book then if you are interested in the *practical design of business models for sustainability*.

Why we wrote this book

We are convinced that business – from entrepreneurial startups to large multinational corporations – has a vital contribution to make to sustainable development. But we are also convinced that this will not happen without *radically different business model designs*. New sustainable technologies, products and services will never be able to reach their full potential until new and innovative business models are put in place.

Many entrepreneurs and corporate managers are well aware of this and have already started experimenting with new business models to boost sustainability. Yet, knowledge about business model designs for sustainability has not been systematically organized and shared.²

In writing this book, we were therefore guided by three questions:

What types of business models for sustainability do we already have?

What solutions do they offer to recurring ecological, social, and economic problems? And how do they help business create sustainable value?

How can we best describe these solutions to maximize their usefulness?

Guided by these questions and by a deep conviction that *business can be a driving force in the transition towards sustainable development*, we wrote this book with the goal of providing the know-how that would support managers, entrepreneurs, and intrapreneurs alike in designing business models for sustainability.

What you will find in this book

At its heart, you will find *45 patterns for sustainable business model innovation*; that is, innovative business model designs that will help you create ecological, social, and economic value for your stakeholders.³

Patterns are a classic way of storing and communicating knowledge in architecture or engineering and, more broadly, in design disciplines. In other words, in those disciplines that focus on the design of *useful things that help achieve pre-defined purposes*.⁴ Whether these useful things take the shape of physical artifacts (a bridge), devices (a smartphone), services or interventions (healthcare processes), or, as in our case, business models.

Patterns represent the essence of solutions typically used to tackle recurrent challenges in a given field or discipline. They are *generalized problem-solution combinations*. So, business model patterns are generalized business model solutions to recurrent problems in the value creation activities of organizations.

We have identified, validated, and systematized 45 patterns for sustainable business model innovation addressing *45 recurrent challenges that prevent business from creating more ecological, social, and economic value*. A group of outstanding experts in sustainable business model research and practice

helped to organize these challenges and the corresponding SBM patterns into eleven groups. You will learn more about each of these 45 sustainability challenges and about the solutions each of the patterns provides. You will also see how real organizations have implemented these patterns.

We also describe how to combine different patterns to solve more comprehensive challenges and to create greater sustain-able value. We see this as learning a *pattern language*. Just as words can be combined to form sentences and whole stories, so too can the patterns presented in this book be combined to create new business models, up to the point where whole organizations are radically transformed.⁵

What is a pattern for sustainable business model innovation?

Patterns for sustainable business model innovation are *templates for designing new business models, or for changing existing ones, with the deliberate aim of creating sustainable value through business means*. This is a mid- to long-term undertaking, and admittedly not an easy one. But patterns provide a quite powerful shortcut to learning the essence of decades of experience – experiences often made by those who pioneered new ways of doing business, such as Interface Inc. or Aravind Eye Care System.⁶

Well-known patterns such as “freemium” are included in our pattern language, as well as less common business model designs supporting “two-sided social missions” or establishing an “industrial ecology.” These patterns are organized into eleven groups, including “ecodesign patterns,” “giving patterns,” and “financing patterns,” each emphasizing the relative strength of different business model designs to contribute to ecological, social, and economic value creation.

It is important to see the identification and implementation of business model patterns as an *ongoing and open-ended process*.⁷ New patterns and new pattern groups will emerge in practice after this book has been published. And we are documenting these developments continuously on our companion website. We are also eager for our readers to share or propose new patterns.

How to use this book

This book does not contain a method that will always work and in every case.⁸ There is no magic recipe or failsafe pathway to the successful design of sustainable businesses. Our ambition is not to offer the ultimate guide to sustain-able business model innovation. We doubt this even exists or could exist. Instead, our ambition is to provide *inspiring cases, actionable insights, and useful know-how for design*. Although many readers will be very knowledgeable about business models and sustainability this book is designed for use by the general reader.

You can use this book as both a *bird’s-eye overview of our subject and as a down-to-earth guide to action*. We hope you will find this book a source of inspiration to overcoming readily accepted ideas about how business is done. Read the patterns and the case studies to see how they can be applied to your own business and how they might help you overcome the barriers you are facing in your own sustainable innovation projects.

You are also invited to not only share and propose new patterns but to challenge our pattern language. After all, it is only through constructive criticism and the iteration of different versions of a design that something useful can be created. And this also holds for the pattern language we introduce in this book.

If you are interested in the underlying concepts of sustainable business models and the original research-based pattern taxonomy, continue with chapter 2. If not, you can skip this and proceed to chapter 3. There you can directly explore the eleven SBM pattern groups (Pricing & Revenue, Financing, Eco-Design, Closing-the-Loop, Supply Chain, Giving, Access Provision, Social Mission, Service & Performance, Cooperative, and Community Platform) and our 45 SBM patterns. You will learn more about the different possibilities of using these patterns in chapter 4.

Find more about this book, the research behind it, examples of practical tools, blogs, online and offline communities dealing with sustainable business model innovation, and much more at www.sustainablebusiness.design

¹ Schaltegger, S., Hansen, E., & Lüdeke-Freund, F. (2016). Business models for sustainability: Origins, present research, and future avenues. *Organization & Environment*, 29(1), 3-10.

² Numerous cases of role models and their good and even best practices have been documented and classified (e.g., Clinton, L., & Whisnant, R. (2014). *Model Behavior - 20 Business Model Innovations for Sustainability*. London: SustainAbility.). However, this knowledge remains widely dispersed and cumbersome to access.

³ Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9-19.

⁴ See, for example, these books for seminal and highly influential works on "Pattern Theory":

Alexander, C. (1979). *The Timeless Way of Building*. Cambridge, MA: Oxford University Press.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977).

A Pattern Language: Towns, Buildings, Construction. Cambridge: Oxford University Press.

⁵ Alexander et al. (1977) provide one of the most comprehensive pattern languages available today. See this book chapter for an outlook on our sustainable business model pattern language:

Lüdeke-Freund, F., Bohnsack, R., Breuer, H., & Massa, L. (2019). Research on Sustainable Business Model Patterns – Status quo, Methodological Issues, and a Research Agenda. In A. Aagaard (Ed.), *Sustainable Business Models* (pp. 25-60). Houndmills: Palgrave.

⁶ US-based Interface Inc. pioneered the shift from producing carpets to providing floor-covering services in order to reduce waste and increase the ecological efficiency of production processes and products. The India-based Aravind Eye Care System introduced a social freemium business model to provide eye care for those Indians unable to pay for health care services.

⁷ This book builds on an ongoing research process that was started in 2015; see:

Lüdeke-Freund, F., Massa, L., Bocken, N., Brent, A., & Musango, J. (2016). *Business Models for Shared Value - Main report*. Cape Town: Network for Business Sustainability South Africa.

Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., & Breuer, H. (2018). The Sustainable Business Model Pattern Taxonomy - 45 Patterns to Support Sustainability-Oriented Business Model Innovation. *Sustainable Production and Consumption*, 15, 145-162.

Lüdeke-Freund, F., Bohnsack, R., Breuer, H., & Massa, L. (2019). Research on Sustainable Business Model Patterns - Status quo, Methodological Issues, and a Research Agenda. In A. Aagaard (Ed.), *Sustainable Business Models* (pp. 25-60). Houndmills: Palgrave.

Lüdeke-Freund, F., Gold, S., & Bocken, N. (2019). A Review and Typology of Circular Economy Business Model Patterns. *Journal of Industrial Ecology*, 23(1), 36-61.

Lüdeke-Freund, F., Schaltegger, S., & Dembek, K. (2019). Strategies and Drivers of Sustainable Business Model Innovation. In: F. Boons, & A. McMeekin (Eds.).

Handbook of Sustainable Innovation (pp. 101-123). Cheltenham: Edward Elgar.

Lüdeke-Freund, F., Froese, T., & Schaltegger, S. (2020). The Role of Business Models for Sustainable Consumption: A Pattern Approach. In: O. Mont (Ed.), *A Research Agenda for Sustainable Consumption Governance* (pp. 86-104). Cheltenham: Edward Elgar.

⁸ Various processes and tools for sustainable business model innovation are proposed in the literature. These can be combined with the patterns described in this book. For an overview see:

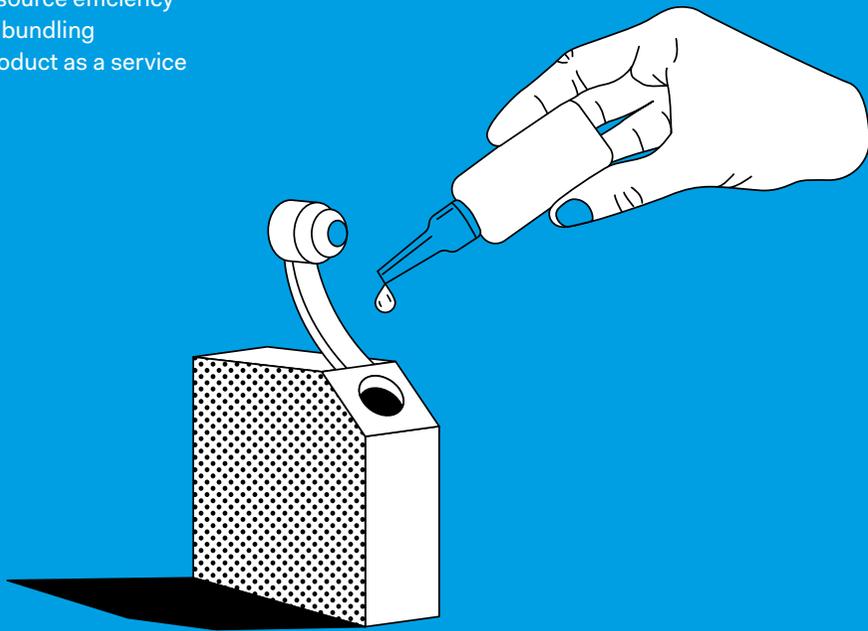
Breuer, H., Fichter, K., Lüdeke-Freund, F., & Tiemann, I. (2018). Sustainability-Oriented Business Model Development: Principles, Criteria, and Tools. *International Journal of Entrepreneurial Venturing*, 10 (2), 256-286.

SustainableBusinessModel.org (2020, May 6): Sustainable Business Model Innovation. *Sustainable Business Model Blog*. Retrieved from <https://blog.ssbmg.com/category/sustainable-business-model-innovation/>.

Green Razor and Blade

Most companies depend on growing sales volumes and revenues – but how to avoid similarly growing negative impacts on the environment? While products that last can be an answer to this question, companies are still challenged to develop new revenue channels. The Green Razor and Blade pattern unbundles long-living products and short-lived consumables and thus enables business models that can mitigate the negative effects of growing businesses.

#durable products
#resource efficiency
#unbundling
#product as a service



Challenge

To reduce material and energy consumption as well as waste generation, products should be built to last. This includes designing products for repair, reuse, and recycling. However, this goes against the rationale of traditional business models in which revenues and profits are positively correlated with the volume of product sales over time, and which in some instances may even push companies to engage in planned obsolescence.¹ How to run a successful business with products that last; and how to identify alternative revenue sources?

Traditional business models often build on the idea of constant sales growth and thus increasing resource consumption. But how to open up new and growing revenue streams while reducing resource use?

Promoting products that last?

Huts in the Alps typically offer slippers to their guests as they are not allowed to enter the building wearing their hiking boots. Over the years many huts have replaced worn-out sandals with the popular clogs from Crocs, partly because they have a very long lifetime. While there are many reasons behind the near bankruptcy that hit the company in 2009, some commentators have speculated that one of the causes may be that their product's durability led to market saturation for some customer segments.² Simply, making products last longer is not always a viable strategy. Companies need novel ways of capturing value in order to offer more sustainable products.

Solution

At the core of the Green Razor and Blade pattern are the ideas of unbundling, modularity, and complementarity.^{3,4} The solution rests on creating a modular offering that combines a durable product with shorter-lived consumables. The durable product reduces waste and avoids early disposal, while the consumables allow the company to capture value through a stable and even scalable revenue stream. The consumables themselves are designed to be repaired, refurbished, remanufactured, or recycled.

The solution is a modular offering that combines a durable product ('razor') with shorter-lived consumables ('blade'). Unbundling an offering in this way can help save resources and reduce negative impacts.

Refillable ink tanks and Epson.

An example of the *Green Razor and Blade* pattern is Epson's EcoTank printer range. It is comprised of printers that are equipped with refillable ink tanks with a printing capacity equivalent to as many as 50 ink cartridge sets, or about one year of printing, depending on the model. While these printers ('razor') come with a hefty price tag, their ink tanks ('blade') are not only more convenient and longer lasting than regular ink cartridges, but also save costs thanks to a higher page yield. The printers

are also designed to be more durable and highly recyclable. This pattern applies to any offering that is designed with a built-to-last core product and shorter lived consumables or other modules that provide additional revenue streams.

'Sustainable bubbles' and SodaStream. The amount of plastic bottles used for sparkling water and lemonade, and related logistics, can be significantly reduced if consumers prepare beverages at home. SodaStream, founded in 1903 and based in Tel Aviv, is mainstreaming home-made sparkling water and lemonade.⁵ The company sells sparkling water makers for home use, gas cylinders, flavours, and other accessories like design bottles. The sparkling water maker ('razor') is the long-living device needed to make revenues with gas and other consumables ('blade'). The gas comes in refillable metal cylinders that are made to circulate as long as possible. In 2017, SodaStream sold 32.5 million gas refills and made 60% of their revenues with consumables.⁶

Related patterns

This pattern can be combined with patterns from the *Ecodesign* group, notably *Product-Oriented Services and Use-Oriented Services*; or *Maximise Material Productivity and Energy Efficiency*; *Product Design*; as well as patterns from the *Closing-the-Loop* group, for example *Take Back Management*; *Reuse*; or *Product Recycling*.

Outlook

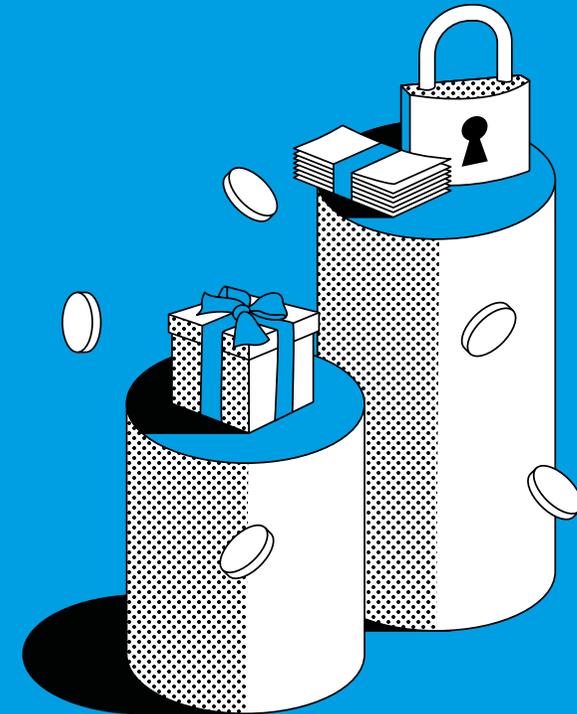
The *Green Razor and Blade* has several aspects in common with the well-known razor and blade model popularized by Gillette, which attracted customers with a relatively inexpensive core product (razor) and then made money on the relatively pricy consumables (razor blades). The purpose of unbundling and creating a modular offering in the original model is to attract and retain customers. The relatively inexpensive core product attracts customers by lowering purchasing barriers, while profits are made later with the disposables after a customer lock-in effect. However, this model can result in negative environmental effects, a fact that has recently led the German city of Hamburg to ban coffee pods from state-run buildings.⁷

The main difference is the motivation behind this business model pattern. The *Green Razor and Blade* pattern is about unlocking a firm's ability to reduce resource consumption by creating the conditions for profitably marketing products that are built to last coupled with highly reusable or recyclable disposables or components, as in the case of SodaStream. The main limitations of this model mostly come from the initial purchasing price of the main product, which may be more expensive than less durable ones, and the need to protect from imitation products competing with the shorter-lived consumable module.

Freemium

Ecologically and socially superior offerings often face a lack of demand. Limited purchasing power of target groups, competitors' lower prices, and a lack of experience can lead to critical market barriers. The Freemium pattern helps in overcoming these barriers with free basic offerings.

- #pricing
- #customer barriers
- #providing access
- #unbundling



Challenge

Sustainability-driven businesses often face a lack of demand for their products and services. This can have various reasons, including a lack of purchasing power of their target groups, higher prices than competing firms, or their potential customers' lack of experience with ecologically or socially superior offerings. The resulting market barriers make it difficult for sustainability-driven businesses disseminate their solutions and build the critical mass required for economies of scale. But how to set in motion a virtuous circle of growing demand, economies of scale, and widespread dissemination of better solutions?

Sustainable value propositions often lack demand. Customer segments might be unable or unwilling to pay a price for offerings, although they are much needed.

How to make healthcare accessible? For example, in India, there is a great need for eye care treatment, but the majority of people in low-income rural areas are unable to pay for eye care services.⁸ In addition to its devastating psychological and social effects, loss of sight often means the loss of one's livelihood.

Solution

The basic idea of *Freemium* (free + premium) is to unbundle an offering to provide a basic service or product free of charge, while a fee is charged for advanced features and functionality.⁹ These free basic offerings allow businesses to serve customers who are unable or unwilling to pay, while money is made from customers paying for the premium offering. Thus, while conventional *Freemium* strategies focus on attracting more paying customers, in sustainability-driven businesses the focus is on expanding the reach of their ecological and social solutions. Products and services that reduce ecological and social harm, or even add ecological and social value, can gain access to new markets by applying variations of the *Freemium* pattern.

A free basic offering can make a sustainable value proposition more attractive to new customer segments, including those lacking sufficient purchasing power. The freemium pricing model requires differentiated offerings.

Loss of sight and Aravind Eye Care System. In India, there is a great need for eye care treatment, but the majority of people in low-income rural areas are unable to pay for eye care services.¹⁰ In addition to its devastating psychological and social effects, loss of sight often means the loss of one's livelihood. Aravind Eye Care System,¹¹ a network of hospitals in India, operates a *Social Freemium* business driven by the mission to eliminate needless blindness. Similar to online *Freemium* models, such as Dropbox, where premium users finance the infrastructure and content

for all users, Aravind utilizes the revenues from its fully paying patients to cross-subsidize free treatments for those who cannot pay. While the quality of treatment is the same for all patients, the paying patients have amenities such as air-conditioned hospital rooms with a smaller number of beds.

Related patterns

The *Freemium* pattern can be combined, for example, with a *Subscription Model* or be used to generate additional revenue from *Product-Oriented Services* or a *Commercially Utilised Social Mission*.

Outlook

The *Freemium* pattern benefits its users by giving them access to a valuable product or service at no cost. Among other things, this allows them to gain first-hand experience and then decide whether they want to pay more for a premium offering. In its purely commercial form, *Freemium* is often used when there are positive economic effects from scaling, such as decreasing marginal costs per user, which requires attracting as many users as possible. Although this pattern is commonly used in apps or web-based services, it can also be applied to other types of products and services. Whenever there are significant differences in income or the average purchasing power is low (e.g., in developing countries), the *Freemium* pattern can increase the reach of solutions to both social and ecological sustainability challenges.

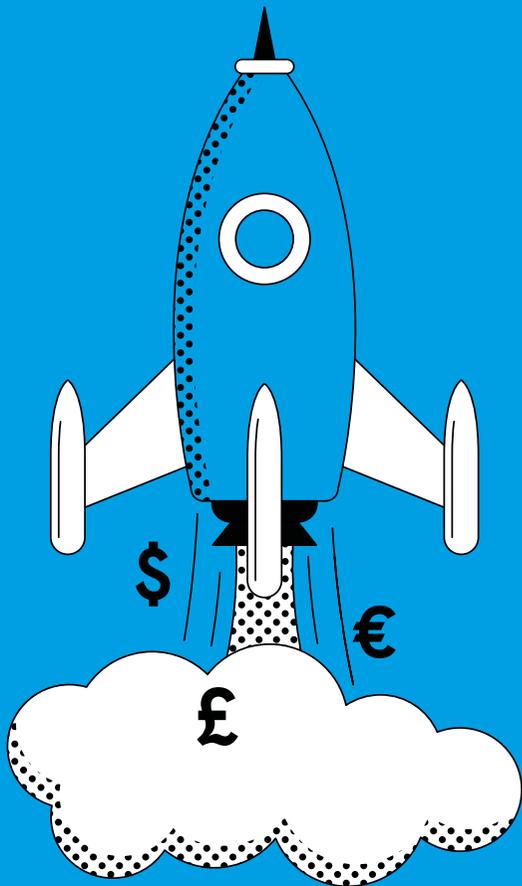
Countless companies providing digital services, including such giants as Google and Spotify, have proven the strength of the Freemium pattern. Sustainable businesses can create new and innovative business models by applying it to other (non-digital) types of products and services.

Simulation modelling research has shown that the *Freemium* model can create a reinforcing feedback loop between value creation and value capture, making it a robust and scalable business model for sustainability.¹² A major issue concerning this pattern is achieving the right balance between paying and non-paying users so that the former fully subsidize the latter. This involves a company creating exceptional value and continuously improving its premium offerings.

Innovative Product Financing

When potential customers cannot afford or do not want to purchase a new, uncommon, or radically different offering, the Innovative Product Financing pattern can help. Leasing, renting, or progressive purchasing schemes can be a door opener for sustainable offerings.

#pricing
#financing schemes
#customer barriers
#early adopters



Challenge

Potential customers may be unwilling or unable to buy a product outright. Reasons include that the product is very new and uncommon or initially more expensive than comparable products or services (e.g., installing renewable energy home systems vs. purchasing power from the grid). This can inhibit the diffusion of ecological and social innovations. Too often user routines, convenience, and especially the price of an offering beat considerations of sustainability.¹³ How can you convince potential customers of a more sustainable alternative despite price or investment barriers?

Sustainable value propositions are often perceived as too expensive. Customer segments might be unable or unwilling to pay a higher price or to invest in new, sometimes radically different offerings. Pricing models including financing schemes can solve this problem.

How to mainstream sustainable technologies? In India, for instance, millions of households in remote villages have limited or no access to electricity.¹⁴ But also in industrialised countries, such as the USA, low- and middle-income customers are unable to benefit from solar home systems and, at the same time, to contribute to more sustainable means of production and consumption.

Solution

The main idea behind the *Innovative Product Financing* pattern is to use financing schemes that lower purchasing barriers on the side of customers. This includes targeting customers who are unable or unwilling to pay the full price of an offering upfront with opportunities for leasing, renting, or progressive purchasing.¹⁵ Such financing schemes extend the depth and breadth of customer segments for new and more sustainable offerings, which often embed new technologies. While leasing and renting involve periodic payments, in some cases for a limited period of time, progressive purchasing schemes lead to full ownership after payment of a specified number of instalments. Price or investment barriers can be overcome by applying a financial life cycle perspective to new products, instead of aiming for immediate one-time revenues.

Pricing models and financing schemes aligned with low- and middle-income customers' purchasing power can make more sustainable products and their embedded technologies affordable to more customer segments.

Solar power and PosiGen. PosiGen is a US-American provider of solar power and energy efficiency solutions. Its Solar for All programme targets low- to middle-income households, offering a 20-year contract to lease a solar power system. Prices can be lower than typical power supply contracts and include services

to optimise the household energy efficiency (e.g., regular audits, facility upgrades). PosiGen partners with local banks to provide leasing agreements without requiring a deposit or a credit or background check.

Sustainable energy and Simpa Networks. The Indian company Simpa Networks¹⁶ makes sustainable energy affordable for India's rural area inhabitants. The company charges only a small down payment for installation and regular pre-payments based on actual usage. Each payment adds up to the full purchase price, and once it is fully paid, ownership is transferred to the customer, who benefits from clean and reliable electricity at very low cost.

Related patterns

Innovative Product Financing can be combined with patterns that provide product-related services, such as the *Green Razor and Blade*; *Repair*; *Upgrading*; and *Product-Oriented Services*. By regularly paying their instalments, customers demonstrate their creditworthiness and can be offered an *Experience-Based Customer Loan*.

Outlook

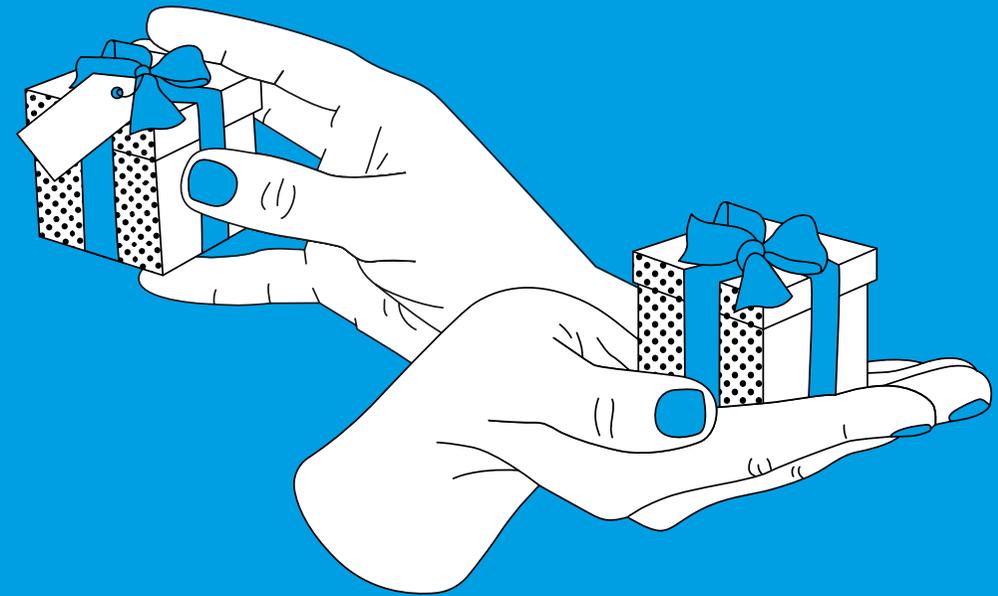
Product financing is an established practice in such sectors as housing, automobiles, or electronics. However, as an emerging sustainable business model pattern, *Innovative Product Financing* can be applied to help overcome barriers to the adoption of new products. The pattern is becoming increasingly popular among tech start-ups, especially in the renewable energy and electric vehicle industries.¹⁷ In the solar power industry, Tesla, Vivint Solar, Sunrun, and Sungevity allow their customers to finance renewable energy investments with long-term leasing contracts.

As companies retain ownership of the product throughout the entire contract period, they are responsible for repairs or replacement. This gives them an economic incentive to offer products that are more durable and easier to maintain. In addition, they can offer complementary maintenance services, which enhance their value proposition and make it more attractive to customers. However, such product-service bundles can make the business less straightforward to manage (e.g., obtaining the license to offer leasing deals, setting up additional service infrastructures).¹⁸

Buy One, Give One

Some social groups need a product or service, but lack access to it or cannot afford to buy it. In the Buy One, Give One pattern a company donates goods or services to those in need in a fixed ratio to regular sales, thereby creating both commercial and social value.

#giving
#providing access
#customer barriers
#low-income customer segments



Challenge

Base-of-the-pyramid and low-income groups, in both developed and developing countries, are often excluded from access to basic products or services due to price barriers or because markets for these groups simply do not exist. As a result, they may be unable to fulfil basic human needs, such as access to clean water and sanitation, food, health, or education, which in turn can become a barrier to engaging in income-generating activities and improving living conditions. How can companies willing to take on additional responsibility connect their core business to contributions to mitigating such social problems?

In both developed and developing countries, low-income customer segments often lack access to basic products and services. Businesses wanting to help solve such problems are challenged to use their core businesses to do so.

Eyeglasses for everyone? Estimates suggest that 2.5 billion people worldwide are in need of glasses, but lack access to this product.¹⁹ Eighty per cent of these people live in less developed countries and 624 million have severe visual impairments, making them incapable to effectively work or learn.

Solution

Companies that use the *Buy One, Give One* pattern donate goods or services in a fixed ratio to their regular sales, engaging in the simultaneous creation of both commercial and social value. The cost structure of this model depends on companies being able to charge a premium price for their offerings or increasing their sales by attracting more customers who identify with their social mission.²⁰ In some cases, funding may be secured from social investors or third-party donations.

Donating goods or services in a fixed ratio to a company's core business sales or revenues can add a social value component to its value proposition. This allows customers to express their social commitment through their regular purchases.

Eyeglasses and Warby Parker. Warby Parker²¹ is an American eyewear retailer who uses a *Buy One, Give One* pattern to distribute glasses to people in need in the developing world. It partners with non-profit organisations to provide glasses and eye examinations for free or at significantly reduced prices. Customers are attracted by the company's commercial offering of fashionable and affordable eyewear *and* by its social mission to alleviate the global problem of impaired vision.

Consumables and Share. Another case in point is the Berlin-based startup Share. Founded in 2017, they are completely dedicated to their '1+1 principle' - for each product sold a comparable product is donated. In addition, Share is financing various social and environmental projects in developing countries.²² The new Share brand is used for a broad range of consumables that are sold in thousands of supermarkets across Germany.

Shoes and TOMS. TOMS,²³ a for-profit company that largely popularised the *Buy One, Give One* pattern by donating one pair of shoes to a child in a developing country for each pair of shoes they sold. After being criticised for not addressing the underlying causes of poverty and even for harming local shoe businesses and thus destroying income opportunities,²⁴ TOMS expanded its offerings into coffee, eyewear, and handbags, using income from purchases to support the provision of clean water, eye surgeries, and birth care.

Related patterns

The *Buy One, Give One* pattern can be combined with various socially driven business model patterns such as the *Social Business Model: No Dividends* or *Freemium* in order to subsidise donated goods or services from selling premium-priced offerings to higher-income groups.

Outlook

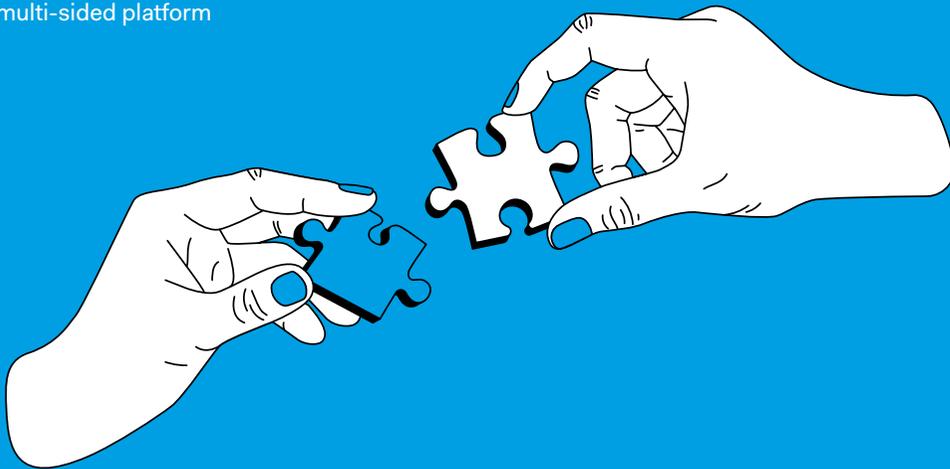
The *Buy One, Give One* pattern is most commonly found in the consumer goods industry²⁵ (e.g., for apparel, accessories, snack bars, detergents), where prices for goods are relatively low. This pattern gives consumers an easy way to express their social commitment through their regular purchases. It can be appealing to companies with strong market positions wishing to practice social responsibility.

A critical issue related to this pattern is navigating the fine line between tackling a social issue and being perceived as engaging in 'social washing'. As the case of TOMS demonstrates, this is particularly critical if companies are perceived as engaging in too simplistic donation schemes instead of tackling the underlying causes of a social problem.

Commercially Utilised Social Mission

The Commercially Utilised Social Mission pattern helps to satisfy the consumption needs of a social target group with free offerings, while it allows the company to earn revenues from a second, commercial target group. The free offering attracts users from the social target group, who then become a resource for the business (e.g., by providing user data relevant to the commercial target group). This pattern creates social impact while maintaining the company's financial self-sufficiency.

#providing access
#non-paying customers
#cross-financing
#multi-sided platform



Challenge

A social target group may wish to use a product or service, but is unable or unwilling to pay for it. Such unmet consumption can result in critical ecological, social, and/or economic impacts that are difficult to tackle. The social target group's inability or unwillingness to pay prohibits the development of financially self-sustaining and scalable solutions that reduce such impacts. How can companies motivated to serve such social target groups and tackle related sustainability problems circumvent these groups' inability or unwillingness to pay for a needed product or service?

Some social target groups are unable or unwilling to pay for certain products or services. Offering these for free can solve this problem, but how to finance these offerings?

How to make sustainability services attractive?

For example, when households adopt energy efficiency measures, they become more sustainable in ecological (e.g., by lowering emissions), social (e.g., by reducing their expenses), and economic terms (e.g., by relieving public budgets).²⁶ However, even in industrial nations, only a minority of households are willing to pay for and make use of energy efficiency advisory services. Market studies suggest a rapid growth in the country's demand for such services, but also point to a number of challenges for market entrants.²⁷

Solution

The *Commercially Utilised Social Mission* helps to satisfy the consumption need of a social target group by offering a product or service for free, while at the same time allowing the company to earn revenues from a second, commercial target group, securing the viability of both the free and the commercial offering.²⁸ The value proposition of this pattern turns the social target group into a resource for the second, commercial target group (e.g., by using data generated by the social target group to better serve the commercial target group).

A free offering can attract a social target group. Turning this target group into a resource for a second, commercial target group allows revenues to be generated. Combining a free and a commercial offering enables the creation of a self-sustaining multi-sided platform.

Energy saving and co2online. co2online is a company that runs energy saving campaigns throughout Germany and, to a lesser extent, in Europe. It offers free online tools to help users track and reduce their energy consumption, costs, and CO₂ emissions.²⁹ co2online then uses this information to offer commercial services such as customised market studies. In this way, the social enterprise utilises its free offering as a resource and a basis for creating market-based revenues.

The *Commercially Utilised Social Mission* pattern can be integrated with the *Freemium* pattern to provide premium, for-profit offerings along with a social value proposition. It can also be combined with an *Expertise Broker* pattern to use the information generated from the social target group as a means of educating and supporting the clients of an expertise broker.

The entrepreneurship literature emphasises that among socially-oriented business models the Commercially Utilised Social Mission with its embedded social mission has the highest potential for generating revenues.³⁰ The potential of this pattern to capitalise on its social mission has been attributed to the fact that it satisfies a consumption need, which is easier to scale than, for example, satisfying a production need.³¹ Another factor is that this pattern can gain traction from the appeal of its social mission and social value proposition. This may be attractive for social investors and venture capitalists as well as paying customers.

However, the higher degree of monetisation of this pattern and its dependence on financial income makes it more susceptible to the risk of mission drift, as the creation of value for the social target group may become subordinated to a strategy that is largely driven by financial concerns.

¹ Gultinan, J. (2009). Creative destruction and destructive creations: Environmental ethics and planned obsolescence. *Journal of Business Ethics*, 89(1), 19-28.

² Dickler, J. (2009, July 17). Crocs lose their footing. *CNN Money*. Retrieved from <https://money.cnn.com/2009/07/17/smallbusiness/crocs.smb/>.

³ Ulrich, K. (1994). Fundamentals of product modularity. In S. Dasu, & C. Eastman (Eds.), *Management of Design* (pp. 219-231). New York: Springer, Dordrecht.

⁴ Milgrom, P., & Roberts, J. (1995). Complementarities and fit: Strategy, structure, and organizational change in manufacturing. *Journal of Accounting and Economics*, 19, 179-208.

⁵ SodaStream. (2019). *Annual Report 2018*. Retrieved from <https://www.sodastream.ca/PDF/SodaStream-Annual-Report-2018-English.pdf>.

⁶ United States Securities And Exchange Commission (2020, April 30). SodaStream Annual Report 2017. Retrieved from <https://www.sec.gov/Archives/edgar/data/1502916/000155837018002311/soda-20171231x20f.htm>.

⁷ Stokel-Walker, C. (2016, February 19). Is there a serious problem with coffee capsules? *BBC News*. Retrieved from <https://www.bbc.com/news/magazine-35605927>.

⁸ Marmamula, S., Keffe, J.E., Raman, U., & Rao, G.N. (2011). Population-based cross-sectional study of barriers to utilisation of refraction services in South India: Rapid Assessment of Refractive Errors (RARE) Study. *BMJ open*, 1(1), e000172.

⁹ Clinton, L., & Whisnant, R. (2014). *Model behavior: 20 business model innovations for sustainability*. London: Sustainability, p. 33.

¹⁰ Marmamula et al., 2011.

¹¹ Aravind Eye Care System. (2019, June 6). Our Story. *Aravind Eye Care System*. Retrieved from <https://aravind.org/>.

¹² Täuscher, K., & Abdelkafi, N. (2018). Scalability and robustness of business models for sustainability: A simulation experiment. *Journal of Cleaner Production*, 170, 654-664.

¹³ Belz, F.-M., & Peattie, K. (2013). *Sustainability marketing: A global perspective* (2nd ed.). Chichester: Wiley.

¹⁴ ?

¹⁵ Clinton & Whisnant, 2014, p. 34.

¹⁶ Simpa (2020, January 31). About Us. *Simpa Energy*. Retrieved from <https://www.simpaenergy.in/>.

¹⁷ Overholm, H. (2015). Collectively created opportunities in emerging ecosystems: The case of solar service ventures. *Technovation*, 39, 14-25. Bohnsack, R., Pinkse, J., & Kolk, A. (2014). Business models for sustainable technologies: Exploring business model evolution in the case of electric vehicles. *Research Policy*, 43(2), 284-300.

¹⁸ DeBord, M. (2016, August 5). The simple truth behind the SolarCity business model Tesla wants to pay \$2.6 billion for. *Business Insider*. Retrieved from <https://www.businessinsider.com/how-solarcitys-business-works-2016-8?r=DE&IR=T>.

¹⁹ World Economic Forum. (2016). *Eyeglasses for Global Development: Bridging the Visual Divide*. Geneva: World Economic Forum.

²⁰ Clinton & Whisnant, 2014, p. 28.

²¹ Warby Parker. (2019, June 6). History. *Warby Parker*. Retrieved from <https://www.warbyparker.com/>.

²² Share. (2020, January 31). Mission. *Share*. Retrieved from <https://www.share.eu/>.

²³ TOMS. (2019, June 6). Blake Mycoskie. *TOMS*. Retrieved from <https://www.toms.com/blakes-bio/>.

²⁴ Davenport, C. (2012, April 10). The Broken "Buy-One, Give-One" Model: 3 Ways To Save Toms Shoes. *Fast Company*. Retrieved from <https://www.fastcompany.com/1679628/the-broken-buy-one-give-one-model-three-ways-to-save-toms-shoes/>. Whether the TOMS model has negative effects on local communities has been widely discussed. While critics point to important weaknesses of the *Buy One, Give One* pattern (e.g., Davenport, 2012), economists studying its unintended negative effects did not find statistically significant effects (e.g., Wydick, B., Katz, E., & Janet, B. (2014). Do in-kind transfers damage local markets? The case of TOMS shoe donations in El Salvador. *Journal of Development Effectiveness*, 6(3), 249-267). Overall, it is a pattern that must be applied cautiously and not just as a feel-good marketing campaign.

²⁵ Marquis, C., & Park, A. (2014). Inside the buy-one give-one model. *Stanford Social Innovation Review*, Winter 2014, 28-33.

²⁶ Ugarte, S., et al. (2016). Energy efficiency for low-income households. Brussels: European Union.

²⁷ Müller, K., Büchele, R., Ciobanu, M., & Andrae, P. (2019). *Energy efficiency services in Europe. Tapping into a powerful market*. Munich: Roland Berger GmbH.

²⁸ Dohrmann, S., Raith, M., & Siebold, N. (2015). Monetizing social value creation—a business model approach. *Entrepreneurship Research Journal*, 5(2), 127-154.

²⁹ Ibid. *co2online*. (2019, June 6). *co2online*. Retrieved from <https://www.co2online.de/>.

³⁰ Dohrmann et al., 2015.

³¹ Ibid.

This is a preview of the forthcoming, self-published book *Sustainable Business Model Design: 45 Patterns*, as of May 2020.

© Florian Lüdeke-Freund¹, Henning Breuer² & Lorenzo Massa³

¹ ESCP Business School, Chair for Corporate Sustainability, Berlin,
<https://www.linkedin.com/in/florian-luedeke-freund/>

² UXBerlin – Innovation Consulting and HMKW University of Applied Sciences for Media, Communication and Management, Berlin,
<https://www.linkedin.com/in/henningbreuer/>

³ University of Aalborg (AAU), Aalborg, Denmark,
<https://www.linkedin.com/in/lorenzomassa/>

Sustainable Business Design builds on the authors' decade-long research on business models, corporate sustainability, and innovation management. The business model pattern taxonomy presented in this book is an updated and further developed version of the classification system introduced by Florian Lüdeke-Freund, Sarah Carroux, Alexandre Joyce, Lorenzo Massa, and Henning Breuer in their journal article *The Sustainable Business Model Pattern Taxonomy - 45 Patterns to Support Sustainability-Oriented Business Model Innovation* (see reference list). We thank our good friends and colleagues Sarah Carroux and Alexandre Joyce without whom the underlying research for this book would not have been possible.