Interreg
Alpine Space
EUROPEAN UNION
Alp Bio Eco

AlpBioEco

Business Models

WP-T2: Deliverable 2-1

Management Center Innsbruck
Oliver Som | Lucas Huter | Juliana Pattermann | Antje Bierwisch | Bernd Kirschner | Andrea Haas

In collaboration with: Biotehniški center Naklo
Eva Erjavec | Mihela Ferlinc

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1. INTRODUCTION

With the development of the circular economy agenda, the European Commission has spelt out specific aims for achieving resource efficiency in the EU's economic model. In particular, more value must be gained from resources already in use within society to meet economic, social and environmental goals. Eco-Innovation is the change implemented to achieve these aims. Eco-innovation represents a highly relevant strategic opportunity for businesses. Eco-innovation leads to reduced costs, helps capture new growth opportunities and strengthens the company image in front of its customers. Especially small and medium-sized companies might benefit from eco-innovation by climbing-up the value chain, entering new markets and unlocking new potentials for value-creation. By supporting new processes, technologies, and services that make business greener, eco-innovation helps Europe optimize its growth potential while addressing our common challenges such as climate change, resource scarcity and dwindling biodiversity.

Multiple pathways exist for the uptake of eco-innovative, e.g. through repair, re-use, valorization of by- or waste-products, remanufacturing and recycling. In particular, the way that products are designed and manufactured (considering aspects such as modularity, multi-functionality, reparability, longevity and durability) have a large impact on the options available to both consumers and companies after their initial use phase. But eco-innovation does not only refer to new products. Likewise, new processes of manufacturing can help to save resources (e.g. raw material, energy), enable the use of new renewable raw materials (e.g. wood, apple pomace, walnut press cake, alpine hay) along with new manufacturing technologies or re-use process energy and side-outputs (e.g. heat, steam, wastewater). But also non-technological innovation can open up new options for eco-innovative BM (e.g. new supply chain architectures reduce CO2-emissions and logistics, new product-related services (e.g. sharing, repair, upgrading) and service-platform creates new environments for eco-innovative value co-creation by establishing new linkages between regional stakeholders). The involvement of customers and end-users is key. In eco-innovative BM, they do not remain a passive receiver of goods and services anymore. Instead, they are empowered by becoming participants (e.g. intake-back schemes) and key drivers for more sustainable products (e.g. by purchasing products with eco-labels) and as active eco-innovators through user-led changes (e.g. by founding repair cafes and collaborative production and consumption schemes). Along these lines, eco-innovative BM can also change the way how profit is generated (e.g. leasing, pay-per-use and new, refurbishment) which allows unlocking new and emerging markets.

This report presents the intermediate results of the research project AlpBioEco. AlpBioEco is an EU project co-financed through the Interreg Alpine Space Programme and by the "Federal Transnational Cooperation Programme" of the German Federal Ministry of the Interior, Building and Community. 13 project partners from five alpine countries work together for an innovative sustainable development in the alpine space focusing on the potential of bio-economy in the value chains of herbal foods and essences.[1]

Among others, one of the major goals for the project is about the development of eco-innovative business model (BM) blueprints to implement new products and services in the value chains of apple, walnuts, and herbs in the market, and thus to unlock new competitive advantages for small and medium-sized enterprises in the alpine food value chain.

The report is structured as follows: Firstly, chapter two briefly outlines the conceptual considerations on 'business models', 'innovation', 'business model innovation', and 'eco-innovative business models' which build the theoretical foundation for the workshop design. Secondly, the methodological proceeding of the workshops for developing ideas for eco-innovative blueprints, and some workshop statistics are reported in chapter three. The finally selected, 6+1 eco-innovative business blueprints are presented in chapter 4. Finally, chapter 5 closes with a short summary of the key findings and highlights the need for further research.

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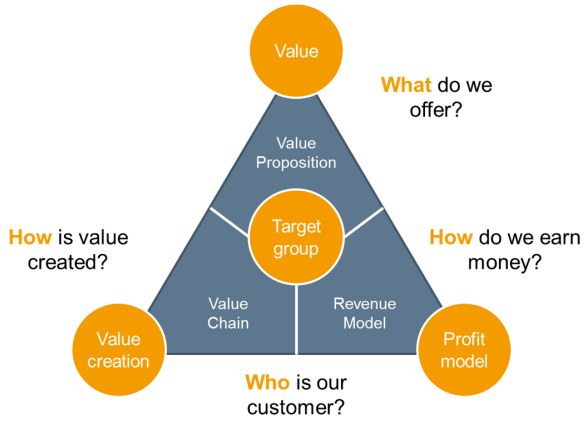
1 https://www.alpine-space.eu/projects/alpbioeco/en/home

2. BUSINESS MODELS AND BUSINESS MODEL INNOVATION

Business models (BM)

"A business model describes the rationale of how an organization creates, delivers, and capture value (Osterwalder & Pigneur, 2010, p. 14)" – or as put by Amit & Zott (2013, p. 36): "…how business is done".



A BM explains why, for whom and how a company creates value and in return, earns money by including the determination of the market, value propositions and value chain and earnings mechanics (Gassmann & Sutter, 2016). It is a conceptual framework, that comprises a set of elements and their relationships allowing defining the business fundamental principles of a particular company (Osterwalder, 2005; Gassmann et al., 2013). In other words, a BM is a bundle of specific activities — an activity system — conducted to satisfy the perceived needs of the market, along with the specification of which parties (a company or its partners) conduct which activities, and how these activities are linked to each other (Figure 1).

Figure 1: Business model structure (Gassmann et al., 2013).

The objective is to combine the BM elements in such a way that the business model elements reinforce each other. Thus, it is possible to achieve growth, be difficult to imitate and to exploit business opportunities by creating value for the parties involved (Schallmo 2019; Zott & Amit, 2010).

Innovation

The Latin word "innovatio" derives from "novus", which can be translated in terms of "new" or "novelty". Hence, the first essential characteristic of innovation is novelty. Novelty has various reference points. It can be either new to the company, new to the market or the industry, or something completely new which has never been made or used before (OECD, 2005; Weis, 2012). Furthermore, the distinction between an invention and an innovation is essential to get a better understanding of what innovation means. An idea becomes an innovation as soon as it is successfully implemented in the market and contributes to increasing the competitive advantage of a firm (Hauschildt & Salomo, 2010; Weis, 2012). Hence, the commercialization differentiates the invention from the innovation, as given in the equation by Roberts (1987, p. 3): Innovation = Invention + Exploitation.

According to the OECD Oslo Manual, which represents the conceptual and methodological guideline for analyzing innovation on the firm-level, there are four different fields of innovation: product, process, marketing and organizational innovation (OECD, 2005). For a long time, the focus has been set mainly on product and technical process innovations. Today, it is widely acknowledged that innovation also includes "non-technological" areas like new services, new organizational processes, supply chain architectures and management concepts, as well as new marketing solutions (e.g. packaging, pricing, distribution) which can also significantly contribute to companies' competitive advantage and economic performance.

Business model innovation

According to the previous considerations, BM innovation entails the successful implementation of new or significant changes in:

- the value proposition (e.g. new features, added services),
- the addressed target markets or target customer groups,

- the value creation architecture (e.g. new supply chain solutions, substitution of critical resources, and
- the revenue streams (e.g. freemium, pay-per-use, leasing, selling process data)

of a company.

Depending on the areas in which an existing BM is innovated simultaneously, we can distinguish between incremental and radical BM innovation. Incremental would mean that only one or two dimensions of the BM are changed by reinforcing and sustaining existing core competencies of the firm (e.g. unlocking a new customer segment with existing products while keeping the existing value creation architecture and revenue streams constant). In contrast, radical BM innovation happens if 3-4 dimensions of the business change simultaneously. In this case, these changes come along with new requirements on the companies' core competencies – or even call for the development of completely new competencies (e.g. offering new product functionalities for new target customers that require new solutions in the value creation process, and new or additional revenue streams).

BM innovation helps companies stay ahead in market competition. A good product or service that is embedded in a consistent innovative BM is less easily substituted by competing innovations than product-only/service-only solutions. For instance, there are smartphones on the market, which are technically superior to Apple's iPhone. But only a few of the hundreds of millions iPhone users with AppStore and AppleMusic/AppleTV accounts or owning other hardware devices from Apples were open to switching their smartphone brand because Apples Inc. perfectly integrated BM (hardware + design + software + abo-services + payment options) causes high switching costs for them. In terms of innovation, BM innovations are the purposeful integration of product-, service, process- and marketing innovations to obtain a sustainable competitive advantage in the market.

BM innovation thus represents a frequently under-utilized source of future value. Competitors might find it more difficult to imitate or replicate an entire novel activity system than a single novel product or process. Since it is often relatively easier to undermine and erode the returns of product or process innovation, innovation at the level of the BM can sometimes translate into a sustainable performance advantage. Finally, BM innovation can be a highly potentially powerful competitive tool. Hence, Matzler (2016) highlight, that managers must be attuned to the possibility of competitors' efforts in this area because BM innovations undertaken by new market entrants coming from outside their traditional industry boundaries can drive existing BM obsolete (e.g. Kodak, Quelle, Grundig, Video Buster, NOKIA).

Eco-innovative business models (BM)

As defined by the Eco-Innovation Observatory report by the European Commission, eco-innovation describes significant changes or new solutions in a companies' BM implemented to achieve higher levels of sustainability. This includes the adaption and change of business practices, consumer behavior, and societal lifestyles (O'Brian et al., 2018). Among the first users of the term eco-innovation, Fussler and James (1996) define it as new products, services, processes and business practices, which provide customer and business value but significantly decrease environmental impacts. Its sense is promoting a commercial applying of knowledge to elicit direct or indirect ecological improvements. With regard to this, companies with a wide range of specialization try to focus on developing BM based on environmental sustainability to minimalize the negative effects of their activity. The main assumption is a better use of resources and simultaneously leading the process of production more efficient and reasonable. The imperative of eco-efficiency is about the reduction of environmental impacts by attempting to align the use of resources throughout the whole of the product's life cycle to correspond to Earth's carrying capacity, and at the same time deliver competitively priced goods, satisfy human needs and bring quality of life (Welford, 1997).

Such improvements in resource efficiency, respectively the reduction of negative environmental impacts of business practice can happen in various ways (Cramer, 2000; Norberg-Bohm, 1999; Blättel-Mink, 1998; Hellström, 2007):

- Minimization of input streams (e.g. of substances, materials, energy, and water)
- Minimization of throughput and output streams (including supplier and logistics efficiency as well as flexible utilization of replacement materials and energy sources)

- Reduction of health, safety, and environmental risks
- Using by-products or side-products of manufacturing and assembly as a basis of new products or value propositions
- Re-using "waste" energy (e.g. polluted water, heath, cold, steam) in the value creation process

As emphasized by Cramer (2000), there is a strong potential in this mixed ecological–economic instruction regarding the systemic nature of BM. Since such broad considerations of innovation activities typically have to be planned already in the early stages of product and service development (e.g. by an early integration of relevant stakeholder groups), and thereby have the potential to affect value propositions and value creation processes on a more fundamental level. This means that eco-innovative business are supposed to focus on the creation of shared value for all stakeholders involved (Porter & Kramer, 2002).

However, eco-innovation should not be considered only on the firm level. It is widely agreed that technological eco-innovation must be supported by a corresponding evolution of social arrangements and institutional support structures (Freeman, 1996). To be successful, eco-innovation must also build on relevant social structures, and in some cases, the eco-innovation should also be able to influence these structures (e.g. new forms of collaborative value creation, grassroot initiative of civil society). Thereby, eco-innovations should also bring greater social and cultural acceptance. This aspect adds a social dimension to eco-innovation which entails more than only a new type of commodity or a new sector, even though environmental technology and eco-innovation are associated with the emergence of new economic activities or even branches. This approach considers eco-innovation in terms of usage and its process of value creation rather than merely in terms of a new product or service on the output side. The social pillar associated with eco-innovation also introduces a governance component that makes eco-innovation a more integrated tool for sustainable development (James, 1997; Rennings, 2000).

3. PROCEEDING

Based on the following considerations, the development of eco-innovative BM for companies in the alpine bio-economies' value chains of apples, walnuts, and herbs come along with several conceptual requirements:

- Starting from a value-centered perspective which puts future consumer and stakeholder demands in the focus
- Holistic understanding of innovation including technological as well as non-technological fields of innovation
- Holistic understanding of sustainability including technological and social dimensions
- Involvement of multiple stakeholder groups in the development process (Open Innovation) to ensure social acceptance and allow for the emergence of new structures and social interactions between value-creating partners, particularly to link SME across value chains, markets, and industries
- Separation between "ideation" and "realization" perspective to stimulate novel ideas and out-of-the-box thinking

Table 1: Overview workshop dates, locations, and addressed value chains (own illustration)

1st sequence (half-day workshops)			2nd sequence (full-day workshops)		
Workshop location	Date	Value Chain	Workshop location	Date	Value Chains
Innsbruck (Austria)	15.05.2019	Apples	Innsbruck (Austria)	10.09.2019	Apples Herbs
Sigmaringen (Germany)	22.05.2019	Walnuts	Strahinj (Slovenia)	17.09.2019	Apples Herbs
Strahinj (Slovenia)	06.06.2019	Apples	Waldburg (Germany)	11.10.2019	Apples Walnuts
Bozen (Italy)	01.07.2019	Herbs	Linz (Austria)	23.10.2019	Apples Herbs
Ravensburg (Germany)	01.07.2019	Walnuts	Avignon (France)	24.10.2019	Apples Herbs
Bozen (Italy)	01.07.2019	Apples	Sigmaringen (Germany)	08.11.2019	Apples Walnuts
			Nenzing (Austria)	12.11.2019	Apples Herbs
			Turin (Italy)	15.11.2019	Apples Herbs

These requirements were included in the workshop concept to develop eco-innovative BM blueprints (figure 2). The workshop concept was separated into two major sequences. The first sequence was composed of six workshops (May to July 2019), each focussing on a specific value chain. The second sequence totaled up to 16 workshops of which each combined two value chains to leverage potential synergies in the BM designs across value chains (September to November 2019).

The first sequence of workshops focused on the ideation about the business model dimensions "value propositions" and "target markets/customers". It started from a future-oriented and user-/value-centred perspective by discussing and deriving emerging demands and customer needs from future trends in the food industry. For the identified demands, the workshop participants were asked to translate them into new product and service ideas, based on the results on technological experimentation and prototyping achieved in the first work package of AlpBioEco, and to identify potential target customer groups. The first workshop sequences resulted in 440 ideas (adjusted by multiple mentions). These ideas were then prioritized by the experts in the project consortium and the involved food-technologists in terms of economic (e.g. market potential, novelty, "Wow-factor") and technical (e.g. feasibility, market maturity) criteria.

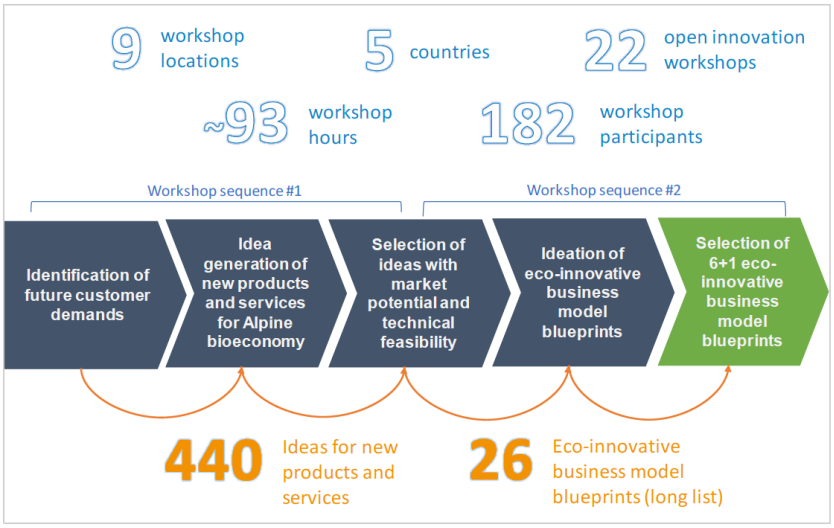


Figure 2: Work concept and performance facts (own illustration)

The resulting condensed shortlist of 75 new product and service ideas built the starting point for the *second workshop sequence* that focussed on the aspects of how to translate selected and further refined ideas into reasonable value creation architectures and profit models meeting the criteria of eco-innovation. Additionally, the workshop participants in the second sequence were asked to approximate costs as well as success factors for their favorite value creation designs. The second workshop sequence resulted in a total long list of 26 eco-innovative business model blueprints for new products and services covering the value chains of apples, walnuts and herbs.

In total, 182 participants from various stakeholder groups were involved in the 22 workshops. As figure 3 shows, the major stakeholder groups involved were private businesses of apple/walnut/herbs farmers and companies (SME) accounting together for 43 per cent of all participants. Thereby, the workshops particularly succeeded in establishing new links between farmers and bio-economy firms along with the idea of eco-innovative value chain architecture. Another 36 per cent of participants came from intermediaries such as start-up agencies, incubators, business accelerators, industry associations, and local authorities, which accompany new business ventures and /or provide necessary frame conditions, services and support for bio-economic start-ups. Finally, representatives from universities and R&D organizations accounted for 21 per cent providing support in terms of technical knowledge and expertise.

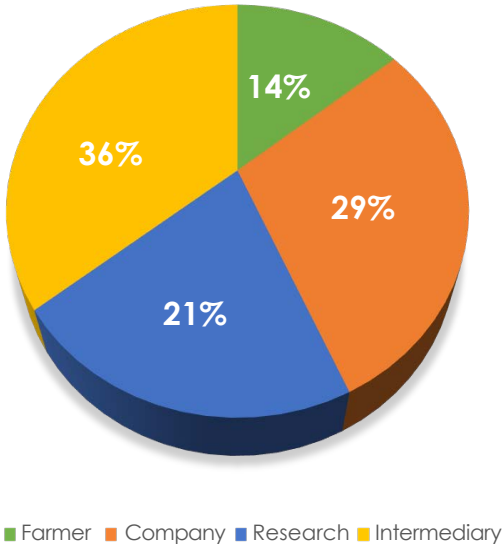


Figure 3: Involved stakeholder groups (n=182 workshop participants, adjusted for multiple participation and the AlpBioEco project team; own illustration)

The workshop participants in both sequences were contacted and invited by the respective regional consortium partner to make the best use of their existing partner networks. All workshops have been documented by signed participants lists, photos, result protocols, and digitalized documents of the prepared working materials.

4. RESULTS

At the consortium meeting held in early December 2019 in Avignon, France, all project partners finally agreed on a selection of 6+1 BM blueprints – two per value chain plus one deployable for all value-chains (table 2).

Table 2: Final selection of business model blueprints (own illustration)

Title of Business Model Blueprint	Value Chain	BM-No.	Pages
Gluten-Free Apple Flour	Apples	26	16-19
Disposable Tableware & Biodegradable Packaging[2]	Apples	11/20	21-24
Walnut Spreads	Walnuts	17	26-29
Walnut Flips	Walnuts	08	31-34
Revegetation with Alpine Hay Seeds	Herbs	21	36-39
Herbal Pacifier	Herbs	02	41-44
Digital Service Platform	Apples – Walnuts – Herbs	03	46-49

The selection of the final 6+1 business model blueprints was achieved by applying the following criteria:

- Degree of novelty (e.g. new product/service for new target customers)
- Market attractiveness, feasibility
- Sustainability and eco-innovative character
- Potential to stimulate the emergence of new social/transnational interlinkages between value-creating partners

Two business model blueprints per value chain have been selected. Regarding their implementation potential, a trade-off between "degree of innovation" and "feasibility" occurred during the final selection process, as higher degrees of innovation cause longer time horizons for implementation. However, as all selected business model blueprints should be pilot-tested and implemented by the subsequent third work package of the project, the consortium agreed to select one business model blueprint with a higher degree of novelty as well as one blueprint with high potential of short-termed market implementation for each value chain.

Additionally, to these six business models, one additional business model blueprint has been developed, which is applicable to all the value chains. In almost every workshop, ideas of digital service platforms were discussed to build co-creation networks of all involved stakeholders, and particularly to allow for new and closer linkages between farmers, manufacturing firms, consumers, and R&D organization. For this reason, we decided to develop an additional general business model blueprint for a digital service platform, which can be implemented for each value chain (or even across them) at the level of regions.

In the following, the final 6+1 eco-innovative business model blueprints will be presented in detail. The remaining 18 business model blueprints being part of the long list resulting from the workshops are provided in a condensed layout in appendix B.

Please note: Each eco-innovative business model blueprint includes a radar chart illustrating the required performance criteria for a competitive positioning of the business model. A glossary for the dimensions of the radar chart can be found in appendix A.

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[2] During the selection procedure at the consortium meeting in Avignon it was decided to merge two similar business models (BM-No. 11: disposable tableware made from apple pomace / BM-No. 20: biodegradable packaging made from apple pomace) to one consolidated business model blueprint.

DISCLAIMER

We kindly point out that the following descriptions represent business model blueprints, frequently offering different strategic options or activity sets depending on the selected target customer group. Although the presented blueprints were thoroughly checked for feasibility and plausibility, they do not guarantee automatic success. For a successful implementation and translation into functioning, tailor-made business models, the individual circumstances and contexts of the respective company need to be considered carefully to adjust and refine the business model blueprints accordingly.

This being said, please note that the AlpBioEco project partners do not take responsibility for the successful implementation of the developed business model blueprints.

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AlpBioEco

Gluten-Free Apple Flour

Business Model #26

Value Chain: Apples

BUSINESS MODEL: GLUTEN-FREE APPLE FLOUR

DESIRABILITY – DO THE CUSTOMERS WANT IT?

The idea of this BM is to produce and sell apple flour, which is a gluten-free, vegan, and organic alternative to other flours. The product idea is based on the identified demand for novel food from natural raw materials and fits into a health and sustainability-oriented lifestyle. The BM incorporates sustainability into multiple aspects. First, apple pomace, which is a waste product of e.g. apple juice production, needs to be dried and processed by a mill and consequently transformed into apple flour. Second, the apple flour is a regional product – local mills should be given the task of producing the flour, which in combination with the distribution via local retailers, would allow for a short distance between the place of production and place of purchase and/or consumption. Third, the natural characteristics of the flour (gluten-free, vegan, organic) not only offer a nutritional alternative for gluten-intolerant people but provide a beneficial health factor for everyone. Additionally, by building a community for gluten-intolerant people and offering a platform for exchange, this BM has the potential to generate a positive community effect.

To achieve these goals, the target markets are local to regional. Regarding the customer segments, this BM could target both business-to-business (B2B) and business-to-customer (B2C) markets. Regarding the end consumers (B2C), the apple flour is an organic and regional alternative for people who embrace the vegan lifestyle, are challenged by gluten-intolerance, or are looking for new ways to mix up their baking recipes. To give consumers ideas on how to use the flour and what to combine it with, recipes could be printed on stickers and stuck on the packaging. These recipes could also be published on a recipe blog hosted by the apple flour cooperative where customers could submit recipes themselves. An annual reward for the most innovative recipe would support the development of the community.

To keep the regional aspect of the product, local bakeries, grocery stores, and any other supermarkets interested in selling regional products should be acquired as direct selling points for the apple flour. Regional sales representatives could build up relationships with these sales channels and provide information on ideal storage conditions and appropriate handling of the product. Additionally, these bakeries and local grocery stores could use the flour themselves to bake their own fresh goods for the store and thus expand their vegan and gluten-free product range.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

The implementation of this BM requires a number of close partners and collaborations, careful planning, and thorough research. The research and development (R&D) phase could be outsourced to university programs or research institutions specialized in food technology. Food technology experts and food experts (e.g. pastry chefs) should be included in the development process in order to conduct tests for the drying and grinding process, develop the product specifications, and invent potential recipes on how to use the apple flour. Further, the R&D phase is essential for conducting a thorough competitor analysis and market research. A regional producers' cooperative is needed to manage the entire production process. While the consortium members should deal with the harvesting and selection of apples, a "make-to-stock" production of the flour should be outsourced to local mills. This would allow for a careful and proper organization of resources, a focus on efficiency, and limited customer waiting times. The packaging should be made of sustainable materials and guarantee a long shelf life of the flour. Simple packaging would keep the costs low, while recipe stickers could add a high level of variability and seasonality to engage the consumer. Marketing and sales efforts are twofold, depending on whether they are aimed at the B2B or B2C market. Sales representatives, regional purchase cooperatives for bakeries, consistent presence in local outlets and strong efforts on social media through bloggers and influencers are the pillars of the marketing & sales strategy. After-sales activities are handled by the cooperative as well, taking care of customer service and complaints.

Some investments in terms of personnel, time, and funds are needed to establish the producers' cooperative. Several expenses need to be financed before first revenues can be generated, such as the outsourced product development, storage rent, costs of milling the apple pomace, costs for packaging, costs for sales representatives, etc. These initial investments could be covered by a crowdfunding campaign and potentially regional/local funding for the alpine region. Revenues are dependent on a sales price per kg with the option of bulk prices. Yearly harvest yields, demand, and revenues should be monitored carefully to determine the possible production level for the following year.

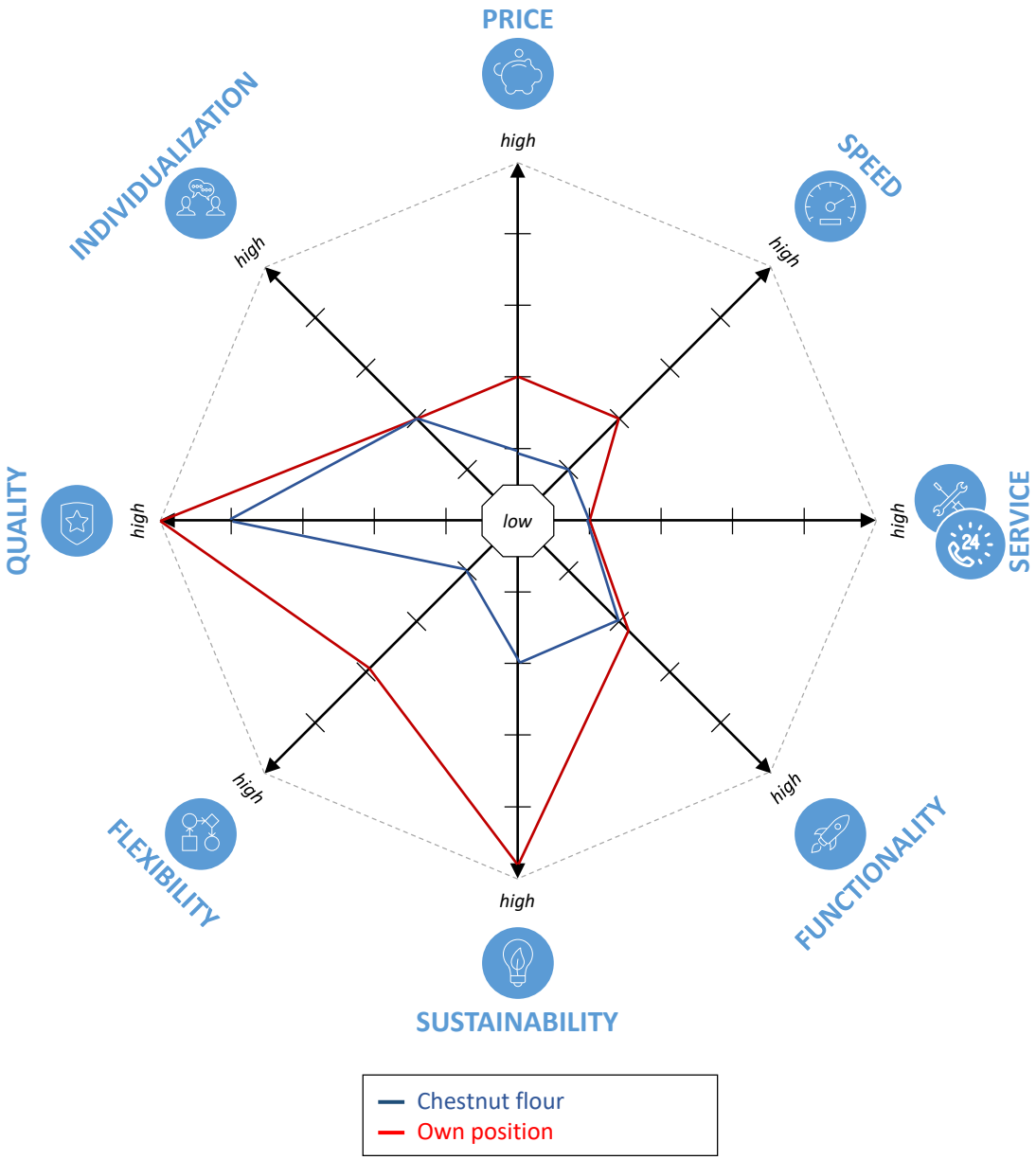
CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

Overall, the market for vegan as well as gluten-free products is large and highly attractive. However, one has to keep in mind that the availability of raw materials in a certain region is limited. Thus, potential implementers of this business idea need to carefully decide which market they would like to target. Aiming for mass-markets would require production at a large scale but consequently allow for economies of scale and an overall lower selling price. Contrary, by focusing on small-scale and regional production, the aspects of regionality and sustainability could form the core product identity. This decision is essential to position the product in a market that already offers several alternatives for vegan and gluten-free flour.

Overall, it is essential to highlight the product characteristics that fit the vegan and health-oriented lifestyle, which would consequently allow the product to be placed in a higher price segment. Naturally, high quality needs to be secured at all times to meet consumers' expectations. Nonetheless, further research is needed to explore whether consumers would actually perceive the beneficial health effects of the product.

While the recurring production costs are manageable, significant investments and costs may occur during the start-up phase. How can the product be entered into the market? What is necessary to secure shelf space in a supermarket? What is necessary to build up a network of suppliers, retailers, partners, etc.? Indirect development costs related to these questions may mount up quickly and need to be considered in the planning phase. Also, one should consider the market potential in relation to the development costs. It is key to keep in mind that the main selling point of the product lies in the health and sustainability aspects that are associated with a certain lifestyle rather than in the fine details of the product specifications. Thus, product development should be limited in scope in order to quickly move on to the ready-for-market phase.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: GLUTEN-FREE APPLE FLOUR

BM #26

KEY PARTNERS

R&D:
- University programs & research institutions with focus on food technology (e.g. Albstadt-Sigmaringen University, MCI)
- Food experts (e.g. pastry chefs)

Production:
- Consortium of farms & apple producers for harvesting
- Third parties for milling and drying
- Packaging producer

Marketing & Sales:
- Website programmer
- Social media experts
- Communication agency
- (Food) influencers on Instagram
- Food bloggers

General:
- End-users for recipe generation
- Network partners
- People willing to participate in crowdfunding
- Regional/local funding agencies

KEY ACTIVITIES

R&D (outsourced):
- Competitive market analysis
- Market research
- Cost estimation
- Outsourced to universities and research bodies
- Consulting with experts
- European/regional fundraising
- Crowd-funding campaign
- Develop product specifications (grinding degree)
- Develop recipes on how to use apple flour

Procurement & Production (in collaboration):
- Apple harvesting and selection by consortium of producers
- "Make-to-stock" production (drying & milling) by mills
- Packaging and storage are managed by the consortium

Marketing & Sales (in collaboration):
- Identify and hire local sales agents
- Set up website
- Place products in social networks and online market places
- Social media with influencers: recipe blog, Instagram account, etc. → involve end-users
- Product distribution
- Negotiate agreements with logistic companies

After-Sales (in-house):
- Customer service and complaints management
- Monitor social media activity
- Organize recipe award

KEY RESOURCES

- Business plan
- Machinery & Production facilities
- Labeling machine
- Packaging machine
- Organic apples
- Product samples
- Third-party processing agreement
- Certifications (organic, gluten-free, alpine products grown above 500 meters altitude, etc.)
- One-size packaging
- Storage facilities
- Funding

VALUE PROPOSITIONS

The demand for vegan and gluten-free food and food ingredients is growing quickly on a global scale. Food products and food ingredients based on apples offer many possibilities for solutions here. Vegan food products/food ingredients offer alternatives for customers tha a) that suffer from gluten intolerance, b embrace a vegan lifestyle, or c) that pay hig attention to a healthy and ecologicall sustainable style of living.

Apple flour is vegan, thus allowing consumers t enjoy flour-based dishes along a health-relate dietary or vegan nutrition. Most importantly, it is regional product with a beneficial health factor.

Functionalities:
- Gluten-free
- Vegan
- Organic
- Beneficial health factor

Sustainability:
- Based on waste products of other apple production processes (by-products)
- Regional production
- Distribution through local retail (short distance between production and consumption)
- Recyclable packaging

Community effect:
- Build community for gluten-intolerant people on social media (e.g. blog, Instagram)

As there are already several gluten-free alternative flours, marketing should focus on
- regionality,
- sustainability
- veganism,
- and the consequently associated life-style.

CUSTOMER RELATIONSHIPS

B2B:
- Relationship built through sales representative
- Provide information on ideal storage handling of product

B2C:
- Build personal relationships to customers at farmer's markets and farm shops – "know your farmer"
- Add recipes (printed on stickers) on packaging to give ideas on how to use the flour
- Recipe stickers can be collected and stuck into individual cookbooks
- Host a recipe blog where customers can submit recipes
- Create an annual award for most innovate recipe

CHANNELS

Direct selling for B2B:
- Regional sales agents Regional
- purchase cooperatives for bakeries

Direct selling for B2C:
- Farm shops & farmers' markets
- Local bakeries that sell flour
- Organic local supermarket chains (e.g. NaturaSì, Eataly, Denns)
- Local supermarket chains (e.g. MPREIS in Tyrol)Food fairs
- Online market places (e.g. Cortilia in Italy)
- Organic/Vitality/ Wellness hotels

CUSTOMER SEGMENTS

B2B:
- Regional bakeries and grocery stores which use gluten-free flour for their own baking

B2C:
- People with a vegan lifestyle
- People with gluten intolerance
- Hobby bakers
- People who value regional and organic products
- LOHAS = Lifestyle of Health and Sustainability

COST STRUCTURE

- Administrative costs
- Accounting & warehouse software
- € 5.000 for collaboration with university & research centres
- Costs for apple pomace € 0,50/kg
- Drying and milling € 2/kg
- Costs for packaging and storage
- Costs for certification
- Costs for sales representatives
- Costs for logistic companies
- Costs for website set-up, maintenance, etc.
- Wages / Payroll
- Costs for influencers and product placement on social media

REVENUE STREAMS

- Main revenue stream: Sales per unit (0,5kg units)
- Bulk prices

- Potentially: tax breaks, subsidies, regional/local funding for the alpine region
- Initial investments covered by crowdfunding

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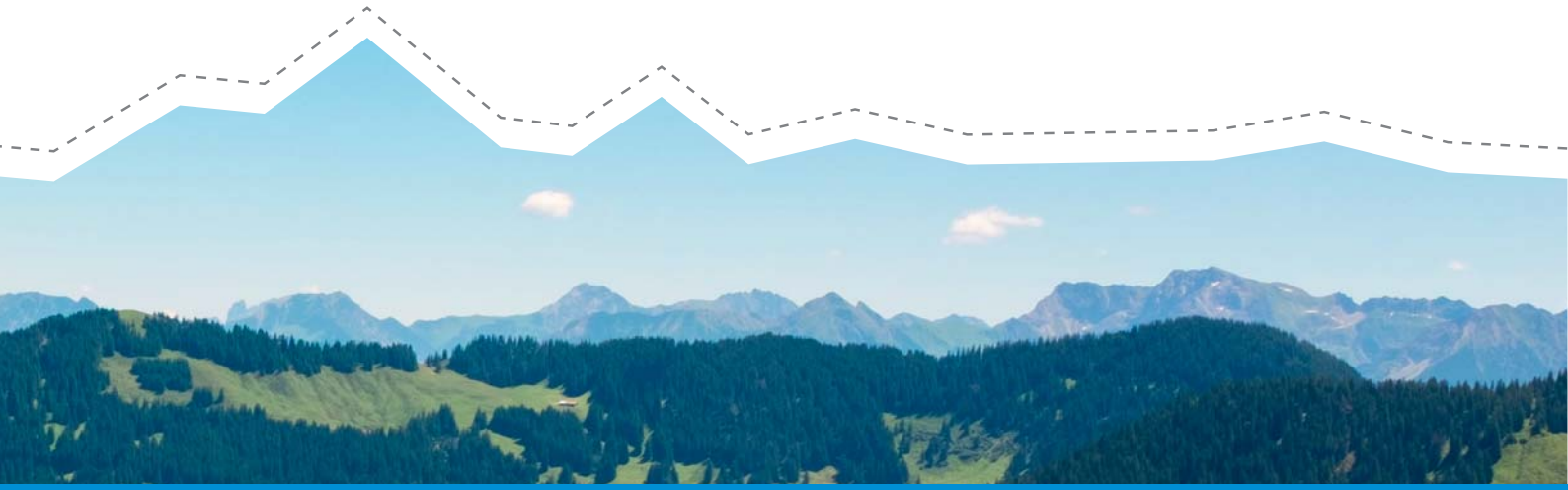
AlpBioEco

Disposable Tableware & Biodegradable Packaging

Business Model #11/20

Value Chain: Apples



BUSINESS MODEL:DISPOSABLE TABLEWARE AND BIODEGRADABLE PACKAGING

DESIRABILITY – DO THE CUSTOMERS WANT IT?

The idea of this BM is to provide a sustainable and environmental-friendly alternative to plastic packaging and single-use plastic products. In today's consumer society more or less every product comes in a plastic packaging, which produces tons of unnecessary plastic waste (the oceans are full with it). This is aggravated by the consumption of single-use plastic products like disposable tableware (crockery, cutlery, plates, cups, straws, etc.). Society and legislators like the EU are starting to rethink by trying to avoid and/or ban plastic products where possible and call for more sustainable alternatives.

In this context, apple pomace (=by-product from the production of e.g. apple juice) offers a suitable alternative to plastic products. The apple pomace can be compressed into shape under pressure and is even suitable for 3D-printing, thereby allowing almost countless applications and enabling individualized designs or brandings. Additionally, the products can be coated with apple wax (which is similar to bee wax) or similar materials, which makes them even washable. Using organic materials, it is not only biodegradable and compostable, but also vegan. Hence, it offers a similar functionality like conventional plastic products but in a more sustainable and environmental-friendly way which does not harm the planet and its flora and fauna.

As this technology is still at an early maturity level with a low level of process standardization, it is recommendable to target regional, small-scale customers first. Therefore, this BM could focus on regional B2B niche markets like local (high-end) take-away restaurants, delis, street food vendors, regional catering companies as well as organizers of regional events and provide them with sustainable food packaging and tableware (both standardized and customized). On the one hand, this would be in line with the increased consumer demand of healthy and sustainable fast food to go (at the moment the majority of take-away food is packaged in plastic). On the other hand, targeting small-scale niche markets allows to develop the technology further and to test and standardize production processes, before going for the mass market. Standard products (e.g. standard food packaging and disposable tableware like cutlery, crockery, cups, plates and straws) could be distributed via wholesalers and specialized gastronomy suppliers (for small customers like a small Deli). Additionally, large customers like event caterers or delivery service companies can order customized products or packaging directly via in-house sales reps. Once the technology and processes are ready, the BM can be scaled by targeting national and international caterers (e.g. Do&Co), airlines and large manufacturers in the food, cosmetics and FMCG industry. Moreover, to expand internationally, the production concept can be licenced to other packaging manufacturers.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

The implementation of this BM builds on several key activities. For the production of sustainable packaging and tableware, the apple pomace needs to be dried and grinded before it can be pressed into shape or used for 3D-printing. The production involves make-to-stock production of standardized products as well as make-to-order production of customized (branded) products. For customized products, customers get consulting and advice on product features, functionality and on the feasibility by sales representatives as well as support in designing the products by in-house industrial designers/ engineers. From a production management perspective, there are two crucial activities. On the one hand, production processes need to be flexible in order to be able to manufacture both standardized and customized products. On the other hand, a reliable quality assurance process has to be established (e.g. laboratory analysis of incoming raw materials, strict hygiene standards in the production facilities, etc.) in order to avoid contamination. In terms of marketing and sales management, it is important that the sales representatives establish and maintain a strong sales network

and constantly build a solid customer base. Marketing efforts should focus on the sustainability aspect of this solution and should highlight the advantages in terms of environment protection. From a management perspective, managing intellectual property rights and licensing agreements for an international expansion as well as providing product trainings to licensees in other countries are key activities. Overall, it is important that the company philosophy of sustainability is reflected in all activities. Internal key resources would be the technological know-how as well as the production technology, patents and other intellectual property rights, product designs, access to a constant supply of raw materials (= apple pomace) as well as access to relevant sales channels. External key partners are therefore reliable regional suppliers of apple pomace and licensees who implement the product concept abroad. Research institutions, lead users and testimonials should facilitate the proof of concept and should serve as success stories and as references for potential customers. Also a logistics partner is needed to take care of delivering standard and customized orders.

The implementation of this BM requires an initial investment for R&D, product and technology development, certifications, intellectual property rights, premises and infrastructure, production machinery and other start-up costs. Besides this initial investment, running expenses for raw materials, staff, marketing, customer services, warehousing, and logistics have to be taken into account.

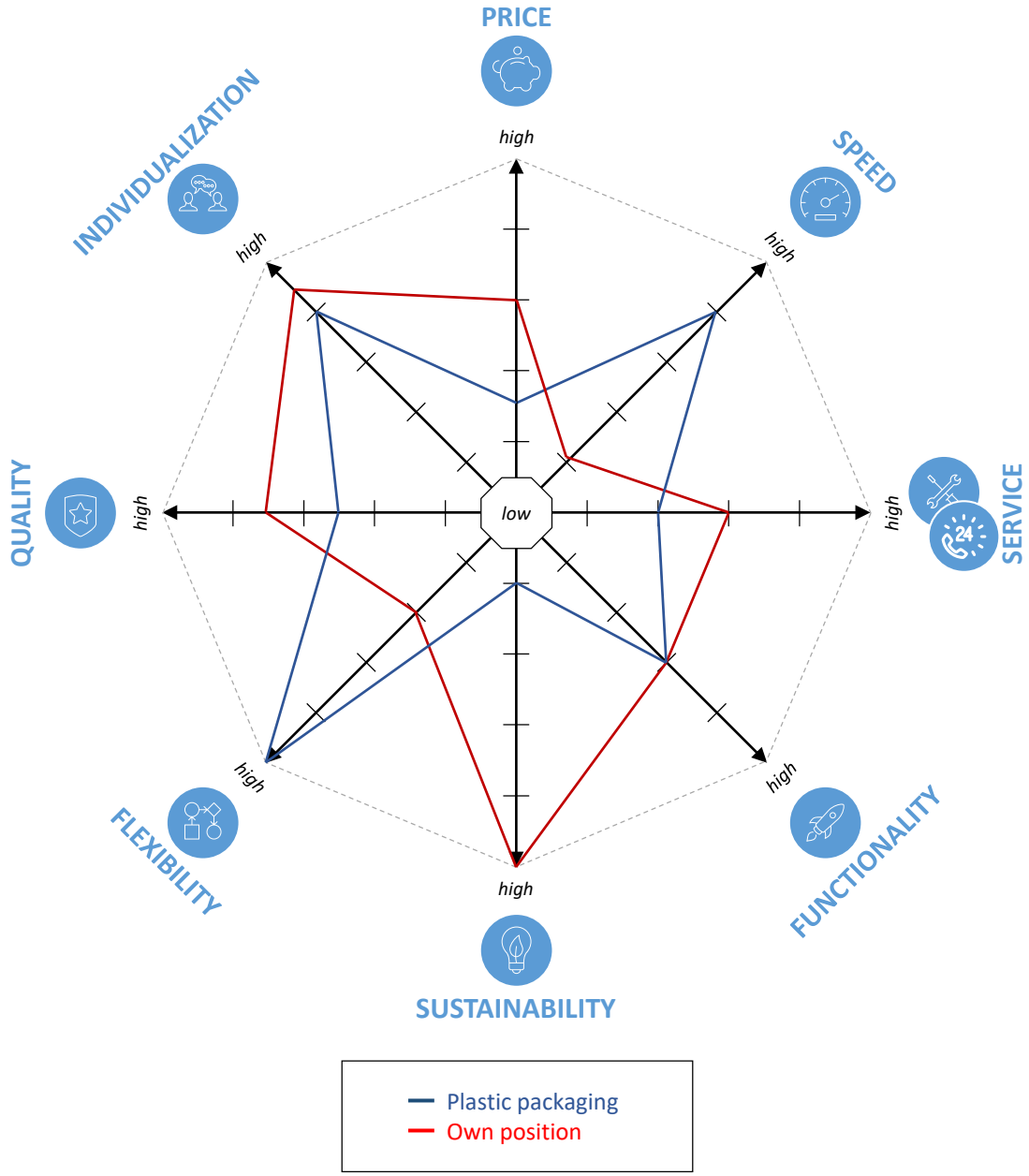
In order to cover these investments and expenses, the BM comprises two main revenue models:

1. Sales per unit: customers are charged for every unit sold. Add-on pricing applies for customized products (e.g. own logo on product, individual shapes, etc.)
2. Licensing: the production concept can be licensed to manufacturers in other countries. Licensees have to pay royalties which include a fixed basic amount plus a variable component based on the number of sold units (commission for every unit sold by licensee). Additionally, product trainings are offered to the licensees for a cost-covering fee.

CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

As the product/solution behind this BM is still at an early stage, some critical points have to be considered regarding product development and product launch. First, the success of the BM strongly depends on the technical feasibility (e.g. durability and stability of packaging, waterproofness, purity, etc.). Hence, rapid prototyping and the development and testing of a minimal viable product is crucial. Second, market approval and respective certificates are necessary in order to be allowed to sell the product. Third, once approved for the market, it is crucial to cooperate with lead users to prove the functionality and to be able to showcase success stories to potential customers. In terms of process management, it is recommendable to start with small scales of niche markets to test the technology and standardize production processes before the mass market is targeted. In this context, it has to be kept in mind, that scalability largely depends on the availability of raw materials (= apple pomace) and that - as apple pomace is a natural by-product - its supply and quality might vary over time.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: DISPOSABLE TABLEWARE AND BIODEGRADABLE PACKAGING — BM #11 / #20

KEY PARTNERS

R&D:
- University or research institute for a development cooperation
- Cooperation with existing projects: FFoQSI, BOKU (Dr. Ines Fritz), mondi, pack it
- Lead users (e.g. event organizer, caterer) who are willing to explore product functionalities together
- Patent lawyer

Production
- Suppliers of machinery and equipment
- Access to a network of suppliers of apple pomace (e.g. existing cooperatives, fruit and horticultural association)
- Licensees
- Logistics partner

Marketing & Sales
- Lead users
- Testimonials
- Sales representatives

Service & After-Sales
- Designers and engineers for individualization
- Product trainers

General
- Investors
- Sponsors

KEY ACTIVITIES

- Laboratory analysis of raw materials
- Drying and grinding of apple pomace
- Pressing into shape / 3D-printing
- Make-to-stock production of standard products
- Make-to-order production of individualized / branded products
- Customer support: e.g. consulting on product functionality and on feasibility of individualized products.
- Joint development of the design depending on the customer's product being packaged (colour, shape, functionality)
- Quality assurance
- Ongoing product and process development and improvement
- Building and managing corporate brand
- Establishing and maintaining sales structures and network
- Managing intellectual property rights
- Managing licensing contracts
- Providing product trainings to licensees
- Sustainability assurance
- Warehousing and logistics

KEY RESOURCES

- Technical know-how
- Production technology incl. machinery and equipment (e.g. 3D printer, extruder, press)
- Market approval of the product by the Food Authority.
- IPR: patent, trademark, utility model protection, design protection
- Access to network of suppliers of apple pomace
- Access to sales network
- Network in food packaging industry
- Transparent supply chain
- Success stories / references / use case / testimonials

VALUE PROPOSITIONS

Using apple pomace as material to produce biodegradable and sustainable packaging and tableware as substitutes to plastic packaging and single-use plastic products.

In today's consumer society more or less every product comes in a plastic packaging, which produces tons of unnecessary plastic waste (the oceans are full with it). This is aggravated by the consumption of single-use plastic products like disposable tableware (crockery, cutlery, plates, cups, straws, etc.). Society and legislators like the EU are starting to rethink by trying to avoid and/or ban plastic products where possible.

Apple pomace (=by-product from the production of e.g., apple juice) offers a suitable alternative to plastic products. The apple pomace can be compressed into shape under pressure and is even suitable for 3D printing, thereby allowing almost countless applications and enabling individualized designs or brandings. The products can be coated with apple wax (which is similar to bee wax), which makes them even washable. Using organic materials, it is not only biodegradable and compostable, but also vegan. Hence, it offers a similar functionality like conventional plastic products but in a more sustainable and environmental-friendly way which does not harm the planet and its flora and fauna.

CUSTOMER RELATIONSHIPS

- Customer service
- Close contact of sales reps with large customers and lead users
- Consulting on functionality for specific products
- Consulting B2B customers in and providing them with individualized designs (e.g. logo of caterer on the tableware, recognizable shape of food packaging, etc.)
- Training for fields of application of products
- Trade fairs / Exhibitions (Biofach, Bepack, Fachpack, Interpack, etc.)
- Web presence

CHANNELS

B2B:
- Direct selling and support through sales reps for large customers
- Distribution of standardized products (without individual design) via gastronomy suppliers (e.g. Transgourmet, Interfood)
- Distribution of standardized products (without individual design) via wholesalers (e.g. Metro, Wedl)
- Licensing of production concept as white label concept to packaging manufacturers for serving international markets (e.g. Etivera, Alpla, Tetrapak).

B2C (in a next step):
- Distribution via retailers / supermarkets (e.g. REWE, Spar, etc.)
- Distribution via zero-waste shops
- Online retailing (e.g. Amazon)

CUSTOMER SEGMENTS

B2B:
- Gastronomy: (luxury) restaurants and delis with delivery / take-away services
- Street food provider
- Delivery service companies (e.g. Mjam, Lieferheld, etc.)
- Catering companies: caterers of public events (e.g. festivals, football stadium, concert halls) where glass packaging is not allowed for security reasons
- Organizers of local / regional events (e.g. Hahnenkamm ski race in Kitzbühel)
- Organizers of green events

Next step / growth potential (B2B):
- Food manufacturers: e.g. yoghurt cups, ice cream bowls, cheese packaging, meat packaging, cereals
- FMCG industries (e.g. Procter & Gamble, Unilever, Henkel, Nestlé)
- Breweries and beverage producers (e.g. branded single-use drinking cups for event sponsoring)
- Industrial agriculture: e.g. packaging of (organic) fruits and vegetables
- Manufacturers of vegan products
- Manufacturers of cosmetics, especially organic cosmetics: e.g. packaging for creams, lotions, make-ups, shampoos, tooth paste, etc.
- Large retail chains with private labels (e.g. REWE, Spar, DM)
- Manufacturers of products for kids (BPA free)

End-user:
Consumers of products that are currently packaged and wrapped in plastic. Consumers who like to shop sustainably, but without any constraints.

COST STRUCTURE

- R&D costs (e.g. prototyping, testing, certificates, patenting)
- Purchasing raw materials, networks for local raw material producers, transportation (25kg dried apple pomace = € 6-10)
- Production costs (e.g. raw materials, machinery, equipment, technology, quality management, staff payroll)
- Costs for warehousing and logistics
- Marketing and sales (e.g. advertising, promotion material, sales reps, travel costs, influencer, graphic designer, advertising agency, domain, use case)
- Service costs (incl. salaries for employees)
- External consultants (e.g. lawyer, business consulting)
- Costs for exhibition appearances: exhibitors, materials, tickets, travels, club memberships

REVENUE STREAMS

Sales per unit:
- Customer is charged for every unit sold
- Add-On: additional revenue for individualization (e.g. own logo on product, individual shapes)

Licensing:
- Royalties for licensing the product concept to packaging manufacturers
- Fixed basic amount + variable part (% commission for every package sold by licensee)
- Training courses/workshops are offered as a service (cost-covering or low profit)

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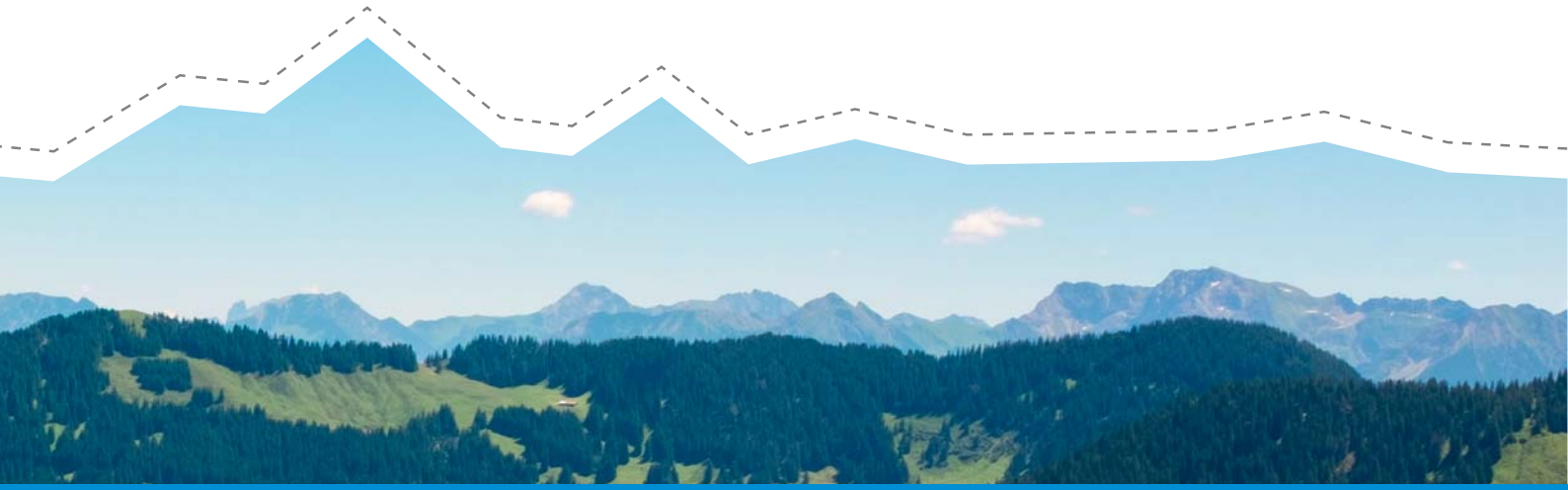
AlpBioEco

Walnut Spreads

Business Model #17

Value Chain: Walnuts



BUSINESS MODEL: WALNUT SPREADS

DESIRABILITY – DO THE CUSTOMERS WANT IT?

The demand for vegan and gluten-free food and food ingredients is globally growing quickly. Some of the reasons are that an increasing number of people suffer from gluten intolerance, as well as a growing number of consumers who pay high attention to a healthy and ecologically sustainable lifestyle (LOHAS). Food products and food ingredients based on walnuts offer many possibilities for new product solutions in this context. Walnut ingredients allow gluten-intolerant people to enjoy flour-based dishes. Additionally, walnut-based products come with a high amount of protein, which is essential for vegan nutrition (as animal-based protein sources are excluded). One option to address this growing market are spreads based on walnuts. Due to the superfood characteristics of walnuts (antibacterial agents, bitter compounds, dietary fibers) and completely vegan and gluten-free properties, walnut spreads of different flavors (e.g. from sweet to savory, depending on seasonal availability of ingredients) perfectly combine the best elements and can build an essential pillar of a vegan, gluten-free, healthy, and sustainable nutrition regime. Sustainability is achieved by focussing on regional walnut resources in the alpine space as well as by being based on by-products of walnut food processing (walnut press cake) and the abandonment of palm oil.

To achieve these goals, the target markets are local to regional. In terms of B2C, the goal would be direct selling to the customer group of LOHAS. Members of this group are characterized by medium to higher income, higher educational levels, and high awareness of regional and sustainable food. They could be reached either in terms of an online shop or direct selling of walnut spreads at regional farm stores, regional food retailers, organic stores, or regional supermarkets. Another option would be selling the walnut spreads via a franchising system. The franchisees are provided with recipes, process know-how, logo, packaging, and raw materials. Regarding the B2B market, a strategy could be to sell the basic product (variety of spread flavors) to food wholesalers (under the own brand) or to (wellness) hotels, catering, restaurants, cafés or delivery services of organic food (e.g. "Biokiste", "Gemüsekiste", "Hellofresh"). To secure the product's USP (regional, healthy, sustainable), customer relationships should build on personal contact and consulting provided by regional partners (e.g. farmers, local shops). This can be supported by involving regional influencers as well as testimonials from regional/local lead users. To introduce the product into the market, tasting events in regional supermarkets, farmer stores, or organic shops are one option. For the B2B market, trade fairs focussing on healthy and sustainable food (e.g. "Grüne Woche", "BIOFACH") are considered as the entry door.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

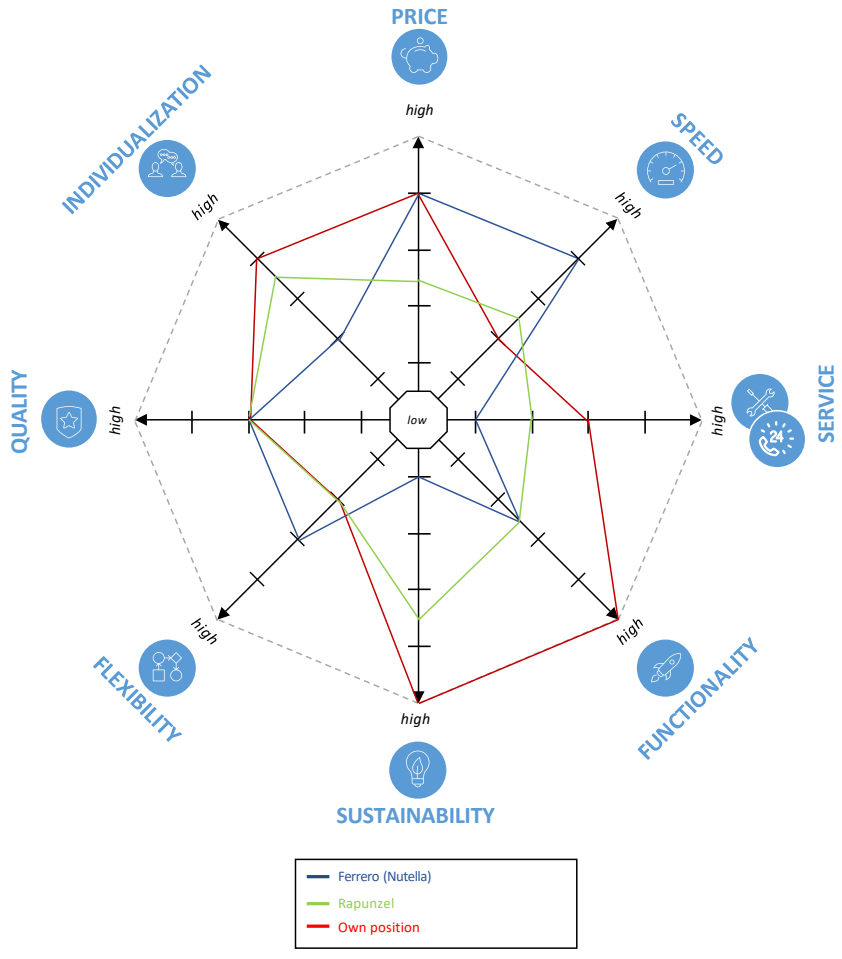
Firstly, product development in terms of gathering (regional, seasonal) recipes of different walnut spread flavors and variations is essential. As there is already a huge amount of scattered know-how and recipes in alpine regions about walnut spreads, this means to identify, access, and gather this knowledge and integrate the different recipes into a (seasonal) product portfolio. This includes sensory analysis, pilot-testing, as well as analysis of market acceptance. Besides, efforts are needed on brand development and the development of marketing solutions that support and communicate the USP (e.g. recyclable packaging like glass). Secondly, a regional distribution platform needs to be established on which the product can be distributed and sold (e.g. a website and an online-shop) beyond local/regional farmer stores or shops. Thirdly, service activities need to be conceptualized and provided in terms of providing the consumers with information about the product, its "superfood" characteristics, its regional character, as well as its contribution to sustainability. Finally, the quality and claims of the product require certification (e.g. Demeter, "Bio", HACCP). To account for the regional character of the product, it is needed to set up a regional, decentralized network/collaboration of part-time/full-time walnut farmers and distributed production facilities close to cultivation areas (to save CO2-emissions for transport). This means that the production of different spread variation is decentralized according to regional/local specificities or traditions while marketing and distribution are happening under a joint trademark, logo,

brand, and packaging design. For product development, key partners would be regional/local farmers, private persons knowing about traditional walnut spread recipes, existing regional small-scale producers of walnut spreads (e.g. single restaurants, hotels, cafés), and private persons who have traditional know-how in the field. To secure high and consistent product quality, R&D partners would be needed (e.g. laboratories, food engineers, universities of applied science) as well as local/regional designers/ artists who develop the logo, the collaborative's corporate design, and the packaging design. Particular importance is on finding suppliers of machinery and equipment (e.g. cracker machines with sorting system). Revenue streams include direct selling (e.g. < €5,00/glass, max. 300mg), franchise fees (e.g. with variable compensation - % per unit sold) as well as from subscription models (e.g. consumer-abo or existing subscription models of food delivery services).

CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

To meet the product's USP, it is important to secure the regional (traditional) and sustainable character of the product throughout the whole value chain architecture. One of the key questions thereby is how manufacturing standards and product quality can be guaranteed with a decentralized/collaborative production. Another critical aspect is the availability of the key raw material "walnut" in the required volumes and quality in the alpine space. Accompanying efforts of the BM thus should probably target an increase of part-time/future walnut farmers in the region, e.g. by providing additional consultancy and educational services to people interested in becoming walnut farmers. For market success, there are two additional critical factors: a) a credible "story" of the product (regional, traditional), and b) approved positive health effects/health claims.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: WALNUT SPREADS

BM #17

KEY PARTNERS

R&D:
- Colleges/universities for laboratory testing
- Designers to develop logo, packaging, corporate design
- Lawyer

Production
- Walnut cluster partners in the alpine region: production facilities close to cultivation areas: drying, cracking, sorting, etc.
- Part-time/ full-time walnut farmers as suppliers and/or franchise partners
- Suppliers of machinery and equipment (e.g. cracker machines) for production partners

Marketing & Sales
- Regional/local Influencers: pull strategy
- Organic stores, retailers and wholesalers as intermediaries in the sales channel
- Tourism Shops

KEY ACTIVITIES

In-house
- Development of Recipe
- Market analysis
- Packaging and design
- Developing service concept
- Quality assurance
- Brand: alpine Space Producers - "Community"
- Build Online Shop/Platform, Website
- Actualization of Online presence: Info-content (news/events), e-commerce, community building
- Network-Marketing: Events, Online
- Certification (Bio/Demeter/HACCP)
- Providing the producer group with information and consulting: Walnut cultivation consulting

In cooperation
- Food laboratory: sensory tests, reality/acceptance tests
- Managing IPR in cooperation with legal counsel

Outsourced
- Decentralized production via franchise partners from the alpine region in order to ensure that regional walnuts are used for each region. Cultivation, harvesting, bottling done by producer groups.
- Logistics

KEY RESOURCES

- Recipe
- Contracts for franchising system
- Access to raw materials like cocoa (bio & fair trade)
- Cracker machines with sorting system for franchisees
- Brand
- Designs (e.g., packaging)
- Capital

VALUE PROPOSITIONS

A tasty superfood spread with different flavors (sweet and savory, depending on the seasonality) made from regional walnuts. The spread can be enjoyed for breakfast or as a snack to give power to your body and your brain for a productive day. Comparable to already existing mass-market spreads but with a high focus on regionality (use of regional walnuts from alpine space), environmental sustainability (use of by-products, no use of palm oil, glass packaging) and social sustainability integration of people with disabilities).

CUSTOMER RELATIONSHIPS

- Personal contact and consulting at trade fairs and farmer's markets
- Tastings in regional supermarkets
- Online shop/web presence
- Regional/local influencers/testimonials

CHANNELS

Franchising (Indirect sales channels) – franchisees (e.g., from the alpine space producer group) …
- are provided with recipes, know-how, brand, packaging, designs, needed raw materials, etc. in a modular system. Franchisees add their own, regional walnuts and produce and market the final product.
- then sell either directly to the end customer (e.g., via farmer's markets, farm shops), indirectly through retailers (e.g., organic stores) or via wholesalers to B2B customers (e.g., hotels, breakfast/brunch cafés, food subscription offers like "Gemüse-/Biokiste" or "Hellofresh").

CUSTOMER SEGMENTS

B2B:
- Hotels
- Breakfast/brunch cafés
- Catering services

B2C End users:
- LOHAS (=Lifestyle of Health and Sustainability).
- Customers with medium to higher income with a high awareness for regional and sustainable food, who like e.g., brunching.

COST STRUCTURE

- Development costs (experimenting, prototyping, testing, tastings)
- Purchasing costs for raw materials (except walnuts → will be provided by franchisees)
- Costs to establish a network with suppliers and franchise partners
- Marketing expenses (e.g., advertising campaign, flyers, influencers)
- Costs to establish web presence
- Legal consultation (franchise contracts)
- Staff payroll

REVENUE STREAMS

- Fixed franchising fee from franchisees + variable compensation (% per sold unit)
- Franchisees offer subscription model to end customer: e.g., every month 1 glass will be delivered automatically until the subscription is cancelled. Customers can choose between different subscription packages depending on the household size and the frequency of use.
- Additionally, the walnut spreads can be integrated into other subscription offers (e.g., Hello Fresh, Gemüsekiste, etc.)
- Selling price: <5€ per glass, max. 300mg per glass

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AlpBioEco

Walnut Flips

Business Model #08

Value Chain: Walnuts

BUSINESS MODEL: WALNUT FLIPS

DESIRABILITY – DO THE CUSTOMERS WANT IT?

This BM is centered around a new, tasty, vegan, and low-carb snack made from walnuts. What is more, the used raw materials are by-products (waste products), which makes this snack more sustainable than existing, comparable products and supports the reduction of food waste in general. Walnut flips can be offered in different variations and flavors (e.g. salty, non-salty, alpine herbs) and thus offer the possibility to cater to individual preferences. It is typically a challenge for health-conscious and/or vegan consumers to find snacks that are healthy and yet satisfy their cravings. Additionally, walnut by-products even contain superfood elements. Thus, with these walnut flips, there is no need for consumers to feel guilty when snacking.

Regarding the customer segments, the walnut flips are suitable for both business-to-business (B2B) and business-to-customer (B2C) markets. Targeted end consumers include people with a healthy and sustainability-conscious lifestyle, those with special diets, consumers who highly value sustainable food, those who like to snack, or provide healthy snacks for their kids. End consumers can indirectly purchase the product via regional retailers, supermarkets, drugstores, cinemas, etc. What is more, they can buy the products directly at farmers' markets and the cooperative's online shop. Possible channels to reach these consumers include supermarkets, catering services, gastronomy businesses, airlines, railways, long-distance bus companies, school and university cafeterias, etc. In addition, the products could be licensed to large food producers, who would consequently add their own branding and take care of sales and marketing themselves.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

To implement this BM, a cooperative of full-time and hobby walnut farmers should be created. The key activities of this BM should be done in cooperation with close partners and/or handled by the farmers and the cooperative itself. A cooperation with universities and research institutions for food technology is necessary to develop the full product range with different variations and flavors and to develop the processes needed for production. Intellectual property issues (patents, etc.) should be handled early on in the development phase. Regarding production, a decision needs to be made between two viable paths.

One way to implement this business idea is to keep production in-house (within the cooperative) and take care of the entire value creation. Another way, which would allow for production on a large scale and create benefits from economies of scale, is to outsource production to a partner with an already established production line. The cooperative's marketing and sales strategy is consequently dependent on this decision. Regardless of who manages the production processes, it is essential to secure high-quality raw materials and monitor the quality level of the final products. Close collaboration with partners such as machinery producers and suppliers of packaging is key. The product packaging should not only fulfill eco-friendly standards but also product-specific characteristics, such as stability, low weight, protection against moisture, etc.

Depending on whether B2C or B2B companies are targeted, key activities such as branding and advertising need to align with the described unique selling points of the walnut flips. Sales representatives will be deployed to place the products at different sales points, such as cinemas or vending machines, to claim a space in the product range of organic stores and drug stores, and include it in the offer of catering services and businesses in the gastronomy sector. A general service hotline, handled by the cooperative, should be available to collect feedback and complaints in the after-sales period.

The main underlying revenue streams are based on sales per unit and licensing fees. Additional revenue potentials could be exploited by renting out machinery and production facilities to other walnut farmers. The implementation of this BM requires a high level of up-front investments into the development of the products and processes and purchase of machinery. Packaging and wages are further costs that need to be covered before the first revenues can be generated.

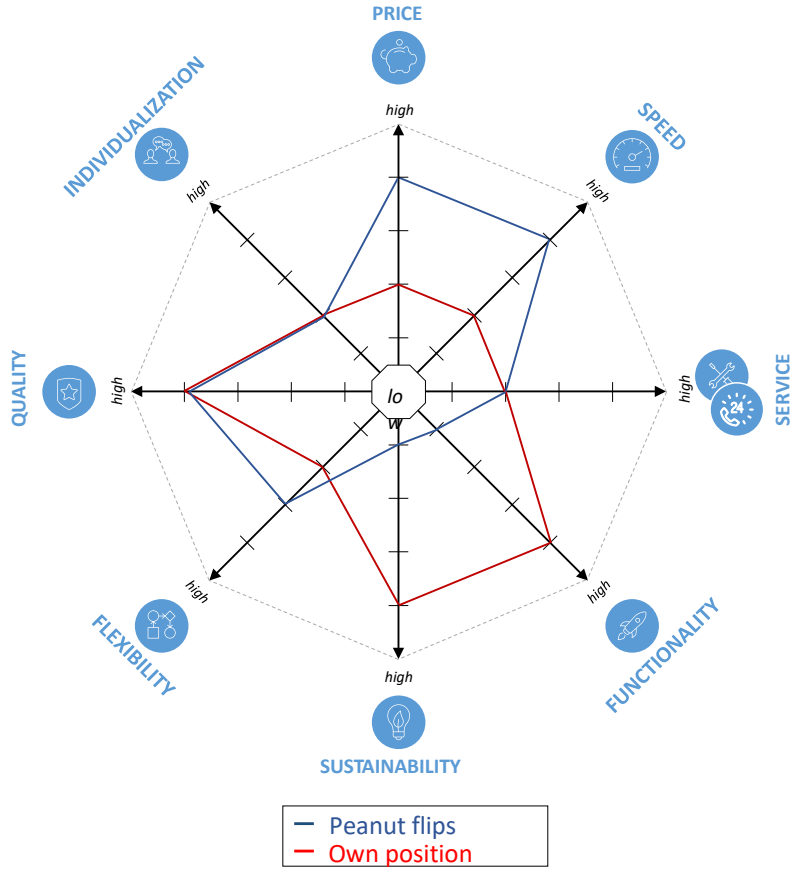
CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

For the product development phase, it is very important to ensure the long-lasting durability of the flips and to control the level of bitterness and color of the walnut by-products.

One of the most important decisions that needs to be made in order to implement this BM is the question of how to produce the walnut flips. Establishing an own production line, purchasing machinery, and setting up the production processes requires significant investments upfront. Another option would be to find a partner with an already established production line, who could take over the production and quality control. Regardless, the availability of raw materials (i.e. walnut oil cake and walnut pomace) needs to be secured. Considering that quality and sustainability are two of the main performance criteria of this product, it is absolutely key to produce at high quality and fulfill the sustainability claims.

In order to create a pull for the flips and consequently be included in the product range of large supermarket chains, the walnut flips should initially be introduced in regional or local supermarkets. Here, even though pricing is not one of the main performance criteria of this product, realizing economies of scale through large-scale production would allow for slightly more competitive pricing.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: WALNUT FLIPS

BM #08

KEY PARTNERS

R&D:
- Cooperation with universities and their students (e.g. Albstadt-Sigmaringen University, University Stuttgart-Hohenheim, MCI) for the development
- Product testers (tastings)

Production
- Suppliers of walnut oil cake → cooperative of full-time and hobby walnut farmers
- Suppliers of vigour (maize)
- Supplier of packaging materials
- Distribution partner
- Equipment and machinery suppliers (e.g. extruder → Thermo Fisher)
- Regional employees (staff)
- Food authorities, certification authorities

Marketing & Sales
- Wholesalers
- Retailers
- Sales channel partners
- Advertising agency / graphic designer

General
- Network partners
- Ministry for Rural Affairs

KEY ACTIVITIES

Product development (in-house):
- Develop different regional and/or seasonal recipes by conducting test series, experiments, and tastings

Process development:
- Develop production procedure for basic end-product (e.g. temperature, pressure, processing, conditions, settings)
  → Press cake + vigour (95% maize) + seasoning + extrusion = Flips

Production:
a) Done in-house
b) Together with a partner with an established production line

Marketing & Sales:
- Depends on production and sales strategy
- Manage licenses for white-labeled products
- Develop branding and advertising (logo, social media, etc.) for own branded products
- Sell directly
- Establish and coordinate sales channels
- Develop a shipping and logistics network
- After-Sales customer service hotline

KEY RESOURCES

- Product recipes
- Production process know-how
- Raw materials (walnut oil cake, vigor/maize from organic farming, spices)
- Infrastructure (factory, warehouses, …)
- Machinery and equipment (e.g. extruder)
- License agreement, brand identity, IPR
- Access to markets and sales channels (network)
- External certifications (quality, bio, etc.)
- Funding

VALUE PROPOSITIONS

It is difficult for health-conscious and/or vegan consumers to find snacks that are healthy and yet satisfy their cravings. Walnut flips offer a new, tasty, vegan, and low-carb snack made from walnuts. As walnut flips are based on walnut pomace and walnut oil cake, which are leftover by-products, this snack is more sustainable and much healthier than already existing and comparable snacks. Thus, there is no need for consumers to feel guilty when snacking. Walnut flips can be offered in different variations (salty/non-salty) and regional and/or seasonal flavors (e.g., alpine herbs).

Functionalities:
- Vegan
- Low-carb
- Healthy
- Contains superfood elements
- Sustainable use of by-products

CUSTOMER RELATIONSHIPS

- Constant contact with B2B channels through sales representatives
- Service hotline (via phone and email) to collect feedback and complaints
- Regular presence on social media channels
- Direct contact with end customers on (weekly) farmers' markets

CHANNELS

B2B:
- (Regional) wholesalers
- Gastronomy suppliers
- Party catering services
- Gastronomy (e.g. hotel bars, cocktail bars, etc.)
- Airlines, railways & long-distance buses (e.g. Flixbus)
- School & university cafeterias
- Organic stores and drugstores (on-/offline)
- Cinemas
- Snack machine companies

B2C:
- (Weekly) farmers' markets
- Online shop

CUSTOMER SEGMENTS

B2B Licensees:
- Large food producers (e.g. Bahlsen, Loacker)

B2C End consumers:
- Members of the LOHAS (Lifestyle of Health and Sustainability) segmet
- Consumers with special diets (e.g., vegetarians or vegans) or dietary needs (e.g. low fat)
- Consumers who highly value regional and sustainable food,
- Consumers who like to snack (e.g. while watching movies, when having guests, etc.)
- Consumers who want to provide healthy snacks for their kids

COST STRUCTURE

- Costs for laboratory tests (approx. 50.000 €)
- Costs for tests and tastings of different flavors
- Costs to rent production building and warehouse
- Investment costs for machinery: cracking machine, oil mill, extruder (80-100.000 €), packaging machine (in total min. 1.000.000 €)
- Development costs
- Costs for raw materials
- Production and packaging
- Wages/staff payroll
- External consultants: advertising agency, web-shop provider

REVENUE STREAMS

- Main revenue stream: sales per unit
- Licensing (e.g. Pringles): produce the flips, add license fee, and let other companies brand the product
- Additional revenue potentials through renting out the machinery (e.g. oil mill, extruder and through a deposit system for packaging units (tin, glass, etc.)

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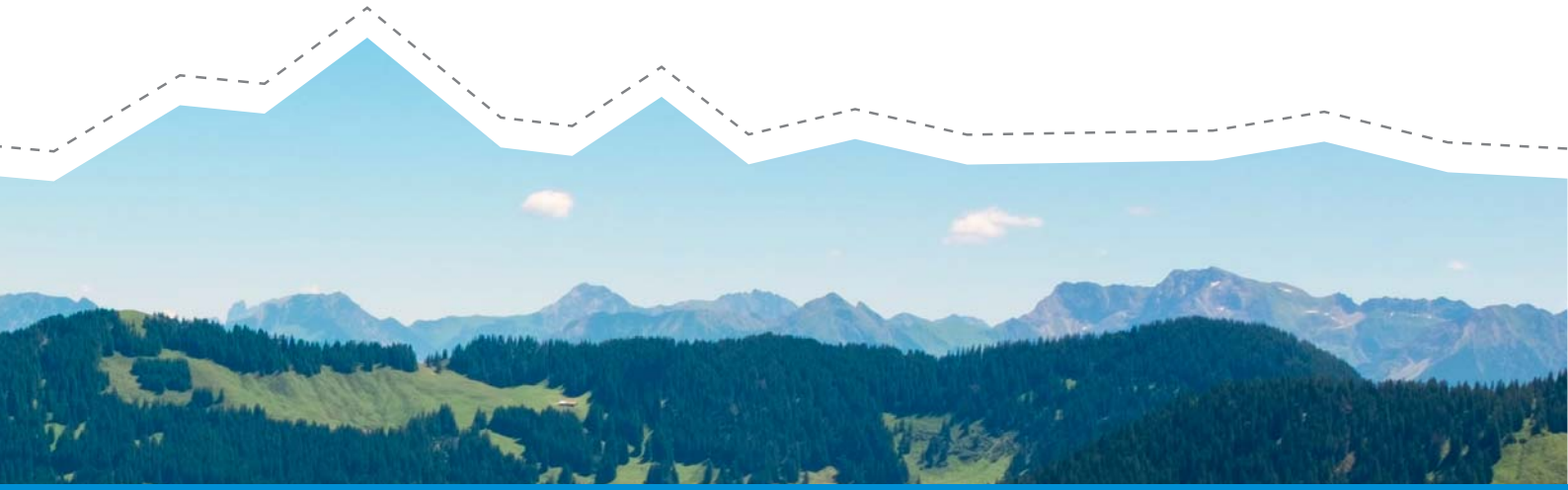
AlpBioEco

Revegetation Service with Alpine Hay Seeds

Business Model #21

Value Chain: Herbs



BUSINESS MODEL: REVEGETATION SERVICE WITH ALPINE HAY SEEDS

DESIRABILITY – DO THE CUSTOMERS WANT IT?

After large construction projects like installing ski lifts, large infrastructure projects, the construction sites need to be renaturated. This requires robust seeds which – for the example of scarps – also should offer sufficient stabilisation to prevent landslides. With the increased requirements on securing and re-increasing biodiversity, mono-cultural revegetation will step-by-step be replaced by multi-cultural seeds that help to increase urban biodiversity. Similarly, increasing demands for sustainable, CO2-neutral buildings call for new greening solutions for facades and flat roofs that help to provide cities from heating up during summer, and which help to improve air quality by storing CO2 and NO. Revegetation usually is in the responsibility of the construction managers or the building contractors, but it is not in their core competence. This often results in second-best solutions which refer to the most widely used or cheapest solutions instead of the most functional and most sustainable solutions. At the same time, alpine farmers in the alpine space face the need to valorise their alpine meadows / the alpine hay which they have to harvest once a year to pay their part in prevailing the landscape cultural heritage of the alpine ecosystem. This BM blueprint on a revegetation service addresses the demands from both sides. It offers a full service from harvesting/selecting regional seeds from regional alpine hay to cultivating the renaturated fields. As a one-stop-shop service it plans, manages and executes the whole revegetation for the construction manager and brings back the nature and biodiversity which is appreciated by neighbours, communities and other stakeholders alike. The revegetation service can also be applied to rooftop greening at large (office), luxury or zero-emission buildings, thereby providing some recreational space for employees/residents or storing CO2 and NO to improve air quality in urban areas. For every revegetation, regional alpine hay seeds from nearby fields are used, as these seeds are adjusted to the regional habitat, thereby making them more robust and improving the quality of the revegetation. Moreover, revegetation with regional alpine hay seeds is advantageous for bee and other insect populations. Alpine hay roots deeper than other herbs and therefore serves also as a protection for landslides. To reach B2B customers (e.g. construction companies, real estate developers, municipal governments), trained network partners in public gardening services, architects or landscape gardeners are needed which help to promote and distribute the product-service bundle. Additionally, tender offers, show homes/prototypic installations and the presence at relevant trade fairs for gardening and construction are possible channels. Finally, to push direct selling, a network of trained sales representatives from the region is required. When being more mature, the BM could also be extended into the private customer segment of high-income / highly sustainability-oriented homeowners who search for superior greening performance in terms of robustness, sustainability, personnel reputation, and regional support for farmers. To establish and maintain customer relationships, continuous collaborations with municipal/public decision-makers, engineers of construction and renaturation as well as from alpine landscape conservation would be needed. To support these activities, information material, information seminars, training offers or cultivation consulting could be offered.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

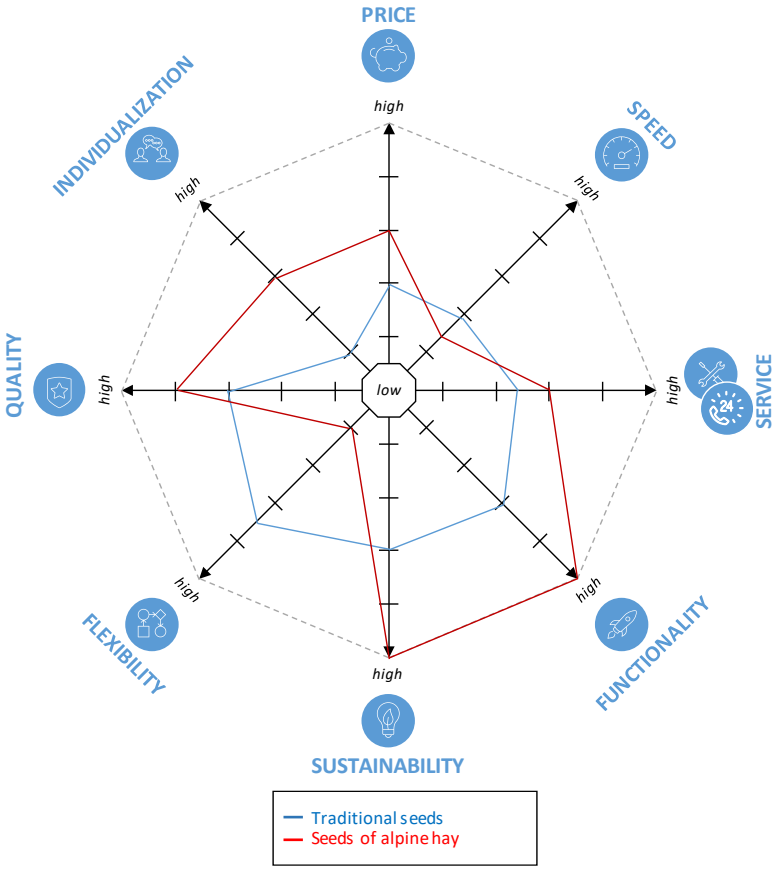
Regarding the technical part of the new product/solution, key activities are the harvesting of regional seeds (either make or buy from other alpine regions) as well as the cultivation of renaturated areas. Besides this, a thorough quality assessment is needed both for revegetation and seed production/ processing. Another crucial issue is the storage of seeds. They can only be harvested during a couple of weeks in the year, so the processing is focussed on this period as well. The processed seeds can then be stored for a maximum of three years before they lose germinability. Storage of seeds could either be done decentralized at each farmer or – to improve availability and flexibility – centrally at the service providers' storage. In terms of management, key activities are building networks to relevant decision-

makers, acquisition of demonstrator projects with high visibility, developing the corporate brand and storytelling to increase public awareness for the alpine seeds. Internal key resources would be the collaborative network of alpine hay farmers, the corporate brand, as well as the network to municipal decision-makers. Additionally, building up a database with classified fields/areas of alpine hay would be helpful. External key partners are the provider of the harvesting machinery and equipment ("e-beetle") located in Switzerland (and getting access to machinery usage), a network of architects and construction engineers, a network of landscape gardeners in order to scale the aftersales-services of cultivation. Finally, for those seeds being stored for more than 3 years which can thus not be used for revegetation anymore, a network of B2B partners needs to be established, who can make use of these non-germinable seeds (e.g. paper mills, producers of animal feed). Major costs are likely to emerge for machinery and equipment, maintenance and repair costs for existing plants, storage costs, as well as customer acquisition. Revenues can be generated a) by selling the physical germinable seeds (e.g. approx. 100-140 Euro/kg) only, b) by offering revegetation services packages (e.g. consulting + planning + planting, optionally plus aftersales like regular cultivation or plant care flat rates). Non-germinable seeds (older than 3 years) can be sold to paper manufacturers and/or producers of animal feed.

CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

As the building and construction engineering business – as well as municipal decision-makers – are rather static, highly regulated, and conservatively oriented in doing business, the crucial point is to a) make them aware of the superior features of this new solution, and b) obtain scientific approval of these functionalities. Alpine farmers should be comparably easy to convince about the BM, due to the pressure to put their alpine hayseed into economic value. Another critical factor is the timing and harmonization of the limited window for harvesting and processing of the seeds in the context of a decentralized network of farmers.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: REVEGETATION SERVICE WITH ALPINE HAY SEEDS — BM #21

KEY PARTNERS

Production / Service delivery

- Access to harvesting partners to buy regional seeds in other regions
- Supplier of machinery and equipment

Marketing & Sales

- Architects as testimonial
- Buyer of seeds (>3 years) which cannot be used for revegetation anymore (e.g. paper manufacturer, producer of animal feed)
- Maybe marketing agency (incl. graphic designer)

After-Sales Service

- Network of gardeners for scalability of after-sales cultivation

KEY ACTIVITIES

In cooperation

- Harvesting of regional seeds (either make or buy, depending on the region)
- Cultivation of renaturated fields

In-house

- Quality assessment of fields and areas
- Seed production and processing
- Seed storage
- Development of network to decision makers
- Project acquisition / tendering
- Branding, marketing (storytelling) and PR
- Creating awareness for the importance of regional seeds
- Revegetation of fields

KEY RESOURCES

- Technical know-how (how to harvest, how to store, how to renaturate, how to cultivate)
- Network to decision makers (e.g. architects)
- Stock of regional seeds to be able to respond flexible on requests
- Machinery and equipment (e.g. e-beetle)
- Database with classified areas/fields
- Funding
- Proven positive effects / success stories

VALUE PROPOSITIONS

After large construction projects like installing ski lifts or infrastructure projects, the construction sites need to be renaturated. This is the responsibility of the construction managers / the building contractors, but it is not in their core competence. This revegetation service offers a full service from harvesting/selecting regional seeds from alpine hay to cultivating the renaturated fields. As a one-stop-shop service it plans, manages and executes the whole revegetation for the construction manager and brings the nature back which is appreciated by neighbours, communities and other stakeholders alike. The revegetation service can also be applied to rooftop greening at large (office) buildings, thereby providing some recreational space for employees and residents. For every revegetation, regional alpine hay seeds from nearby fields are used, as these seeds are adjusted to the regional habitat, thereby making them more robust and improving the quality of the revegetation. Moreover, revegetation with regional alpine hay seeds is advantageous for bee and other insect populations. Alpine hay roots deeper than other herbs and therefore serves also as a protection for landslides.

Value propositions:

- Functionality: better performance than traditional revegetation solutions in terms of stabilisation and robustness
- Regionality: seeds from regional/local farmers
- Sustainability: short transportation, higher biodiversity

CUSTOMER RELATIONSHIPS

B2B:

- Constant contact with decision makers through sales representatives
- Consulting at trade fairs
- Cultivation service / consulting
- Trainings
- Billboards on renaturated construction sites

CHANNELS

B2B:

- Direct selling through sales representatives
- Tender offers
- Trade fairs for construction industry
- Show homes
- Architects
- Geologists / Landscape gardeners

B2C:

- Trade fairs for home-builders

CUSTOMER SEGMENTS

B2B:

- Construction companies
- Real estate developers
- Municipal governments

End-customers (B2C):

- Owners of “luxury” homes / villas
- House owners

COST STRUCTURE

- Machinery and equipment
- Maintenance and repair costs for existing plant
- Storage costs
- Staff payroll
- Customer acquisition costs
- Marketing costs

REVENUE STREAMS

- Two different service packages are available:
  - Revegetation only (consulting, planning and execution of revegetation projects)
  - Revegetation plus regular cultivation and plant care afterwards (service flat rate)
- Sale of germinable seeds (approx. 100-140 €/kg)
- Sale of non-germinable seeds to paper manufacturers and producers of animal feed

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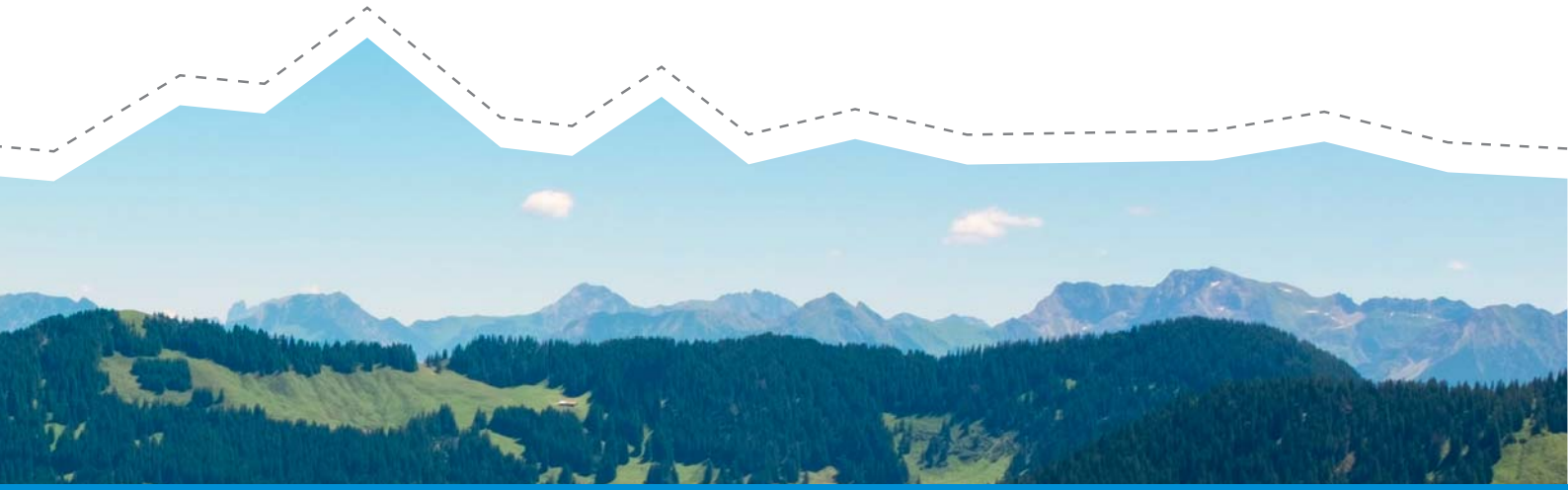
AlpBioEco

Herbal Pacifier

Business Model #02

Value Chain: Herbs



BUSINESS MODEL: HERBAL PACIFIER

DESIRABILITY – DO THE CUSTOMERS WANT IT?

The idea of this BM is to provide a new generation of baby pacifiers. Almost all parents use conventional pacifiers to calm their babies or toddlers in various situations, for example when they have stomach ache, toothache, fever, a cold, or when they are nervous or jittery before going to bed. However, conventional pacifiers do have one major weakness: they calm the baby but do not relieve it from its pains and discomforts. This new generation of baby pacifier, which is made from organic materials, wants to overcome this weakness by adding a dispensing function to the pacifier with which health-stimulating fluids like herbal oils can be infused. This integrated dispenser is exchangeable and refillable and allows that herbal oils might be adapted to the toddler's needs (e.g. different herbal functions depending on mood, medical condition, age / development stage, etc.). Such herbal oils build on conventional naturopathy and traditional recipes of household remedies that were passed on from generation to generation. Moreover, in the next development stage, the dispenser could also be used to constantly dose medicine to the toddler when needed (e.g. overnight application of cough syrup). Furthermore, this new pacifier could offer superior functionality in terms of individualization. For example, the design of the pacifiers (e.g. boy/girl, colour, theme, etc.) as well as the size and shape of the pacifier (e.g. age, jaw, hardness) could be individualized. Hence, customers could either purchase a standardized pacifier from the shelf, order a semi-customized (individual design) or a fully customized pacifier (3D-fit). This superior functionalities can be paired with ecological and social responsibility. Pacifiers as well as the packaging can be made from organic and bio-degradable materials (Russian dandelion milk caoutchouc from South Tyrol, bio polymer, herbal oils) sourced regionally and under fair trade principles. Furthermore, this BM might build on the one-for-one system: for every sold pacifier, one pacifier is donated to a family in need. By purchasing this pacifier, customers automatically become sponsors for underprivileged toddlers. Also, "pacifier trees" can be planted, where children together with their parents could hand off their used pacifiers by hanging it on the tree once they do not need it anymore.

Overall, this BM targets parents with medium to high incomes who live in a lifestyle of health and sustainability (LOHAS) and have babies and toddlers between 0-24 months. They will be able to purchase the pacifiers as well as the herbal oils in retail stores (retailers of baby supplies and toiletries, organic stores, drugstores), as well as via pharmacies, hospitals, doctors (paediatricians, orthodontists, etc.), midwives and naturopaths. Additionally, customers can use an online configuration tool either directly at the store or from home with a click & collect system.

FEASIBILITY – HOW CAN WE MAKE IT HAPPEN?

The implementation of this BM builds on several key activities. For the pacifier, the individual parts (mouthpiece, lid and dispenser) need to be produced through an injection moulding process and then carefully assembled, packaged and dispatched. For the health-stimulating fluids, essential oils need to be extracted from regional herbs, mixed according to traditional recipes and bottled in exchangeable dispensers that complement the pacifiers. From a production management perspective, there are two crucial activities. On the one hand, production processes need to be flexible in order to be able to manufacture semi-customized or fully customized pacifiers based on the data provided by the online configuration tool (click & collect) or by orthodontists, paediatricians and dentists about the individual size and shape of the pacifier. On the other hand, a reliable quality assurance process has to be established for the production of both the pacifier and the herbal oils (e.g. to assure that no parts of the pacifier break loose which could cause a toddler to choke). In terms of marketing and sales management, it is important to get access to and constantly nurture the relationship with sales partners (e.g. retailers, but also hospitals, doctors, midwives, etc.). Especially at the beginning, this will require a lot of effort to persuade, support and align potential sales partners. Sales representatives will provide the sales channel partners with product trainings and promotional material, support them in dealing with

special requests by customers, and take care of complaints and after-sales services. Overall, it is important that the company philosophy of sustainability and social responsibility is reflected in all activities. Internal key resources would be the technological know-how as well as the production technology, the recipes for herbal oils, a corporate brand, the online configuration tool as well as access to sales channels. External key partners are therefore reliable suppliers of Russian dandelion milk and regional herbs farmers, research institutions and experts in the field of (bio-)chemistry and orthodontics, as well as a network of dentists, paediatricians, orthodontists, naturopaths, midwives and pharmacists who are convinced by the product and might serve not only as sales partners but also as brand ambassadors and testimonials. Also a logistics partner is needed to take care of delivering standard orders as well as (semi-)customized click & collect orders.

The implementation of this BM requires an initial investment for R&D, product development, certifications and market approval, intellectual property rights, premises and infrastructure, production and packaging machinery and other start-up costs. Besides this initial investment, running expenses for raw materials, staff, marketing, retail placement and commissions for referrals, licence fees and royalties (e.g. for use of Disney characters), warehousing, and for charity and CSR activities have to be taken into account.

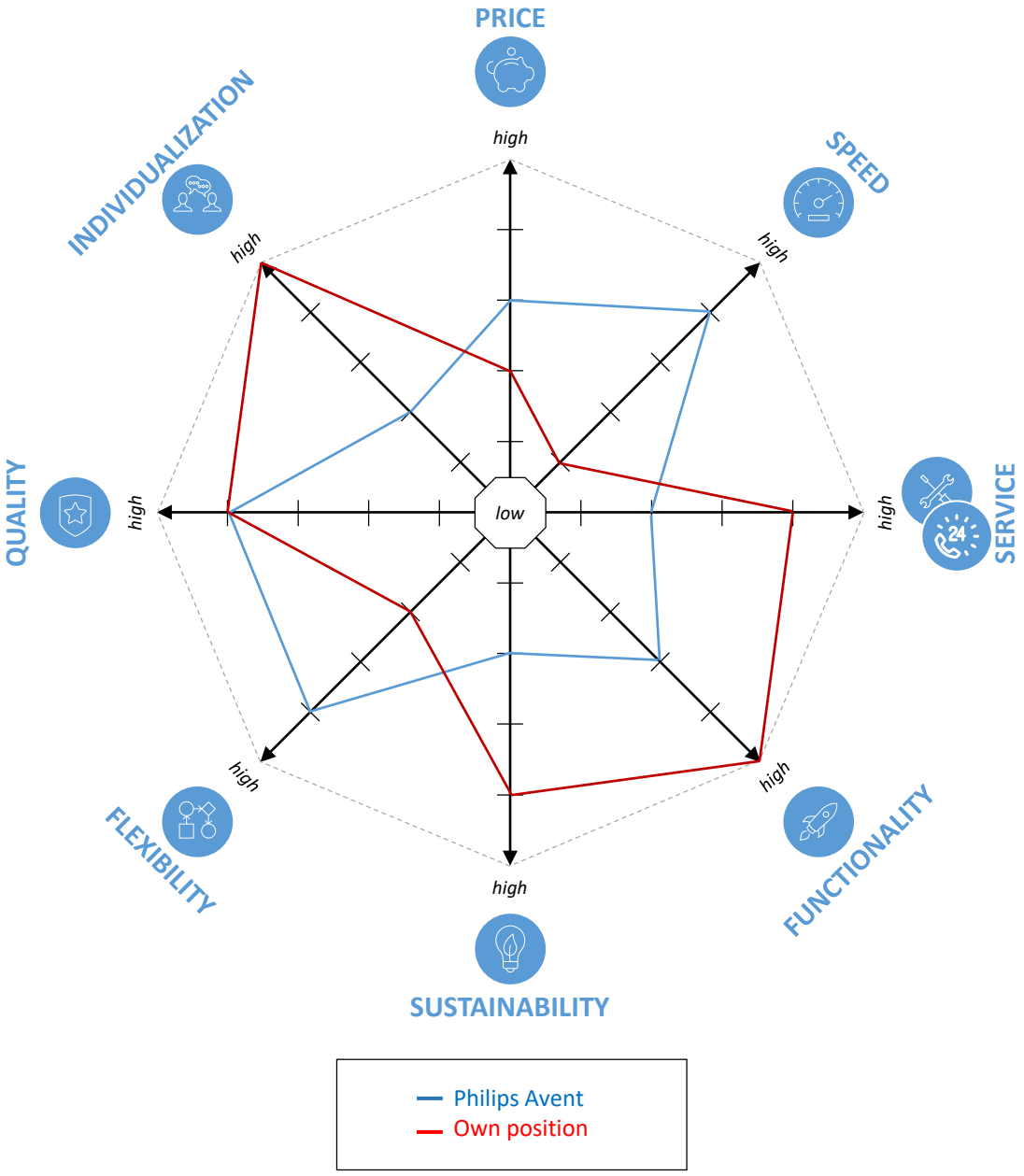
In order to cover these investments and expenses, the BM comprises two main revenue streams:

1. Sale of pacifiers: pacifiers are sold per unit. A discount is granted for loyal customers who upgrade to the next pacifier size. Add-on pricing applies to semi-customized (design) and fully customized (3D-fit) pacifiers.
2. Sale of refillable herbal oils: customers can choose from a range of different herbal oils with varying functionalities. Herbal oils are sold per unit in small capsules as refill packages. For sustainability reasons, empty capsules can be returned to the point-of-sale (deposit system). After a successful product launch, the revenue model for herbal oils can also be shifted from sales per unit to a subscription model.

CRITICAL POINTS TO CONSIDER – WHAT SHOULD WE KEEP IN MIND?

As the product/solution behind this BM is still at an early stage, some critical points have to be considered regarding product development and product launch. First, the success of the BM strongly depends on the technical feasibility (e.g. precise dosing of herbal oils, hygiene) and market approval. Hence, for a proof of concept, rapid prototyping and the development and testing of a minimal viable product is crucial. Second, a cooperation with experts is needed in order to test for long-term and side effects of the substances, which is the basis for market approval. Third, market and consumer acceptance has to be considered since this product idea is a technology push. It has to be identified as early as possible, if parents (=decision makers) would actually be willing to expose their children to a constant dose of herbal substances. Therefore, it is important to convince the sales channel partners as parents usually trust dentists, orthodontists, paediatricians, and midwives and will follow their recommendations.

PERFORMANCE CRITERIA – HOW COULD WE POSITION OURSELVES AGAINST COMPETITION?



BUSINESS MODEL: HERBAL PACIFIER

BM #02

KEY PARTNERS

- Network of dentists, orthodontists, paediatricians, midwives, pharmacists and naturopaths
- Research institutions to test long-term and side effects
- Experts in the fields of (bio-)chemistry and fragrances
- Testimonials and brand ambassadors
- Network of regional herb farmers
- Network of suppliers of Russian dandelion milk caoutchouc from South Tyrol (TARAXACUM KOKSAGHYZ)
- Logistics and distribution partners

KEY ACTIVITIES

- Standardized / semi-customized / fully customized production of individual pacifier parts (injection moulding process)
- Assembly of individual parts and individual/ medical configuration
- Packaging and dispatching of assembled pacifiers
- Development and impact testing of mixtures and recipes for substances
- Extraction of essential oils from regional herbs
- Mixing of substances according to traditional recipes
- Bottling and dispatching of refillable dispensers
- Quality assurance
- Building and managing a corporate brand
- Establishing and expanding network of sales partners
- Supporting, training and advising sales partners
- CSR activities (e.g. administration of one-for-one donation initiative)
- Sustainability assurance (e.g. development of standardized guidelines for certified raw materials)

KEY RESOURCES

- Technological know-how
- Production technology (e.g. injection machines)
- Infrastructure
- Recipes for herbal oils and substances
- Corporate brand
- Online configuration tool
- Access to sales channels
- Access to supplier network
- Market approval and certificates

VALUE PROPOSITIONS

Almost all parents use conventional pacifiers to calm their babies or toddlers in various situations. However, conventional pacifiers do have one major weakness: they calm the baby but do not relieve it from its pains and discomforts.

This new generation of sustainable and customizable pacifier made from organic materials has an integrated dispensing technology to infuse herbal oils with health-stimulating or pain relieving effects depending on the toddler's needs.

Herbal functions:
- Night and day
- Seasons (Winter-Spring-Summer-Autumn)
- Functions (toothache, cold, cough, immune system strengthening, etc.)
- Development stages (e.g. teeth)

Individualization:
- Lid functions: age, jaw, hardness etc.
- Design: boy, girl, colour, theme, etc.

Sustainability:
- Protective cover made of biopolymer
- Exchangeable and refillable essential herbal oil dispenser
- Mouthpiece: Russian dandelion milk caoutchouc from South Tyrol (TARAXACUM KOKSAGHYZ)
- Lid and holder made of biopolymer
- Polymer functions: Hard-soft jaw specialists
- Recycling/Upcycling of used pacifiers
- Supply chain designed under fair trade principles
- Possible backtracking of materials used

Social responsibility:
- Donation: Each sold pacifier is matched by a donated pacifier for a child in need
- Articles of association contain CSR strategy

CUSTOMER RELATIONSHIPS

- Online configuration tool
- Configuration tools in retail stores (shop-shop)
- Return stations for used pacifiers (e.g. pacifier tree)
- Upgrade to next size once necessary
- Service hotline
- Indirect customer relationship through sales representatives who support and advise sales partners (e.g. hospitals, doctors, etc.)

CHANNELS

- Distribution of standardized pacifiers via retailers of baby supplies and toiletries as well as via Reformhaus, organic stores and drugstores
- Distribution of semi-customized pacifiers via online configuration stations in retail stores and from home via website (Click & Collect)
- Distribution of standardized, semi-customized and fully customized pacifiers via pharmacies, hospitals, midwives, naturopaths and doctors (e.g. dentists, orthodontists, paediatricians)

CUSTOMER SEGMENTS

End customers: parents with medium to high incomes who live in a lifestyle of health and sustainability (LOHAS) and have babies and toddlers between 0-24 months

End user: babies of age group 0-6 months/6-12 months/12-24 month

COST STRUCTURE

- R&D expenses and product development costs
- Patent costs and trademark protection
- Consulting costs (experts)
- Start-up costs
- Real estate, rent, facilities and infrastructure
- Machinery (production, packaging, bottling, etc.)
- Certification, quality control, traceability
- Staff & staff appliances
- Costs for raw materials
- Logistics and warehousing
- Marketing costs: website, CI, digital marketing, SEO, sponsoring
- Retail placement (shop-in-shop fees)
- Commissions for referrals (influencers, etc.)
- License fees for brand use (e.g. Disney characters)
- Royalties
- Sales and CRM tools
- Sales representatives
- Charity and CSR initiatives
- Process costs for pacifier return

REVENUE STREAMS

- Sale of pacifiers:
  - Sales per unit
  - Discount for upgrade to next size
  - Surcharge fee for individual configuration
  - Add-on pricing for full customization (3D-fit) or semi-customization (design)
- Sale of refillable essential oils:
  - Sales per unit in small capsules
  - Refill packages
  - Deposit / return system for empty capsules
  - Potential next step: subscription model instead of sales per unit

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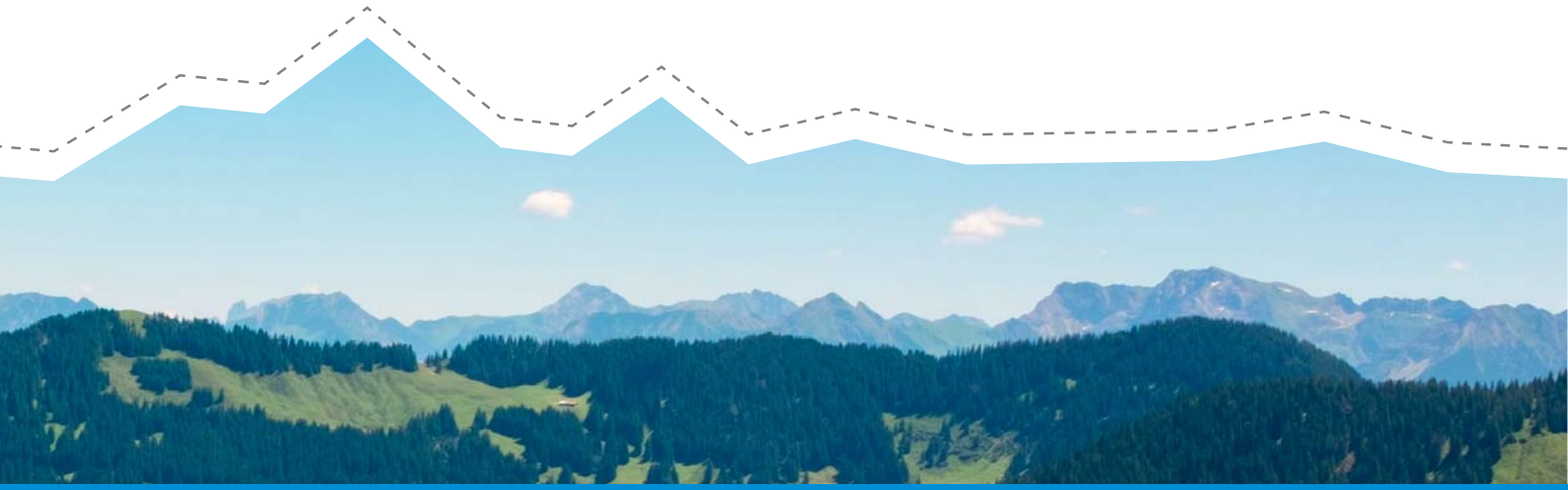
AlpBioEco

Digital Service Platform

Business Model #03

Value Chain: Apples – Walnuts – Herbs



BUSINESS MODEL: DIGITAL SERVICE PLATFORM

DESIRABILITY – A MULTI-DIMENSIONAL VALUE PROPOSITION

The idea of this platform BM is to create a new and innovative virtual online marketplace for apples, walnuts, and alpine herbs. On the one hand we can state that such an innovative eco-system of alpine herbs, apples, walnuts is a complex system which faces different challenges in terms of product range, technology, and stakeholder management; on the other hand it provides some outstanding advantages compared to traditional business models. This platform should help to overcome typical hurdles and challenges in the value chains of apples, walnuts, and herbs:

- Fragmented, non-transparent markets (many small/regional providers)
- Missing critical masses / no scalability for (limited regional scope)
- High market power of wholesalers and intermediaries
- High transaction costs for customers to find suitable solutions/providers
- No / loose connections between stakeholders

This virtual marketplace is a peer-to-peer platform model which directly connects all relevant stakeholders in a value creation network. It aims to serve as a one-stop-shop for the exchange of information, experiences and ideas (e.g. recipes, traditional household remedies, new applications, etc.), unprocessed raw materials (e.g. fresh apples, walnuts and herbs, but also by-products like apple pomace) as well as finished products and services related to the value chains of apples, walnuts and herbs (e.g. apple flour, walnut flips, herbal pacifier, etc.). Hence, the platform should be the home base for a community of relevant stakeholders. It is far beyond the traditional pipeline-oriented industry focus – it extends traditional value chains and offers innovative applications and services in new cross-industry value chains.

By enabling market transparency, easy access for every stakeholder, and direct transactions of goods and services between participants (by e.g. avoiding wholesalers or intermediaries) this platform allows to bypass the market power of traditional wholesalers and/or retailers and therefore offers opportunities to small- and medium-sized producers and service providers. With the unique online offering both local-regional sourcing and global selling can be combined.

The initial idea is to start with the value chains of apples, walnuts and herbs, to pivot alternative product-customer-fits, and to reach as soon as possible a critical mass for a cost-efficient and profitable market place. In terms of scalability the initial offering can easily be extended to other value chains as well as a broader range of products and services in a second stage.

This virtual peer-to-peer marketplace offers advantages for all relevant stakeholders. Their specific interests, relations, and expectations are described below.

CONSUMER PERSPECTIVE

The stakeholder group ‘consumer’ is rather heterogeneous in terms of age, sex, income, marital status etc. However, there seems to be a common mind-set regarding sustainable life, organic nutrition, natural medicine, regional sourcing, and fair value etc. Hence, the so-called LOHAS (people who appreciate the lifestyle of health and sustainability) either with middle or high income are a very promising target group. Based on these assumptions the critical shared values have to be continuously addressed and assured by platform communication management. For consumers, transparency, sustainable, regional products and services are cornerstones for building trust and appreciating fair value. The platform must provide a superior offering ideally with the relevant information about organic roots, sustainable and healthy life. If the carbon foot print is somehow acceptable and can be argued the above mentioned target group could be extended to potential LOHAS living far away from the alps.

For consumers the main benefits of the platform are the easy exchange of information, the convenient access to a wide variety of products/services, the increased market transparency (product offerings can easily be found and compared) and consequently the reduced transaction costs to find suitable products/services/providers. In order to avoid a dilution of these benefits, the platform providers need to carefully consider and guarantee transparency and usability in getting the right product/service/information. This involves reducing complexity by structuring content and processes. Also an AI-based, data-driven "match maker" could be helpful to support consumers in finding the desired product/service/information/solution.

An important success factor from a consumer perspective is the network effect: the larger the number of products and services offered, the more attractive it is for consumers.

PROCUCER PERSPECTIVE

The value chains of apples, walnuts, and alpine herbs comprise various potential products, services and applications for numerous industries and consumer markets. Hence, the stakeholder group 'producer' shows a colourful picture of various members: the group consists of farmers, entrepreneurs, small-/medium-sized/large manufacturers, retailers, and service providers – not only in one industry, but in several industries with cross-functional relations.

The main benefit of this platform from a producers' perspective is the possibility to enrich the traditional value chain, which typically looks like this (simplified): farmers and entrepreneurs harvest their apples, walnuts or herbs and offer fresh or processed/dried/heated ingredients, substances or parts either to private consumers or to cooperatives, manufacturers, wholesalers or retailers. In most cases, the business has a local or regional scope and often the added value is generated and captured by a stakeholder at the downstream end of the value chain.

However, with such an innovative marketplace, producers are able to combine traditional local (offline) business with modern online business. There are far more attractive options for suppliers and producers:

- Farmers can foster direct sales either for finished products or processed products with higher margins than before.
- If products are not fresh, but dried, heated or somehow processed they are durable for a longer time period; this simplifies trans-regional and global shipping – an opportunity for farmers, entrepreneurs and professionals.
- In case of cooperatives the established producers pool their harvests. Due to size and professional business intelligence, cooperatives should be able to address new markets and customers by joining the platform. As a consequence sales and margins might increase.
- For specialized niche players and manufacturers the platform is an opportunity to enter further markets.
- Service providers have the chance to rethink or improve their positioning within their established industry or in related value chains. In any case they can partly digitize their businesses, which might lead to economies of scale and higher revenues.

All in all, from producers' perspective, the platform model provides a better visibility among customers and (prospective) business partners worldwide, it allows easy access to (new) markets, provides critical masses, enables scale and growth effects, and it has the potential to increase revenues and profits.

Again, the network effect is a critical success factor: the more consumers/traffic are/is on the platform, the more attractive it is for producers.

PARTNER PERSPECTIVE

Peer-to-peer platform business works differently than the traditional pipeline business, where typically only two parties are involved: a producer or retailer delivers a defined product or service and the consumer pays for it. A platform typically works on the basis of a value creation network which integrates several partners and service providers.

For example, the consumer orders a product online from a producer and pays for it via a payment partner who guarantees a save financial transaction. The product is then directly delivered to the defined delivery address by a logistics partner. Neither the producer, nor the platform provider have to handle the order as all necessary steps are outsourced to specialized service providers.

For this platform, the most important partners are:

- IT partners (programming, further development and regular maintenance of the platform, etc.)
- Logistics providers (reliable delivery of sold products, handling of returns, storage, etc.)
- Payment partners (reliable handling of payment transactions, handling of refunds, etc.)

The main benefit for these partners is that they get a certain fee for the service that they provide (e.g. for every financial transaction).

Other potential partners for this platform could be:

- Certification authorities (certification of reliability/quality/originality of products/services)
- Marketing agencies (placing advertisements for their clients on the platform)
- Research partners (creation of content, publication of new research findings, etc.)
- NGOs (creation of content, information spreading, consulting, news reporting, etc.)

The main benefit for these partners is to achieve visibility and engagement as well as to establish credibility within the community. Again, the network effect is in place: more consumers and more producers mean more transactions, which is more attractive to partners.

OWNER PERSPECTIVE

The owner / management of the platform has to ensure a smooth functioning of the platform as a whole. This includes selecting and combining the right features and platform components (e.g. AI-based peer-to-peer matching), designing the user experience, customer journey management, constantly improving the platform and ensuring a smooth functioning. Moreover, the operational management and the promotion of the platform has to be taken care of. This includes network community building, market creation and marketing activities.

There are numerous alternatives to set up an online market place for alpine herbs & services: one way is to establish a business with financial investors who are more or less engaged in financial strategic decisions. Another model of ownership could be a cooperative – established by different stakeholders of the platform (e.g. producers, associations, institutional investors etc.). In any case, owners expect a certain return of their investment, a dividend or another benefit.

Compared to traditional pipeline businesses the profit formula of a platform is more sophisticated with various potential revenue streams:

- One revenue stream are commissions and fees, which depend on the number and volume of transactions.
- Another stream are revenues from advertising partners or partners who gain a certain benefit for themselves, when being listed on the platform.
- And, as seen on other third party platforms (anonymised) customer data might also be a source of profit.

To sum up: the revenue model depends on the attractiveness of the platform, the number of participants, number and volume of transactions and the value of content and data. However, the current market capitalization of digital platforms provide evidence that platform owners are winners in modern economy.

FEASIBILITY – CRITICAL POINTS TO CONSIDER

Online platforms meanwhile exist for many years in almost every industry. The opportunity to establish a platform for the value chains of apples, walnuts, and herbs is given. Feasibility from a market and technological perspective is assured. There is even the chance to extent the product range to other agricultural products in the alpine space. The critical factor is not the physical product on the platform (there are numerous competitive traditional markets), but the critical factor is to provide the whole information and service package from raw materials to new active substances, ingredients and products. Information and communication are crucial aspects of modern online business and – in contrast to traditional offline businesses – the reach to contact potential customers is not only local but trans-regional, even global.

Customers' benefit could be seen in supporting a modern sustainable and healthy lifestyle by lowering the barriers and transaction costs along the value chains. It is crucial to not only claim but also deliver this promise.

Hence, for a successful implementation of this platform BM, we recommend a stepwise approach:

1. Get first consumers' interest and trust via true and valuable information. They should easily get access to the relevant fields of interest ("usability") and become curious about the different offerings.
2. Evaluate the willingness to test the product or service – either in form of a freemium-model or a special offer and win customers' trust and satisfaction.
3. Convert the first contact into a permanent relationship via word-of-mouth recommendation and repeated purchase. With word-of-mouth stimulation the customer base can efficiently be pushed towards growth.

Once the offering is attractive for the target group, the question arises how the conversion from information seeking to ordering or booking can be managed. The following example may illustrate this challenge: if an interested person (or group) seeks for information about herbs, health effects or medical applications this person (or group) can be tracked. Those people who go further and test and/or buy a service or product must be serviced to buy not only once but steadily. By analysing the online customer journey the platform generates information about prospective customers and 'real' customers (who generate future value). In this case platform managers, data scientists and sales professionals must collaborate and target the different customer groups. The conversion from 'just information' to 'value-selling' is one critical success factor.

Growth and size are further success factors of platforms to reach the critical mass and network effects: especially in the early stage it is important to achieve the critical mass – the critical mass of products and services, the critical number of customers and producers - to sum up: to get enough traffic on the platform which is measured by the number and volume of transactions. Due to digital network effects this is the enormous chance to set up a successful attractive platform. The higher the number of customers, the more attractive it is for the supply side and associated partners. The increase of relations and transactions between buyers, sellers, and partners is not linear but exponential. This is the so-called network effect of platforms. And if a platform has the best offering it gets the highest demand. In other words: the winner takes it all. Therefore – apart from the operative platform business – the platform management must continuously communicate the philosophy and the mission statement of this initiative for natural, valuable alpine products. Sustainability, transparency, communication, safety and trust building initiatives are crucial for a successful platform business in the alpine space.

BUSINESS MODEL: PLATFORM

BM #03

5. CONCLUSION

The results of this report show, that the research project AlpBioEco succeeded in developing 6+1 eco-innovative BM blueprints for the alpine bio-economy sector. During the workshops, as well as resulting from the analysis on critical success factors of eco-innovative BM innovation (see deliverable 2.3), it turned out that consistent and transparent implementation of sustainability and regional features is of extraordinary importance to obtain credibility and consumers' acceptance. In all BM blueprints, this aspect is reflected in the interplay of various fields of innovation combining new product functionalities with complementary processes (e.g. manufacturing, supply and delivery logistics), services, and marketing activities.

Furthermore, some of the business models can be targeted, respectively scaled, to different market segments and customer groups (e.g. B2B → B2C; B2C → B2B). The market entry strategy chosen during the pilot implementation will be depending on the final business venture consortium and the individual goals and resource endowments of the partners involved. Examples of such factors are, besides others, the access and availability of organic resources (especially Walnuts are still limited in their availability in the alpine space to date), legal questions and pending regulations, as well as scientific approval of health-promoting functionalities. Because some of the involved business models still require a lot of technological research and development, their successful implementation also depends on the access to public funding and/or venture capital. Due to the involvement of multiple stakeholder groups and accounting for their future needs, the chances of gaining market acceptance can be considered quite positive.

Finally, the developed workshop concept for developing eco-innovative business models has been successfully tested and validated. To make it accessible and usable for other firms, research organizations, and intermediaries in the alpine space, the concept will be submitted to a peer-reviewed journal as well as being included in transfer activities of the AlpBioEco project. During the workshops, several lessons learned were identified:

- To win regional stakeholders as participants and increase their commitment, it is beneficial to have local partners (e.g. intermediaries, universities, larger companies) that activate their networks and can contact adequate actors.
- Diversity and heterogeneity of the participants turned out as a major success factor for the workshops. Those workshops with a well-balanced composition of stakeholders from food technology, management, and start-up facilitation, research, and intermediaries showed richer results in terms of novelty, sustainability, and feasibility.
- Starting from future trends and translating them into future market demands helped to establish a user- and value-centered perspective in the workshops instead of starting from a technology-push approach. Thereby, the creation of shared and sustainable value for the regional partners build the basic principle of all BM blueprints.
- Nevertheless, the circumstance that the workshops were scheduled in a quite time-consuming format (4 hours in the first, respectively 8 hours in the second sequence), especially for participants from private business, the timeframe was really needed to ensure for thorough discussion and refinement loops of the BM blueprints.
- Finally, while the first workshop sequence focused on single value chains to develop new ideas and value propositions, the combination of two different value chains in the second workshop sequence provided an enormous value of shared expertise and synergies when it comes to the design of value-creating architectures and profit models. This is also caused by the fact that different product ideas from the individual value chains resulted in similar value chain architectures and revenues models at the end.

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APPENDIX

A) Glossary for Radar Charts

Flexibility	e.g. flexible production & delivery amounts, high variety, short responsetimes and decision-making …
Functionality	e.g. functional scope, novelty of functions, unconventional, "WOW factor"…
Individualisation	e.g. customer specific development, personalisation, made-to-order production…
Price	e.g. cost leadership, low development & production costs, economies of scale…
Quality Service	e.g. materials, accuracy, durability, simplicity, reliability…
Speed	e.g. with purchasing, during use, with follow-up investments, waste management, education & qualification…
Sustainability	e.g. short development times, fast delivery, rapid processing…
	e.g. low resource and energy consumption, health promoting, waste management and recycling, easy repairs, CO2-footprint logistics…

APPENDIX

B) Business Models based on Workshop Sequence 2

DISCLAIMER

We kindly point out that the following business model blueprints represent the raw results of the open innovation workshops as brought forward by the workshop participants. The workshop results were thoroughly documented and translated into the business model canvas, however, these blueprints were not checked for feasibility and plausibility. Although they can serve as a valuable source for inspiration, the individual circumstances and contexts need to be considered carefully to adjust and refine the business model blueprints accordingly for a successful implementation.

This being said, please note that the AlpBioEco project partners do not take responsibility for the successful implementation of the developed business model blueprints.

Title of Business Model Blueprint	Value Chain	BM-No.	Page
Apple Wax for Organic Surface Treatment	Apples	01	55
Apple Platform	Apples	04	56
Material based on Apple Pomace and Apple Wax	Apples	05	57
Apple Cosmetics	Apples	10	58
Baby Food	Apples	13	59
"Eau de Pommes" – Apple Fruit Water	Apples	14	60
Apple Pectin	Apples	15	61
Anti-Aging Face Cream	Apples	25	62
Black Gin	Walnuts	09	63
Herbicide from Walnuts	Walnuts	16	64
Vegan Walnut Flour	Walnuts	18	65
Vegan Walnut Milk	Walnuts	19	66
Edible Decoration	Herbs	06	67
Potmarigold Cream	Herbs	07	68
Herbicide from Stinging Nettle	Herbs	12	69
Pesticide from Herbs	Herbs	22	70
Herbal Supplements for Animals	Herbs	23	71
Second Life Herbal Packaging	Herbs	24	72

BUSINESS MODEL: APPLE WAX FOR ORGANIC SURFACE TREATMENT

BM #01

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D:

- University of applied science (testing for technical feasibility and process development of extraction on industry scale)
- Market Research Agency / Business Consultancy
- Apple processing companies that produce apple pomace from waste products (regional) → Supplier
- Consultant for advertising & brand development

Manufacturing:

- Raw material supplier (apple pomace)
- Machinery and equipment supplier

Distribution:

- B2B customers
- Salespersons / Reseller
- Logistic partner

KEY ACTIVITIES

- Development of Extraction process and processing method by addition of natural LSG agents
- Production of the wax extract & further processing to usable oil in the end-product (intermediate product) for sealing wood
- Development label/brand
- Protection of IPR (patent, brand, trademark)
- Quality Management: Definition and controlling of standards (e.g. shelf life)
- Proof of functionality
- Certification of bio-recyclability)
- Defining Brand Strategy & Positioning
- Search for and bind licensees
- Product Presentations (trade fairs etc.)
- Development of qualification and training concepts (product-related services)

KEY RESOURCES

- Raw materials (apple pomace in a certain quality) from regional suppliers
- Processing facilities + know-how about extraction and manufacturing process
- Suitable machines
- Warehouse
- Qualified personnel (incl. service)
- IPR and copyrights
- Working and trustful licence agreements

VALUE PROPOSITIONS

New organic (bio-recyclable) and vegan product for treatment of wooden surfaces with new functionality.

Similar functionality

- Waterproof, weatherproof, breathable
- Transparent

At significantly improved sustainability

- Vegan (in contrast to bee wax)
- Environmental friendliness
- Social responsibility, not harming children, pets and other living species
- Re-Use of a waste product from beverage industry

CUSTOMER RELATIONSHIPS

Close cooperation with regional customers

- Granting manufacturing licenses
- Granting licenses to use trademark
- B2B consulting and training for the correct use of the product, possible applications
- B2B ingredient branding
- Integrated processes of quality control prescribed by the supplier (own firm)
- Sponsoring of 'green' events
- Return & Recycling / Reuse of packaging

CHANNELS

- Direct sales to customers (per unit)
- Customer as a channel (B2B Ingredient Branding)
- Product-related services (B2B)

CUSTOMER SEGMENTS

Market size: big + growing

Differentiation by

- Sustainability
- Health-effect / vegan
- Novelty / functionality

B2B:

- Differentiation in a niche market
- (Regional) B2B customers
  - → furniture manufacturers
  - → carpenters
  - → woodworking companies
  - → producers of wood preservatives (e.g. Adler Lacke, Salewa)
  - → retail / DIY markets

COST STRUCTURE

- Costs for Market Research/Market Report
- Development costs, patent fee (e.g. European patent at EPO for 27 Member States = 25.000,-)
- Test facilities for industrial trials
- Investment into Machinery and equipment
- Building and Infrastructure
- Operating materials (solvents)
- Warehousing costs
- Staff payroll
- External consultants
- Costs for brand strategy (graphic designers, papers, brochures, demos)
- Brand Ambassadors (Reinhold Messner)
- Costs for sponsoring
- Cost of training/education

REVENUE STREAMS

- Sales per Unit of physical product (kg - Price, uniform)
- License fees from resellers/OEM
- Revenues from consultancy services
- Training fees
- Calculation: Based on data from the Raiffeisenverband, 70 million kg of apple juice will be produced in 2020. One apple is used to produce 70% juice, the rest is pomace. -> i.e. 3,000,000 kg of apple wax can be obtained. Assuming a price of 5 Euro /100g apple wax, this results in an annual yield potential of 150,000,000 Euro! (example of Austria?)

BUSINESS MODEL: APPLE PLATFORM

BM #04

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

Our key partners are It support company and farmers with wide assortment of different products, which we then offer on our platform and app.

It support company creates easy to use platform they also handle customer service. Farmers sell their product through our platform.

MOTIVATIONS FOR PARTNERSHIPS: we offer farmers a space to sell their products. We send customers to them, all purchases are made through app

KEY ACTIVITIES

Creating an app for our platform? We send customers to farmers thorough the app? Customers that pick up product for other customers and deliver them collect points through the app and get discounts.

CATEGORIES:

Through our app we connect producers and customers. Customers that deliver products to other customers collect pints with which they get discounts on the app.

CHANNELS

Our key resources are local produces who sell through our platform. Our distributors are customers themselves.

TYPES OF RESOURCES: Physical (app), Human (producers)

VALUE PROPOSITIONS

We connect them with local farmers, they have an option to get fresh and local organic products delivered to their door. We help them to purchase local organic products even when they do not have time to visit the farm themselves.

Customers that have more time and maybe limited resources, since organic is more expensive, can reduce the cost of their purchase when they deliver products to other customers that live close to them.

On our app we offer different local and organic products directly from farmers. We offer delivery of this products to customer's doors. Customers that deliver products for others get a discount.

CHARACTERISTICS: Newness, e, Customization, "Getting the Job Done", Design, Price, Cost Reduction, Accessibility, Convenience/Usability

CUSTOMER RELATIONSHIPS

It is very important to have a great customer service for our customer as well as for our producers.

It is extremely important to have a good relationships with local producers because when we have more producers with variety of products we attract more customers to our platform.

We foster relationships between our farmers and customers as well relationships between the customers. Happy customers are the best advertisement.

Promotions and coupons via subscription to encourage use of platform.

CHANNELS

We are reaching our customers through adds on media channels, social media, TV, magazines

CUSTOMER SEGMENTS

Health conscious, environmentally friendly individuals. People with busy lifestyles who enjoy home deliveries of healthy produce. People that find local and organic products a bit to expensive can get it cheaper with delivering to others nearby.

COST STRUCTURE

The most important cost in our business model is It support company that creates the platform and app. Second cost is the salary of 1mployee that handles customer service and fosters relationships with producers.

Cost of app/ webpage 1000 euro

It support company cost app. 600 euro / month

Salary for 1 employee 1.800 gross/per month

Advertising agency 200 euro per month

REVENUE STREAMS

For one crate of organic locally produced produce (vegetable and fruit) are customers willing to pay up to 40 euros. Company gajbica org. sells their vegetable and fruit crates for up to 20 euros (they are not organic).

Provision from every sale 10%

Selling ad space on our app

We provide safe money transactions through the app.

BUSINESS MODEL: MATERIAL 100% BASED ON APPLE POMACE AND APPLE WAX EXTRACT

BM #05

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

Our key partners are research institutions, such as chemical institute. Our key suppliers are apple farmers.

Which Key Resources are we acquiring from partners?

Research

Which Key Activities do partners perform?

Development of our product

MOTIVATIONS FOR PARTNERSHIPS: Optimization and economy, Reduction of risk and uncertainty, Acquisition of particular resources and activities

KEY ACTIVITIES

What Key Activities do our Value Propositions require? – Making biodegradable, ecologically friendly packaging from apples

Our Distribution Channels? Indirect sale B2B

Customer Relationships? Revenue streams?

Promotional materials

CATEGORIES:

Problem Solving, reducing waste

KEY RESOURCES

What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships Revenue Streams?

TYPES OF RESOURCES: Physical, Intellectual (brand patents, copyrights, data), Human, Financial

VALUE PROPOSITIONS

What value do we deliver to the customer?

Need for biodegredable, eco packaging

Biodegradable packaging, increases value of their product

Which one of our customer's problems are we helping to solve?

Reducing waste

What bundles of products and services are we offering to each Customer Segment?

We offer different biodegradable packaging material for fruits and vegetables

Which customer needs are we satisfying?

Need for eco-friendly packaging

CHARACTERISTICS: Newness, Performance, Customization, Design, Brand/Status, Price, Convenience/Usability

CUSTOMER RELATIONSHIPS

Consistency and quality of our product

Promoting our product on fairs

catalogues

composting guidelines

CHANNELS

Promoting on fairs, happy customers, sending companies our catalogues

CUSTOMER SEGMENTS

Organic farmers, producers

We are creating value for fruit and vegetable producer, since they can use our eco –friendly packaging for their produce. Our packaging increases value of their product.

B2B

COST STRUCTURE

R&D 30.000 €

Big dryer 10.000€

3D printer 3000€

salary for 1-2 employees 1.200€ gross/month in Slovenia

cold storage 500€ / per month

IS YOUR BUSINESS MORE: Value driven, producing high quality packaging from apple waste (apple pomace), bio degradable, eco friendly

Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing), Value Driven (focused on value creation, premium value proposition).
SAMPLE CHARACTERISTICS: Fixed Costs (salaries, rents, utilities), Variable costs, Economies of scale, Economies of scope

REVENUE STREAMS

At the moment there is no such product on our market.

Our price would be 80-90 cents for one box for 6 apples

Price of such plastic box is 5-10 cents, depending on plastic material

BUSINESS MODEL: APPLE COSMETICS

BM #10

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D

- FH Wels
- AGES
- FFiQSI
- Lawyer (IPR protection)

Manufacturing

- Eventually contract manufacturer to deal with dynamics in demands & supply (seasonality)

Marketing & Sales

- Marketing agency as collaboration partner
- Logistics partner
- B2B customers (downstream)

KEY ACTIVITIES

- Development of recipe / mixture for "apple skin care/lotion"
- Prototypic testing for ingredients and effects on skin
- Dermatological tests and approval
- "Bio" certification
- Market approval
- Purchasing of organic/regional raw materials from local/regional suppliers
- Development of manufacturing process + quality management
- Getting approval/certification of harmlessness (dermatologist, environmental)
- Provision of storage capacity

KEY RESOURCES

- Know-how of R&D partner
- Approval / certificate of harmlessness and marketing approval
- Access to raw material from apples (seeds, peel, pomace) in sufficient quality and quantity
- Know-how of extraction, recipe, and manufacturing
- Distribution networks/partners
- Proven functionality of product

VALUE PROPOSITIONS

Cosmetic Skin Care made of natural, organic ingredients

There is an increasing number of people who
a) do not tolerate chemical-based cosmetics, or
b) seek a healthier and more sustainable lifestyle (LOHAS) that tries to avoid artificial and/or ecologically harmful ingredients. For the preservation of drinking water reservoirs, such critical (chemical, artificial) ingredients pose high risks.

Cosmetic Skin Care made of natural, organic ingredients address this demand:

- Same or even improved results as artificial products
- Significantly reduced risk of chemical intolerances
- Significantly less harm to ecosystems and drinking water reservoirs
- Reduced CO2-footprint due to regionality
- Increased resources efficiency by using a side-/waste product of apple manufacturing (pomace, seeds, peel)

CUSTOMER RELATIONSHIPS

B2B:

- Salespersons
- Key customer accounting
- Trade fairs (e.g. BIOFACH...)
- In-house events (qualification, training on the product)

B2C:

- Service hotline
- Direct sales via online shop
- Events (trainings, information on product-usage) in retail partners' stores (e.g. cosmeticians, gyms, natural stores)
- Social Media
- Success stories with users

CHANNELS

- PoS at retailing / distribution partners
- Online shop
- PoS at local/regional farmer shops
- Social Media presence (Website, User-Forum)

CUSTOMER SEGMENTS

Generally:

- Niche market
- Differentiation by sustainability, regional character
- Market size: big + growing

B2B:

- Wellness Hotels /SPA
- Cosmetic retailers / retailers of natural cosmetics / pharmacies
- Dermatologists
- Sanatoriums
- Fitness studios / gyms

B2C:

- Families (higher income, higher educational background, LOHAS) with (small) children
- Direct sales to regional customers via e-commerce / online-shop / local apple farmers

COST STRUCTURE

R&D

- Staff costs: 10.000, - Euro (per ??)
- Development costs approx. 50.000 to 75.000, -Euro – to be partially covered by funding
- Materials & prototyping: 10.000, -

Manufacturing

- Staff costs
- Investment into machinery and equipment needed for producing, packaging/bottling and distribution (optionally: start with contract manufacturing and logistics partner)

Marketing & sales

- Staff costs
- Advertising: print (10.000 Euro) and Social Media (500 Euro)
- Online Shop (10.000 Euro)
- Trainings of salespersons
- Logistics

Services and Aftersales

- Staff costs for service hotline and customer relationship
- Building-up of service infrastructure

REVENUE STREAMS

Direct selling of product

BUSINESS MODEL: BABY FOOD

BM #13

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D:

- Development of baby food recipe in cooperation with technical centres and research institutes/universities

Production:

- Local apple farmers
- Transport providers with electric vehicles
- Local and ethic producer network (CTIFL, INRA Angers)

Marketing & Sales:

- Organic certification agency
- Communication agency
- Intermediaries (consulting, CCIs...)
- Social media managers
- Webmaster & IT support for website

KEY ACTIVITIES

Development (in-house & in collaboration):

- Detailed market study (outsourced)
- Sourcing
- Identification of best apple type
- Enrichment with polyphenols if needed
- Definition of recipes (with mix of fruits/vegetables)
- Definition: Proportion of residues to integrate
- Development of quality specifications
- Mashing of wet residues
- Varietal analysis
- Impact studies / in vitro

Production (in-house & in collaboration):

- Contract negotiation with additional suppliers of apples
- Mashing of whole apple: flesh, skin, seeds
- On-demand production
- Fill into glasses (re-usable)
- Quality control

Distribution (external):

- Storage
- Transportation with electric vehicles

Sales & After-Sales (in-house & outsourced):

- Development of website and maintenance
- Branding
- Online marketing (digitally ecofriendly e.g. Ecosia)
- Claims management

KEY RESOURCES

- Local and organic apples
- Financial resources through business angels, loans, crowdfunding, subventions
- Machinery for mashing
- Glass packaging

VALUE PROPOSITIONS

Probiotic apple mash from organic and local apples

Characteristics:

- Organic
- Probiotic effect (microbiota)
- Positive health impact
- Locally sourced (e.g. Drôme, Vaucluse)
- Sustainable packaging made of by-product
- Transparency of suppliers

Environmental sustainability:

- Transportation with electronic vehicles
- One euro of the revenues/unit will be used to plant trees to compensate carbon emission

Social sustainability/Educational impact:

- Online education regarding health and nutritional benefits
- Recipe book to propose recipes with our mash
- Apple farm visits
- Workshops to explain the mash and work with recipes

CUSTOMER RELATIONSHIPS

User relationship:

- Service hotline
- Nutritional education online and in workshops
- Recipe booklet for personalization
- Return stations for glass packaging

CHANNELS

- Distributors in charge of placing products in specialized retail space
- E-Commerce: B2B and B2c
- Organic fairs

CUSTOMER SEGMENTS

B2B:

- Retailers of baby supplies
- Reformhaus / Organic stores / Drugstores
- Hospitals
- Elderly homes

B2C End customers:

- Parents (LOHAS)
- Elderly

End consumer:

- Babies of age group 0-6 months/6-12 months/12-24 month
- Toddlers
- Elderly

COST STRUCTURE

- Costs for buying additional apples (€ 0,50/kg mini organic apples)
- Development costs:
- € 20.000 in vitro
- € 50.000 – 100.000 clinic
- Development tests for 10 varieties (50 analyses/50 extractions)
- Wages: € 130.000
- Laboratory costs: € 1.000/day
- Rent for workshop area: €400/hour

REVENUE STREAMS

- Fixed pricing: € 15,00 - €19,00 / kg
- Workshop fee: € 10/participant

BUSINESS MODEL: „EAU DE POMMES“ – APPLE FRUIT WATER

BM #14

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Agro food technical center (CTCPA)
- Sensory lab (Terra Senso)
- Chief / man of art
- Graphist
- Communication agency
- Work done through influencers
- Commercial force
- Design school
- Experts on nutrition, cosmetics, sport
- Collection place
- Subcontractor for cleaning
- Health/beauty/nutrition coach

KEY ACTIVITIES

R&D (in-house):
- Recipe conception
- R&D stability process
- Sourcing of raw material (GMR)
- Formulation of personalization framework
- Stabilization study

Production (outsourced):
- Providers identification
- Mixing / Bottling
- process steps
- Proximity with the subcontractor
- Local water collection
- Glass bottling near water source

Marketing:
- Graphic design
- Story telling
- Communication
- Branding
- Valorisation
- Brand creation
- Prospection
- Market study

Distribution:
- Set-up of refundable bottle networks
- Marketing

KEY RESOURCES

- Non-contaminated micro bio material for product development
- Local and organic apples
- Water source
- Additives : fruit juice, natural sugar (agave, maple)
- Infrastructure for development: Small lab/kitchen
- Website for online shopping
- Reusable bottles

VALUE PROPOSITIONS

All-natural fruit water with high nutritional value

Functionality:
- Few calories
- Purely vegan water
- Natural product
- Nutritional qualities
- Health benefits
- Free of preservatives
- Free of artificial sweetener

Personalization:
- Individual labels
- Adaption of recipe to market needs

Environmental sustainability:
- Use of by-products
- Local sourcing of apples and water
- Environmentally friendly production process
- Respectful use of raw materials
- Circular economy

CUSTOMER RELATIONSHIPS

End-consumers (B2C):
- Tips about nutrition
- Way of consumption
- Apps to be developed
- Personnalization: labellisation etc
- Consumer club: Feeling to belong to a community
- Loyalty program

CHANNELS

- Shop-in-shop: e.g. “water bar” in sport centers
- HORECO fairs
- Sales representatives

CUSTOMER SEGMENTS

B2B:
- Hotels
- High-end restaurants
- Bars
- Spas
- Sport centers
- Fine grocery markets

End-consumers:
- Medium-to-high income consumers
- Health conscious

COST STRUCTURE

- External expertise: € 50.000
- Cost of bottles : € 0,70 / 33cl with packaging
- Purchasing of raw material + transport
- Consulting cost: 50% temporary / 50% permanent"
- Human resources (permanent)
- Cost of the refundable bottles network
- Sales commission for sales reps
- Shop-in-shop fees
- Website creation and maintenance

REVENUE STREAMS

Fixed pricing: Sale/unit

BUSINESS MODEL: APPLE PECTIN

BM #15

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Universities & research institutes for analysis and production process design
- Providers of raw material
- Subcontractor for production
- Manufacturer of raw material
- Producers' community

KEY ACTIVITIES

R&D (in cooperation):
- Analysis of by-products
- Process development for extraction
- Development of formula for cosmetics and nutraceutics
- Specifications has to fit the needs
- Analyses (variability, residues, toxicology)
- Selection of variety if necessary
- R&D lab (done by provider)
- Method of manufacturing the thickener
- Patent application and grant Production (in cooperation):
- Preparation phase, stock, stabilization (specifications)
- Stabilization of the product and first transformation to obtain the thickener
- Replication of specifications done for raw materials

Marketing & Sales:
- Development of brand and brand identity
- Providing transparency of value chain
- Marketing materials (packaging, website, etc.)

KEY RESOURCES

- Sorting gap (whole apple)
- Baby apple (wood bleach)
- Specific apple (special variety)
  By-product issued from transformation
- Industrial tools and machinery for extraction
  Intellectual property (patent)
- Human = differentiation factor through support of local circular economy
- Producers community
- Brand value
- Vegetal raw material, by-product = has to be the right quantity that doesn't impact the quantity of final raw material

VALUE PROPOSITIONS

Organic thickener for cosmetic products based on apple pectin

Apple pectin is extracted from apple residues and given a second life. The natural function as a thickener allows it to be incorporated into natural cosmetics and nutraceutics.

Functionality:
- Organic and all-natural
- Microbiome
- Protein interest
- Added value = no mix of apples

Sustainability:
- Use of by-products
- Local production near suppliers
- Transparency of procurement and production process
- Circular economy

CUSTOMER RELATIONSHIPS

- First, secure exclusive partnership with brand or provider
- Next, open to the wider market

CHANNELS

- Direct sales

CUSTOMER SEGMENTS

B2B:
- Cosmetics and nutraceutics producers

COST STRUCTURE

- Whole apple: methanisation, waste to evacuate (20 euros / tons ; 2000t/year)
- Juice/pomace (through intermediary such as Kookabarra)
  - Sorting / stabilisation (recurrent)
  - R&D cost: to be paid off through price of final raw material
- Pectinase
  - >200t dry pomace
  - 1000t dry pomace for interest"
- Pectin process: 500 euros / ton ; Pectin price: 10 euros/kg
- Pomace: 80-100 euros/ton & 250 euros/ton for dry one
- Separation of pomace and seeds: 50 euros/ton
- Transport of fresh pomace (by kookabarra): min of 20 euros / ton
- Transport of dry pomace: 50 euros / ton
- To resume:
  *purchase: 50e/t (dry)
  *transport: 60e/t
  *drying process: 100e/t
  *sorting: 50e/t
  = around 300 euros/ton
  = 510 euros : ton of dry raw material

REVENUE STREAMS

- Price per unit sold

BUSINESS MODEL: ANTI-AGING FACE CREAM

BM #25

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Specialised research centers
- External field experts
- Sales agents
- Consultants
- Third-party companies for packaging
- Fundraising: PSR (piano sviluppo regionale), private investors, Camera di Commercio
- Raw material suppliers
- Web masters
- Marketing specialists
- Authorized re-sellers
- Apple farms
- Agricultural companies
- Qualified lab for development

KEY ACTIVITIES

R&D (outsourced):
- Identify qualified lab for development of formula
- Outsourced laboratory research & testing with clinical trials & involvement of external experts
- Clinical tests on effectiveness & product safety
- Finalization of recipe & patent registration
- Qualify for NATRUE labelling (international natural and organic cosmetics association)
- Development of recycling process

Production (independently & outsourced):
Phase 1: internal production phase
- procure raw materials
- create the formula to be inserted into the product's base (oil, butter, wax, etc.)
- mix the nutraceutical component with the emulsion

Phase 2: outsourced packaging + NATRUE labelling
Add-on: Attract investments through tenders and/or private investors
- Storage

Marketing & Sales:
- Identification of the typical customer
- Set up website for e-commerce
- Market material creation (e.g. brochures, promotional events)
- Standard sales activities through classic channels (retail)
- Training and qualification of points of sales

Aftersales:
- Free exchange of expired products
- Complaints management
- Take-back of unsold goods
- Recycling of unsold goods

KEY RESOURCES

Initial financial investment
Raw materials for the tests
Marketing: brand, website, web domain etc.
Packaging
Machines for production: shredder, extractor, emulsifier, fridges
Human resources
Offices and warehouses
Digitalised archive of sold products (quantity)
Representation space

VALUE PROPOSITIONS

Organic anti-aging cream based on by-products of apple processing

Characteristics:
- Anti-aging for men & women
- Based on apple wax extract and apple pomace
- Based on nutraceutical extracts of apples
- High quality
- NATRUE labelling

Sustainability:
- Creation of high added-value by use of waste products
- Offers waste products a second life
- Contributes to reducing waste
- Reasonable and complete use of apples
- Take-back of unsold goods and recycling

CUSTOMER RELATIONSHIPS

B2B Relationship:
- Take-back and recycling of unsold goods
- Training and qualification of points of sale (e.g. beauticians)
- Exchange for free of expired goods (due to short shelf-life)
- Central contact for handling complaints (also for end-users)
- Organization of promotional/educational events at the company

CHANNELS

- Retail
- Sales representatives for doctors, pharmacies, beauty salons, etc.
- Beauty fairs

CUSTOMER SEGMENTS

B2B:
- Cosmetic companies
- Pharmacies
- Parapharmacies
- Dermatologists
- Beauticians & Beauty salons
- Retailers of toiletry products (e.g. DM, Marionnaud)
- Reformhaus / Organic stores

C2C:
- Platforms for natural cosmetics

End-consumers:
- Beauty-conscious
- Environment-conscious
- Men & women (30+)
- Willing to spend €€€ on cosmetics

COST STRUCTURE

- € 2.000 recipe development + patent
- € 60.000 testing
- € 30.000 research
- € 10.000 design
- € 0,15 /kg apples
- € 0,03 /kg stocking
- Extra costs for external consulting with external specialists (sales agents, consultants, experts,..)

- Initial investment (not quantified)
- Extra costs for procurement, processing, stocking - not quantified
- Not quantified costs for: target definition, web site, labelling, web domain, web master, marketing specialists
- Not quantified costs for internal human resources dedicated to the aftersales activities
- Costs for promotional materials

REVENUE STREAMS

- Sales per unit

BUSINESS MODEL: BLACK GIN

BM #9

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- "vom Fass AG" (product development, manufacturing, marketing and distribution and
- services)
  Local/regional walnut farmer (both supply and for planting sponsored trees) and suppliers of Juniper berries
- Optionally: endorsers and/or influencers (e.g. starred chefs, renowned restaurants, airlines etc.)

KEY ACTIVITIES

- Development of recipe
- Testing mixtures and maturing time
- "Storytelling" around the product
- Walnut extraction "black" (maceration, distillation)
- Distribution via franchise retails / sales points of "vom Fass AG"
- Mixture and filling technique
- Direct (re-)filling in the shop
- Building content and professional design of advertising / information material
- Sheltered employment company (disabled workshops)

KEY RESOURCES

- Maceration & distillation process
- Juniper berries from the Swabian Alb
- Alcohol
- Walnuts (green kernels)
- Regional spices (flavouring)
- Information material
- Training/education "how to produce Gin"
- Training location / seminar room
- Tasting material
- Walnut wood for walnut box (packaging of the first bottle)
- Bottle design and label design
- Know-how about recipe and mixture
- Distribution / franchising network
- Brand / company reputation

VALUE PROPOSITIONS

World's first "Black Gin" based on Walnut extracts as a regional highlight-product of the Bodensee area

Bio-economy through processing of green walnut kernels (residue), cultivation of regional herbs and spices (less transport/CO2 emission), indirect contribution to biodiversity (bee wax label) and conservation of calcareous grasslands (cultural heritage landscape: juniperus communis, shepherds Swabian alp).

- New flavour experience
- Positive health-effects of walnut extracts
- Regional product
- (Re-)Filling in the shop (saving of resources for packaging)
- Ecologically sustainable
- Limited editions because of seasonality support luxury/exclusive image → walnut tree sponsorship → Gin out of your own walnut tree!
- Positive contribution to ecosystem services in Baden-Württembergs' regions Upper Swabia, Upper Danube Valley and Swabian Alp

CUSTOMER RELATIONSHIPS

- Public relations: Journalism, Social Media, Website
- Refilling brings Customer regularly back to shop
- Walnut tree sponsorship by customer
- Tasting events
- Events "how to produce Gin"
- Event "Visit your own walnut tree" and "learn how to cultivate"

CHANNELS

- Franchise "vom Fass AG" Waldburg, distribution via firm's existing retail stores and online-shop
- Tasting events

Optionally:

- Direct distribution via shared shop/online shop of regional Walnut farmer community (complimentary distribution)
- Regional markets
- Natural food stores
- Unpackaged stores
- Sales persons endorsing product to Gourmet restaurants, night clubs, cigar lounges, starred chefs, exquisite liquor stores, business/first class lounges/on-board spirits of airlines
- Influencers / endorsers (e.g. regional starred-chefs), "black" → heavy metal scene (e.g. Guerilla Marketing in scene clubs/pubs)

CUSTOMER SEGMENTS

B2C:

Upper, luxury price segment, high-income, high-educated gourmets / Gin enthusiasts → High-quality / high price

Market size: big

B2B:

Gourmet restaurants, night clubs, cigar lounges, starred chefs, exquisite liquor stores, business/first class lounges/on-board spirits of airlines / natural food stores, unpackaged stores

COST STRUCTURE

R&D

- Marketing
- Additional costs for regional marketing (Adrian, Landzunge, "gusto"-fair gastronomy)
- Cultivation and testing of regional spices and herbs
- Recommendation commission
- Bio-economy: start up support
- Pricing: max. 20 €/l for raw material and packaging, alcohol tax: 6,50 €, Alcohol: 1€, Nuts, Herbs, Spices, Glass Bottle, label, cap in walnut design
- Walnut paper for label printing (beewax pressure)

Production & Manufacturing

- Saving costs through existing production and storage infrastructure at vom Fass AG
- Recipe development
- Public relations: Journalism, Social Media, Website
- Creation of Advertising Material/ Formats
- Mixture and filling technique
- Logistic
- Storage and Sales Production technique
- Design Development (sources of supply)

Marketing and Sales

- Training of sales personnel
- Structure for personal sale

Service and Aftersales

- Additional costs for fair traded spices and herbs, regional preference

Individualisation in regional distribution: walnut paper label with bee wax print

REVENUE STREAMS

- Different categories: basic product, exclusive product, limited edition (seasonality)
- basic: 38€/500ml
- medium (exclusive): 49€/500ml
- limited: + 80-100 € / 500ml

BUSINESS MODEL: HERBICIDE FROM WALNUTS

BM #16

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D

- Biofa Münsingen (organic pest control)
- BOKU Vienna
- University of Applied Sciences with laboratories
- Lawyer (IPR protection)
- Packaging specialist

Manufacturing

- Manufacturing partners (e.g. walnut processing firms)

Marketing and Sales

- Sales representatives
- Web designer
- Network Manager
- Regional logistics partner

KEY ACTIVITIES

- Extract functional elements from green walnuts on an industrial scale & testing
- Development of in-house storage solutions and how to secure durability (shelf-life) – production made-to-stock (if concentrate is storable)
- Development of concentrate (to be mixed with water before usage)
- Development of spray device
- Development of brand, logo
- Development of business plan
- Market analysis (seasonality, competition)
- Partnering with existing patents holders
- Environmental certification
- Protection / management of IPR
- Production during wintertime (demand-high in spring)
- Define shelf-life of raw materials
- Certification and marketing approval
- Secure raw material supply in sufficient quality and quantity

KEY RESOURCES

- Green walnuts / extract of green walnuts
- Getting access to existing patent of BOKU Vienna
- Crowdfunding platform
- Risk capital for R&D (e.g. funding)
- Personnel / Knowledge about extraction and manufacturing
- Distribution network and network of sales representatives

VALUE PROPOSITIONS

Organic herbicides with antibacterial and antibiotic function

The increasing demand on organic food products leads to a parallel increasing need for organic herbicides which are conform with the strict requirement of certain "bio" labels (e.g. demeter) to rise production volumes. Even in traditional agriculture and farming, most existing herbicides (based on artificial, chemical ingredients) come along with severe negative impacts on soil and drinking water reservoirs as well as on bees.

Organic herbicides (antibacterial, antibiotic pesticide) made from Walnut extracts address this demand. Particularly it can help to protect plants (especially pip fruit) from fire blight:

- Similar results as traditional chemical products on fire blight.
- Drastically reduced negative effects on bees and other insects
- No pollution of drinking water reservoirs and soil with chemical herbicides
- Lower total costs of product usage

CUSTOMER RELATIONSHIPS

- Sales representatives
- Key customer management
- Service hotline
- Road shows & events at customer site to show usage of product / train sales employees on the product
- Social Media (Website)

CHANNELS

- Direct sales (PoS)
- Customer relationship management
- Trade fairs
- Road shows & training
- Social media
- Hotline
- Send free samples

CUSTOMER SEGMENTS

- Niche market in the upper price segment of organic/natural herbicides
- Estimated market size
  - small to medium (organic farmers and private farmers)
  - big (traditional farming)
- Differentiation by sustainability, services and functionality

B2B:

- Fruit farmers (organic farming)
- Conventional farmers
- Pest controllers

B2C:

- Private farmers via e-commerce

Optionally:

- Cross-selling: spray on curtains against mosquitos in the room
- Valorisation of residual/waste material (e.g. insulation, fibres)

COST STRUCTURE

- 2 persons 140.000 € full time per year, gross
- 500.000 € R&D at the beginning
- Raw Materials + Production: 50.000 €
- Marketing 20.000 € starting budget
- Services 10.000 €

REVENUE STREAMS

- Direct selling of product / eventually pay-per-use (for key customers)
- Licence fees granted to other manufacturers (?)

BUSINESS MODEL: VEGAN WALNUT FLOUR

BM #18

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Regional oil mill(s) as raw material supplier AND manufacturers
- Contract research at a university laboratory to prove technical feasibility and process development
- Influencers
- Gastronomy / chef cooks
- Natural / organic / vegan stores
- R&D partners for developing the packaging and finding the perfect grinding method/process
- Logistic partner
- Partner for storage / cooling

KEY ACTIVITIES

R&D

- Eliminate bitter substances/tastes
- Secure raw material supply in terms of quantity and quality
- Product development
- Properties for Product Range
- Design/packaging especially also requirements and duties
- Laboratory analysis: plasticizers, aflatoxins, fat content

Production & Manufacturing

- Development of Quality control processes (according to specifications, standards: HACCP, ISO 9001)
- Packaging (High recyclability) = walnut box ("Bio & eco", fairness)
- Make to stock
- Produced with renewable energies
- Physical: Walnut press cake
- Walnuts: 100 Farmers/365 Trees = 30kg per tree; year 1: 1 to 2 tons of press cake (originating from Tyrol, Vorarlberg)
- 1t = 16.000 bags à 150g

Marketing & Sales

- High recognition value
- Focus: regionality, health aspect
- Walnut packaging: Walnut-box
- BPA-free packaging
- Logistics

KEY RESOURCES

- press cake = by-product of oil mills, re-use of residue in sufficient quality and quantity!
- knowledge of process and technical feasibility
- know-how of oil mills for manufacturing
- provider of walnut packaging
- users who want to upload their own recipes on the social media platform and who keeps the discussion going
- Editing and content provider for Social Media platform

VALUE PROPOSITIONS

The demand for vegan and gluten-free food and food ingredients is globally growing quickly. Food products and food ingredients based on walnut offers many possibilities for solutions here.

Vegan food products / food ingredients for a) customers that suffer from gluten intolerance or b) that pay high attention to a healthy and ecologically sustainable style of living. Allows them to enjoy "flour-based dishes" along a health-related dietary or a vegan nutrition. Most importantly, walnut flour comes with high amounts of Protein which are an essential need of vegan nutrition (as animal-based protein is excluded)

- Health benefits
- Vegan, gluten-free proteins (important along a vegan nutrition!)
- Sustainable (regional means less transportation, press cake = by-product of oil mills, re-use of residue)

As there is already walnut flour available in the marketing should focus on

- Regionality / sustainability
- Superfood
- Protein source

CUSTOMER RELATIONSHIPS

B2C

- End customers: online, Social media, Website, Influencer, Testimonials (regional cook)
- Social Media: Recipes on YouTube channel
- Public Relations on a regional level
- Branding as Superfood: exclusive, regional, vegan, rich in protein, healthy
- Influencers, gastronomy (vegan)

B2B

- Food Stores: PoS design
- Markets: PoS design, tasting
- Public Relations on a regional level
- Branding as Superfood: exclusive, regional, vegan, rich in protein, healthy

CHANNELS

- Short distances, as ecologically sustainable as possible
- Direct sale via regional points of sale (e.g. local farmers, local/regional shops)
- Online-shop?
- Social Media and You Tube channel (provision of recipes and upload of user recipes)
- Vegan baking/cooking events

CUSTOMER SEGMENTS

Niche market / differentiation by quality, health-functionality and sustainability

Market size: big + rapidly growing

B2C

- LOHAS
- Higher income, health-oriented lifestyle, vegan, higher education
- Price: Premium segment: 4,99/ 150 g Sales price

B2B

- Natural stores / vegan stores
- Vegan bakeries/confectionaries
- Optionally: manufacturers of organic/vegan flours

COST STRUCTURE

R&D

- Funding and own contribution for laboratory analyses

Production & Manufacturing → goal: low fix-costs

- Green Walnuts (external) → costs of press cake per bag (150g) = 65 to 75 cents
- Peeling + Sorting (external)
- Crackling (external)
- Processing / pressing (external)
- Filling and labelling (external)
- Quality testing / setting-up quality assurance and certification

Marketing and sales

- Give-aways
- Insurances
- Legal advice
- Possible start-up costs
- Market entry
- Product liability insurance
- Personnel costs
- Online Presence: Online Marketing , IT Costs

Service and Aftersales

- Website Development and Hosting
- Recipe Development
- Preparation of information
- Editorial office

REVENUE STREAMS

Direct revenue from selling the product

- 4,99 Euro / 150g

Hidden revenues

- Advertisement in YouTube channel / Social Media platform
- Freemium – download/uplaod of 5 recipes → +5 recipes = 0,99E per recipe up to flat rate (XX Euro/month) → abo model?

BUSINESS MODEL: VEGAN WALNUT MILK

BM #19

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Regional oil mill(s) as raw material supplier
- Contract research at a university laboratory to prove technical feasibility and process development + approval for food market
- Influencers
- Natural / organic / vegan stores
- Logistic partner (as well for deposit system), e.g. local breweries, cider makers...
- Regional Dairy manufacturer experienced with vegan milk products (e.g. oat milk)
- Eventually: food technologist as a consulting expert

KEY ACTIVITIES

R&D

- Eliminate bitter substances/tastes
- Secure raw material supply in terms of quantity and quality
- Product development – product stability and shelf-life (!)
- Properties for Product Range
- Design/packaging especially also requirements and duties
- Laboratory analysis + market approval

Production & Manufacturing

- Add water to walnut press cake and "filter" , homogenize, pasteurize
- Rinsing deposit bottles in a cider factory / in a regional partner factory – optionally: cleaning of bottles in-house
- Manufacturing of a standardised basic product portfolio (milk + x) – outsourcing to a regional partner

Marketing & Sales

- Delivery services with cold chain
- Development of brand and logo, bottle label / corporate design

KEY RESOURCES

- Press cake = by-product of oil mills, re-use of residue in sufficient quality and quantity!
- knowledge of process and technical feasibility
- know-how of (vegan) dairy manufacturer,
- Users who want to upload their own recipes on the social media platform and who keeps the discussion going
- Editing and content provider for Social Media platform
- Functioning cooling chain and deposit system

VALUE PROPOSITIONS

The demand for vegan and gluten-free food and food ingredients is globally growing quickly. Food products and food ingredients based on walnut offers many possibilities for solutions here.

Walnut milk is a totally new vegan food product for the increasing number of people suffering from a) lactose intolerance and/or which stick to a vegan dietary paying high attention to healthy and ecologic sustainable.

Most importantly, walnut milk comes with high amounts of protein which is an essential need of vegan nutrition (as animal-based protein is excluded)

- Health benefits
- Vegan, gluten-free proteins (important along a vegan nutrition!)
- Sustainable (regional means less transportation, press cake = by-product of oil mills, re-use of residue) + deposit system of bottles (reusable packaging)
- High degree of novelty

Vision:
Develop of complete product portfolio based on vegan Walnut milk

- Yoghurt
- Ice-Cream
- ...

CUSTOMER RELATIONSHIPS

B2C

- End customers: online, Social media, Website, Influencer, Testimonials
- Social Media: Recipes on YouTube channel (e.g. ice-cream, Yoghurt)
- Public Relations on a regional level
- Health-Influencers
- Deposit system for reusing bottles

B2B

- Food Stores: PoS design
- Markets: PoS design, tasting
- Public Relations on a regional level

CHANNELS

- Short distances, as ecologically sustainable as possible
- Direct sale via regional points of sale (e.g. local farmers, local/regional shops)
- Online-shop?
- Social Media and You Tube channel (provision of recipes and upload of user recipes)
- Vegan baking/cooking events

CUSTOMER SEGMENTS

Niche market / differentiation by quality, health-functionality and sustainability

Market size: big + rapidly growing

B2C

- LOHAS
- Higher income, health-oriented lifestyle, vegan, higher education
- Price: Premium segment
- PoS: regional farmer markets

B2B

- Natural stores / vegan stores / organic grocery stores
- Supermarkets with organic product portfolio
- Vegan Cafés

COST STRUCTURE

<u>R&D</u>

- Funding and own contribution for laboratory analyses (10.000 – 30.000 Euro)
- Personnel costs in-house

<u>Production & Manufacturing → goal: low fix-costs</u>

- Green Walnuts (external) → costs of press cake per bag (150g) = 65 to 75 cents
- Peeling + Sorting (external)
- Crackling (external)
- Processing / pressing (external)
- Manufacturing
- A) outsourcing to regional manufacturer of dairy product
- B) manufacturing inhouse: costs for pasteurizer, bottling plant, dishwasher(s) for bottle cleaning, cooled warehouse, flowing space, waste apparatus → personnel costs for manufacturing (approx. 200.000,- Euro/year)
- Quality testing / setting-up quality assurance and certification

<u>Marketing and sales</u>

- Costs for licensing / partnering in a deposit system (regular fix costs)
- Legal advice
- Possible start-up costs
- Market entry
- Product liability insurance
- Personnel costs
- Online Presence: Online Marketing , IT Costs

<u>Service and Aftersales</u>

- Telephone Hotline
- Website Development and Hosting
- Recipe Development
- Preparation of information
- Editorial office

REVENUE STREAMS

Direct revenue from selling the product

- 2,49 Euro / litre

Hidden revenues

- Advertisement in YouTube channel / Social Media platform
- Freemium – download/upload of 5 recipes → +5 recipes = 0,99E per recipe up to flat rate (XX Euro/month)
  → abo model?

BUSINESS MODEL: EDIBLE DECORATION

BM #06

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

Our key partners are lyophilisation company. We will plant and harvest chosen herbs ourselves. They lyophilize our herbs, so they stay stable and are safe for food decorating.

MOTIVATIONS FOR PARTNERSHIPS: we have big quantity of herbs that need to be lyophilized.

KEY ACTIVITIES

Planting herbs, harvesting, lyophilisation? We sell directly to restaurants. We have constant product quality.

We sell directly to chefs and restaurants?

CATEGORIES:

Production, Problem Solving

KEY RESOURCES

What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships Revenue Streams?

TYPES OF RESOURCES: Physical, Intellectual (brand patents, copyrights, data), Human, Financial

VALUE PROPOSITIONS

High quality and safe to use food decorations from herbs? We fill the hole in the market since we are the only ones who offer lyophilized safe to use on food herbs decorations?

We produce different decorations from different herbs.

We satisfy the need for interesting organic and safe to use decorations in gastronomy.

CHARACTERISTICS: Newness, Design, Risk Reduction

CUSTOMER RELATIONSHIPS

Variety and high quality decorations.

CHANNELS

Promotions, fairs, pictorial material, social media

CUSTOMER SEGMENTS

Our customer base are high end restaurants end chefs that have a need for high quality food decorations.

COST STRUCTURE

Cost of planting and harvesting herbs, cost of our work, cost of lyophilisation, and cost of promotion.

Most expensive is lyophilisation

Our business is more value Driven (focused on value creation, premium value proposition). We hive hig production cost because we market our product as high quality.

SAMPLE CHARACTERISTICS: costs of fairs(promotion) (approx. 300 euro/per year), salary for 1-2 employees 1.200€ gross/month in Slovenia , price of lyophilisation 1.000eur per month

REVENUE STREAMS

For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?

TYPES: Asset sale, Usage fee, Subscription Fees, Lending/Renting/Leasing, Licensing, Brokerage fees, Advertising

FIXED PRICING: List Price, Product feature dependent, Customer segment dependent, Volume dependent

DYNAMIC PRICING: Negotiation (bargaining), Yield Management, Real-time-Market

BUSINESS MODEL: POTMARIGOLD CREAM

BM #07

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

Who are our Key Partners?

- Laboratory for chemical analysis

Who are our key suppliers?

We plant and harvest pot marigold (*Callendula officinalis*) our selves

Which Key Resources are we acquiring from partners?

Chemical analysis

Which Key Activities do partners perform?

MOTIVATIONS FOR PARTNERSHIPS: Optimization and economy, Reduction of risk and uncertainty, Acquisition of particular resources and activities

KEY ACTIVITIES

What Key Activities do our Value Propositions require?

- Planting and harvesting pot marigold
- Finding optimal cream compositions

Our Distribution Channels?

Healthy food and cosmetic stores, such as Kalček, Biotera…

Customer Relationships? Revenue streams?

CATEGORIES: Production

KEY RESOURCES

Shop in shop, direct sales, retail

TYPES OF RESOURCES: Physical, (brand patents, copyrights, data), Human, Financial

VALUE PROPOSITIONS

What value do we deliver to the customer?

- Producing high quality natural product, having consistent quality, only organic ingredients

Which one of our customer's problems are we helping to solve?

- Natural organic cream with health benefits of pot marigold

CHARACTERISTICS: Newness, Customization, eco friendly

CUSTOMER RELATIONSHIPS

Clean ingredients, consistent product quality, happy customers are best advertisement

CHANNELS

Social media, TV promotions, happy customers

CUSTOMER SEGMENTS

Health conscious individuals, diabetics, people with sensitive skin

COST STRUCTURE

Lab 2000 euro for testing

Salary of 1 employee 1800 euro gross per month

Electricity 200 euros

Dryer 2000 euros per year

Press 3000 per year

Packaging 1000 euro per year

Promotion 10 000 euro per year

IS YOUR BUSINESS MORE: Value Driven (focused on value creation, premium value proposition).

REVENUE STREAMS

Pot marigold creams cost from 5 to 15 euros on the market

BUSINESS MODEL: HERBICIDE FROM STINGING NETTLE

BM #12

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D

- Development partner (e.g. Veterinary University Vienna, BOKU)
- Marketing agency / design office for development of brand, label, logo and corporate design
- Lawyer (IPR protection)

Manufacturing

- Certification authority

Marketing and Sales

- Sales / retailing partners
- Marketing agency

KEY ACTIVITIES

- Development of recipe and manufacturing process of how to extract active elements (formic acid) on an industrial scale
- Testing, documentation, evaluation and marketing approval
- Setting-up in-house production facilities → made-to-stock + storage capacity
- Securing IPRs (patent, brandmark, label, logo)
- Finding distribution partners
- Advertising
- Setting-up service hotline and customer relationship management
- Develop training/qualification content for salespersons & retailing partners
- Setting-up a Social Media presence (Website)
- Setting-up service hotline infrastructure
- Development of content for qualification and training of salespersons / retailers' staff
- Development of content for on-site events and road shows at retailing partners

https://www.gartenjournal.net/brennessel-unkrautvernichter

KEY RESOURCES

- Raw material (Stinging Nettle) in sufficient quality and quantity
- Know-how of R&D partner
- Know-how about extraction and manufacturing
- Network of salespersons

VALUE PROPOSITIONS

Organic herbicides made from herbal extracts

The increasing demand on organic food products leads to a parallelly increasing need for organic herbicides which are conform with the strict requirement of certain "bio" labels (e.g. demeter) to rise production volumes. Even in traditional agriculture and farming, most existing herbicides (based on artificial, chemical ingredients) come along with severe negative impacts on soil and drinking water reservoirs as well as on bees.

Organic herbicides made from herbal extracts address this demand. Especially Stinging Nettle contain high concentration of formic acid in their leaf tips:

- Similar results as traditional chemical products on certain types of weed and even blackflies and white flies.
- Drastically reduced negative effects on bees
- No pollution of drinking water reservoirs and soil with chemical herbicides
- Lower total costs of product usage

CUSTOMER RELATIONSHIPS

- B2B: Salespersons
- B2B: key account management / customer relations management
- Qualification and training of staff from retailing partners
- Service hotline for end-users (telephone, mail)
- On-site events for end-users (how to apply the product) at retailing partners (road shows)

CHANNELS

- Direct sales and distribution

CUSTOMER SEGMENTS

Generally:

- Estimated market size is big
- Differentiation by sustainability and novelty (functionality)
- Upper price segment of herbicide market

B2B

- Retailers (DIY markets, garden centres, gardening shops)

B2C (optionally)

- Direct sales

COST STRUCTURE

- Development costs (partially covered by funding)
- Material costs for raw materials
- Costs of IPR registration (e.g. EU-27 patent: approx. 20.000,- to 25.000,- Euro)
- Costs for getting certification and marketing approval
- Payroll costs for manufacturing staff, staff in marketing, sales and after sales services
- Investments into machinery and equipment
- Investments into service infrastructure
- Costs for design and marketing agency

REVENUE STREAMS

- Direct sales of products

BUSINESS MODEL: PESTICIDE FROM HERBS

BM #22

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D

- BOKU Vienna (University) with laboratories
- Lawyer (IPR protection)

Manufacturing

- Organic farmers of water flower
- Manufacturing partner (including filling of bottles)

Marketing and Sales

- Design / marketing agency
- Logistics partner

KEY ACTIVITIES

- Extract functional elements from water flower (distillation) on an industrial scale & testing
- Development of recipe/mixture
- Finding solutions about the best dosage form
- Development of spray device
- Development of brand, logo
- Development of business plan
- Protection / management of IPR
- Certification and marketing approval
- Secure raw material supply
- (Seasonal) Manufacturing of organic pesticide → made-to-stock (outsourced)
- Sales and distribution networks with highly skilled salespersons

KEY RESOURCES

- Water flower (access to raw material in sufficient quality and quantity)
- Risk capital (R&D), partially covered by funding
- Packaging
- Certificate and marketing approval
- Risk capital for R&D (e.g. funding)
- Personnel
- Distribution network and network of high-skilled sales representatives
- Well-trained salesforce
- Knowledge about process, recipe/mixture

VALUE PROPOSITIONS

The increasing demand on organic food products leads to a parallelly increasing need for organic herbicides which are conform with the strict requirement of certain "bio" labels (e.g. demeter) to rise production volumes. Even in traditional agriculture and farming, most existing herbicides (based on artificial, chemical ingredients) come along with severe negative impacts on soil and drinking water reservoirs as well as on bees/insects.

Organic pesticides (antibacterial, antibiotic) made from water flower extracts (hydrolat) address this demand. Particularly it can help to protect plants from pest infestation. Additionally, organic pesticides made from water flower also have the potential to be used on pets/animals:

- Similar results as traditional chemical products.
- Drastically reduced negative effects on bees and other insects
- No pollution of drinking water reservoirs and soil with chemical herbicides
- Lower total costs of product usage due to recyclable bottles
- Higher tolerability by pets/animals
- Pets can be treated naturally by omitting chemically based products with a lot of possible side-effects

CUSTOMER RELATIONSHIPS

- Sales representatives (direct contact)
- Service hotline
- Road shows & events at customer site to show usage of product / train sales employees on the product
- Social Media (Website)
- Testimonials by influencers
- User success stories ("before" and "after")

CHANNELS

- Direct sales (PoS)
- Customer relationship management
- Trade fairs
- Road shows & training
- Social media
- Hotline
- Send free samples to key customers / multipliers

CUSTOMER SEGMENTS

- Niche market in the upper price segment of organic/natural herbicides
- Estimated market size
  - small to medium (organic farmers and private farmers)
  - big (traditional farming & pet owners)
- Especially pet market is highly attractive in terms of protection against fleas and
- Differentiation by sustainability, quality, customisation (individual mixtures, compositions of pesticides)

B2B:

- Fruit farmers (organic farming)
- Conventional farmers
- Pest controllers
- Veterinaries
- Naturopathies
- Producers of anti-mosquito sprays
- Animal shelters, animal trainers
- Breeding associations

B2C:

- Private farmers via e-commerce
- Pet owners

COST STRUCTURE

- Costs of development and testing (75.000 to 100.000, - Euro)
- Raw Materials
- Manufacturing (5, - Euro/unit)
- Packaging (x Euro/unit)
- Marketing and sales (logistics, advertisement, homepage)
- Services (payroll costs, infrastructure)
- Building

REVENUE STREAMS

- Direct selling of product / eventually pay-per-use (for key customers)
- 100.000 animals in Voralberg -> 10% coverage
- € 20,-/unit net → € 200.000,- revenue
- Licence fees granted to other manufacturers (?)

BUSINESS MODEL: HERBAL SUPPLEMENTS FOR ANIMALS

BM #23

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

R&D

- Laboratory of a regional university (of applied sciences)
- Marketing and communications agency
- Logistic partner (ideally with good CO2-footprint)

Manufacturing

- Manufacturing partners (licencees)
- Lawyer to develop cooperative contract and license-agreements

KEY ACTIVITIES

R&D

- Development of recipes and mixtures
- Market analysis
- Solutions for storage
- Development of packaging, label, corporate design and logo
- Search for suppliers and manufacturers

Manufacturing

- Processing of the materials by means of drying and extraction carried out by agricultural holdings or group of regional producers (producer association, producers cooperative)
- Make-to-stock
- Maintaining and management the producer cooperative

Marketing & Sales

- Building and maintaining a network of specialised resellers/retailers (such as e.g. ArcaPlanet, Isola dei tesori, drug stores and livestock farms)

Services & Aftersales

- Training and qualification a) salesperson at resellers and b) end-users
- Hotline + customer feedback management

KEY RESOURCES

- Risk capital (e.g. partially covered by funding)
- IPR-protected asset of how to produce herbal supplements
- Network of manufacturing partners (cooperative) and trustful relationship between them
- Access to raw material (herbs) in the requires quality and quantity
- Well-trained salespersons/sales agents
- High-skilled employees in service
- Distribution and service infrastructure
- Certification and marketing approval
- Environmental and economic sustainability
- Proven health functionality of product

VALUE PROPOSITIONS

While the trend or organic and health-functional food ("superfood") has been widely established in human nutrition, there is a future trend of superfood for animals and pets. The idea is to use the power and potential of functional elements of natural/organic herbs to make pet/animal food a) more healthy by avoiding chemical or artificial supplements, and b) to use them for curing the increasing number of pets suffering from "diseases of civilization" like high blood pressure, diabetes or fatty liver.

Nutrition supplements on an herbal basis address these demands

- Healthier pet/animal food
- Higher sustainability due to the use of organic herbs
- Lower pollution of wastewater and soil with chemical substances
- Organic/natural product

CUSTOMER RELATIONSHIPS

- Well-trained salespersons
- Qualification and training of salespersons at resellers
- Event & road show of how to use products
- Feedback and complaints management
- Hotline
- Social Media (Website)

CHANNELS

- Sales persons
- Trade fairs
- Conferences
- Media (professional publications, popular science publications)

CUSTOMER SEGMENTS

New market with a new product

Differentiation by

- Quality
- Sustainability
- Functionality

B2B

- Market size large + growing
- Manufacturers and service providers of health products and therapy for farm animals and pets
- Veterinaries, animal shops, pharmacies, animal nutrition

COST STRUCTURE

- Initial investment for starting the cooperation with Universities and all the related costs for the research activities → partially to be covered by fundraising
- Lawyer
- Marketing agency
- Recruiting + hiring (couriers, marketing + communication specialists, external sales agents + service personel)
- Marketing and advertising

REVENUE STREAMS

- Direct sales of products to resellers
- Grants of manufacturing licences to producer cooperative

BUSINESS MODEL: SECOND LIFE HERBAL PACKAGING

BM #24

Please note: This business model blueprint is the raw result of the open innovation workshops. It was neither checked for feasibility and plausibility nor enriched with additional information.

KEY PARTNERS

- Universities and researcher centres
- Students (Bachelor/Master theses in collaboration with project) for marketing concept, product development, market study, etc.
- Consortium of farms (own the machinery)
- Web-master / IT support

KEY ACTIVITIES

Research and development (in collaboration):
- Characteristics of the materials (lightness, resistance)
- Product design
- Prototypes
- Testing: Efficiency analysis / Pressure resistance analysis
- Production methods

Production (independently):
- Collaboration with other farms for the collection of by-products → form consortium
- Selection of the materials during the harvest
- Drying of the plants direct in the field
- Production of pellets from the stem of herbs

Production (in collaboration - consortium):
- Production of bags made of herbs to be filled with herbs to be placed in boxes
- Production of boxes to store products during transport

Sales (independently & in collaboration):
- Develop licensing model for brand use
- Creation of specific stickers and labels to brand the product
- Direct selling to B2B customers
- Graphic design for the packaging
- Consulting and assistance

KEY RESOURCES

- Herbs / By-products
- Know-How
- Additional biodegradable material for the packaging (e.g. materbio)
- Machinery for the production of pellets
- Marketing materials (flyers, roll-ups, info materials)

VALUE PROPOSITIONS

Sustainable packaging made with by-products of herbs with a second life

Functionality:
- - Plant-based boxes and bags
- - Plant-based filling material (pellets) for protection of products in packaging
- - Adaptable for packaging of different types of products

Environmental sustainability:
- - Packaging 100% based on herbs and by-products of other herbal products
- - Second use of packaging for other purposes (e.g. cat litter, heating material)
- - Biodegradable packaging
- - Transparent production process through indication on labels

CUSTOMER RELATIONSHIPS

B2B:
- - Licensing of brand use
- - In-depth consulting and assistance on product use during sales phase
- - Recommendations for second-life possibilities
- - Limited customer service in after-sales phase

End-users of packaging:
- - Online information for second-life possibilities
- - Transparency of packaging production
- - Video tutorials for second-life possibilities of packaging

CHANNELS

- B2B Selling
- Industry networks
- Fairs (e.g. Packaging Innovations Zurich)

CUSTOMER SEGMENTS

B2B:
- - Paper manufacturers
- - Packaging manufacturers
- - Print shops
- - E-commerce enterprises (e.g. Amazon)

COST STRUCTURE

One-time costs:
- Set-up of licensing agreement
- Machinery
- Research activities

Recurring costs:
- Rental fee for consortium machinery
- Salaries
- Marketing / Promotion materials (Flyers, roll-ups, etc.)

REVENUE STREAMS

- Sales per unit of sold bags/boxes
- Sales per kg of sold pellets
- Licensing for brand use

CONTACT PERSON
Anna Bäuerle
Project Coordinator "AlpBioEco"
InnoCamp Sigmaringen
Marie-Curie-Str. 20 · D-72488 Sigmaringen
Tel: +49 75 71 / 9 27 92 72 · Mobile: +49 174 / 3 47 03 38
Email: alpbioeco@sigmaringen.de

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CONTACT

Anna Bäuerle ||| Project coordination ||| EU Interreg Project AlpBioEco ||| alpbioeo@sigmaringen.de

PROJECT PARTNERS

BIOTEHNIŠKI CENTER NAKLO
BUND FRIENDS OF THE EARTH GERMANY
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