Sustainable entrepreneurship and growth.
The role of organisational design principles

Erik G. Hansen[1,2,*], Stefan Schaltegger[2] and Sabine Mirkovic[3]

[1] *Innovation Incubator, Leuphana University Lüneburg, Germany*

[2] *Centre for Sustainability Management (CSM), Leuphana University Lüneburg, Germany*

[3] *Scholz & Friends Reputation, Scholz & Friends GmbH Berlin, Berlin*

Corresponding author: erik.hansen@uni.leuphana.de

Accepted for presentation at:

G-Forum, 18. Forum Gründungsforschung - Interdisziplinäre Entrepreneurship Jahreskonferenz, 13. - 14. November 2014 in Oldenburg, Germany

Keywords

Sustainable entrepreneurship, entrepreneurial growth, organisational design principles, niche markets, industry transformation, corporate sustainability, beverage industry, family businesses, CSR

ABSTRACT

Sustainable entrepreneurs – here understood as small entrepreneurial companies developing radically more sustainable offerings and introducing them into the market – have been considered important drivers for the sustainability-oriented transformation of markets and industries. In literature different growth patterns of sustainable entrepreneurs and implications for sustainability are described often conceptualised as a dichotomy of "small is beautiful" vs. the desire for indefinite growth. While remaining small can limit the organisation's sustainability impact on the industry, growing too fast can jeopardise the organisation's independency or survival. In the present paper we take a more differentiated look at the speed of growth taken by sustainable entrepreneurs. For this, we apply the theoretical lens of "perpetual reasoning" – organisational design principles derived from the context of sustainable entrepreneurship – to growth-related decisions of the entrepreneur. We conducted a single longitudinal case study in a medium-sized entrepreneurial family business in the beverage industry in Germany which is widely recognised for its sustainability achievements. The results show that growth leads to challenges in various phases of the firm's value chain (consumption, retail, production, supply) and that the consistent application of organisational design principles has allowed the entrepreneur to generate healthy growth while maintaining the sustainability mission. Our contribution to the growing literature on sustainable entrepreneurship is threefold: first we develop a more fine-grained understanding of growth challenges in relation to product life-cycle phases; second, we deepen the understanding on decision-making of sustainable entrepreneurs in growth scenarios using organisational design principles; and third, we contribute to the discussion of entrepreneurial growth patterns by highlighting the role of the speed of growth.

INTRODUCTION

Rising consumer demand, increasing pressure from socio-political actors, and new regulations represent some of the drivers for the development of new markets for more environmentally and socially benign products and services. While it is possible for large companies to participate in these "sustainable future markets" by changing their innovation routines and direction (Fichter & Pfriem, 2007), due to their reactive postures, bureaucratic structure, and path dependencies, their advances are usually limited to incremental contribution such as more resource or energy efficient products.

In contrast to large incumbents, the role of new ventures and small entrepreneurial firms has been highlighted as more far-reaching drivers of sustainability-oriented change. Entrepreneurial firms can act without the burden of an (unsustainable) company history, and they can create and offer products and services which contribute much more radically to sustainability from the very beginning (Hockerts & Wüstenhagen, 2010). These entrepreneurs often operate with hybrid missions which seek to achieve both market success and a contribution to sustainable development. It various cases the goal hierarchy of the organisation is even inverted whereas profit is not the end goal of the organisation, but only a means to an the end of contributing to sustainable development (e.g. Parrish, 2010).

Against this background, a growing research community around ecopreneurship (Kearins & Collins, 2012; Petersen, 2005; Schaltegger, 2002) and sustainable entrepreneurship has emerged (Clausen & Fichter, 2011; Hall, Daneke, & Lenox, 2010; Hockerts & Wüstenhagen, 2010; Schaltegger & Wagner, 2011). The literature identifies various dynamic patterns contributing to a sustainability-oriented industry transformation including 'growing Davids', 'multiplying Davids', and 'greening Goliaths' (Hockerts & Wüstenhagen, 2010; Wüstenhagen, 1998). One particular challenge is described by the 'growing David' development path (Wüstenhagen, 1998) of successful small entrepreneurs in a sustainability-oriented market niche (also called bioneers, see e.g. Schaltegger, 2002, sustainable pioneers, etc.) who aim to grow and 'conquer' the mass market. When these small entrepreneurs grow they can face a mission drift where sustainability-related aims are cannibalised by the economic logic (Battilana & Dorado, 2010; Kearins & Collins, 2012). Another risk is that they are threatened by market incumbents which become aware of the new competitors once they grow above a certain threshold (Moore & Manring, 2009; Petersen, 2006). Indeed many cases such the German organic soft drink company Bionade (Tischner, 2007; WIWO, 2012) exist, where sustainable entrepreneurs fell victim of their own growth ambition, were taken over by large corporations, and ultimately (or temporarily) lost reputation and impact on the sustainability transformation of the industry. Growth therefore is a very important aspect to understand sustainable entrepreneurship and its role in industry dynamics and the sustainability transformation of markets.

Most existing studies in sustainable entrepreneurship are descriptive case studies or prescriptive accounts (Hall et al., 2010) and lack theoretical generalisation. One of the exceptions is contributed by Kearins and Collins (2012) who relate to sensemaking theory for analysing entrepreneurial decision on growth and selling the business. Another perhaps more

far reaching approach is given by Parrish (2010) who theorises on organisational design principles to explain decisions of sustainable entrepreneurs – though he does not specifically analyse growth-related decisions. He finds that while conventional entrepreneurs operate on principles of "exploitative reasoning", sustainable entrepreneurs operate on principles of "perpetual reasoning" (Parrish, 2010, p. 517). Perpetual reasoning can be operationalised with five organisational principles: (1) *resource perpetuation* means to produce benefit streams by enhancing and maintaining quality of human and natural resources for the longest time possible; (2) *benefit stacking* means to stack as many benefits as possible onto each operational activity; (3) *strategic satisficing* deals with strategically identifying satisfactory outcomes of multiple objectives; (4) the *principle of qualitative management* requires to use expected quality of outcomes and processes as decision criteria; and (5) *worthy contribution* aims at structuring benefit streams to privilege worthy recipients by providing opportunities for contributing to the enterprise (Parrish, 2010, p. 517).

In this paper we apply the conceptual lens of organisational design principles (Parrish, 2010) to explore how sustainable entrepreneurs successfully manage growth in the sense of achieving growing market shares *and* – at the same time – maintaining the sustainability mission and standards. More specifically, we are interested in the following research question:

> *How do the principles of perpetual reasoning help sustainable entrepreneurs to successfully overcome the tension between growth ambition and high sustainability standards?*

We aim to answer this research question with a single longitudinal case study of the German organic juice producer Voelkel GmbH, a pioneer in the market who has received several prestigious sustainability awards. Voelkel is a medium-sized entrepreneurial family company led by the third generation and has followed a growth trajectory for several decades while maintaining its extraordinary sustainability orientation. We contribute to the entrepreneurship literature trying to understand growth challenges and patterns of sustainable entrepreneurs. Our contribution is twofold: first, we show that for sustainable entrepreneurs "growth" is not a monolithic entity, but that it is composed of various partial growth challenges along the entire product life-cycle including supply side, production, retail, product use, and post use aspects. Second, we apply the theoretical lens of organisational design principles in general and perpetual reasoning in particular (Parrish, 2010) in order to analyse how these growth challenges can be successfully managed by sustainable entrepreneurs.

The remainder of this paper is structured as follows: first, we present a literature review on sustainable entrepreneurship and organisational design principles. Second, the case study research design is presented. Third, a brief introduction to sustainability in the beverage industry is given and the case company is introduced. Fourth, the case analysis dedicated to how organisational design principles of perpetual reasoning are applied to growth decisions is presented. The paper ends with a discussion of the results and a brief conclusion.

LITERATURE REVIEW

This literature review is split into two parts: first the literature on sustainable entrepreneurship is explored. Second, the organisational design principles applied by sustainable entrepreneurs are presented.

Sustainable entrepreneurship

What is it?

Recently the role of new ventures and small entrepreneurial firms as drivers of sustainability-oriented change has been highlighted. Sustainability ventures and entrepreneurs are not influenced by an unsustainable organizational history and they can create and offer products and services which contribute much more radically to sustainability from the very beginning. A growing research community around ecopreneurship (Dixon & Clifford, 2007; Kearins & Collins, 2012; Petersen, 2005; Schaltegger, 2002) and sustainable entrepreneurship has emerged (Clausen & Fichter, 2011; Hall et al., 2010; Hockerts & Wüstenhagen, 2010; Schaltegger & Wagner, 2011). Sustainable entrepreneurship can be understood as "an innovative, market-oriented and personality driven form of creating economic and societal value by means of break-through environmentally or socially beneficial market [...] innovations" (Schaltegger & Wagner, 2011).

The notion sustainable entrepreneurship has been applied to analyse the dynamics of sustainability-oriented innovations introduced by new ventures (by entrepreneurs) and the responses by incumbents (or by intrapreneurs) together leading to industry transformation (Hockerts & Wüstenhagen, 2010). Because of their pivotal role in the transformation dynamics, this paper focuses on those sustainable entrepreneurs which have been able to establish themselves as pioneering companies by making sustainability an integral part of their business model and by introducing products and services with very ambitious sustainability characteristics – a type which has also been called "bioneers" (Schaltegger,

2002; Schaltegger & Wagner, 2011). These sustainable entrepreneurs are mission-driven and thus "hybrid organizations" following both economic and societal goals in parallel (Boyd et al., 2009). These sustainable entrepreneurs hence follow an understanding of "inclusive profitability" rather than "bounded instrumentality" (Hahn & Figge, 2011). While corporate sustainability often focuses on mitigating negative social and environmental effects in enterprises operating under the logic of maximizing financial returns, sustainable entrepreneurship is in these cases understood the other way around (Parrish, 2010, p. 512):

> the rationale for entrepreneurial contributions to sustainable development is reversed: contributing to improved ecological and social wellbeing is a primary purpose of the enterprise, and market-based income is valued as a means of achieving these ends.

Recent research in sustainable entrepreneurship reveals a large number of case studies using mixed industry samples (Kearins, Collins, & Tregidga, 2010) or sector specific studies such as retail (e.g. Holt, 2012), clothing (e.g. Fowler & Hope, 2007; Illge & Preuss, 2012; Plieth, Bullinger, & Hansen, 2012), and food (Jolink & Niesten, forthcoming; Kearins & Collins, 2012).

Niche, mass markets and growth strategies

A central theme in the research field dealing with sustainability and entrepreneurship is the question how sustainable entrepreneurs can influence mass markets thereby contributing substantially to industry transformation. Sustainable entrepreneurs introduce radically more sustainable offers and drive market dynamics by influencing customers, competitors, and policy makers. What remains unclear is how sustainable entrepreneurs can maximize their social and environmental impact: by remaining small or by growing as much as possible (Kyrö, 2001; Parrish, 2010)? These are two extremes which are also represented by the two generic growth patterns "multiplying Davids" (small sustainable pioneers maintaining their focus on the niche market but with the increasing number of bioneers collectively influencing the mass market) and "emerging Davids" (one or few bioneers growing in size thus influencing the mass market as a grown organisation), respectively (Hockerts & Wüstenhagen, 2010; Wüstenhagen, 1998).

Remaining small reflects the principle of "small is beautiful" (Schumacher, 1975, c1973) in the sense that staying small enables the entrepreneur to maintain 'true sustainability values without compromise'. Of course, small enterprises can also influence mass markets even if they remain small, for example as a source of inspiration for other actors including incumbent firms as best practice examples for sustainability managers in incumbent companies to

convince top management of the feasibility of more radical sustainability improvements, or for policy makers in the need of demonstrating working alternative solutions to enforce stricter regulations. However, when they remain in the niche they are sometimes 'below the radar' of recognition, in other cases not convincing enough examples to sufficiently support sustainability managements in incumbent companies and politicians to move ahead, and, of course, their direct impact remains limited. We therefore consider the emerging David pattern (Hockerts & Wüstenhagen, 2010), in which sustainable entrepreneurs influence the industry through their growth from a niche into the mass market, as an important path for sustainability transformations of mass markets. However, growth of sustainable entrepreneurship organisations faces at least three challenges:

- *Life-cycle related growth challenges*. For sustainable entrepreneurs, growing is much more challenging than for conventional firms. The high sustainability standards are usually reflected in specific quality criteria in the *supply chain* (e.g. certified resources such as fair trade or organic produce). Usually, such supplies are not yet or not in sufficiently quantity or quality available so that an increased demand cannot be satisfied fast enough to synchronise demand and supply (Harms, Hansen, & Schaltegger, 2013). Sustainable entrepreneurs therefore often have to vertically integrate their value and supply chain to a larger extent than many conventional entrepreneurs and finance projects for developing new supplies or to motivate existing suppliers to transform their products according to the new sustainability standards. For instance, Hess Nature, the German sustainable clothing pioneer invested heavily in natural and organic fibre plantations in various countries in order to increase the supply (Illge & Preuss, 2012). Particularly in agricultural-based sectors, this can take several years and therefore renders rapid growth impossible. While the supply side can be particularly demanding, growth challenges can be identified in each of the product's life-cycle phases including consumption and reuse or recycling (Hansen, Große-Dunker, & Reichwald, 2009).
- *Mission drift*. Most importantly, when growing into the mass market, trade-offs between economic, environmental, and social goals may occur (Hahn et al., 2010) which puts sustainable entrepreneurs at risk of losing their core sustainability orientation and values (Kearins & Collins, 2012) ultimately leading to mission drift (Battilana & Dorado, 2010). Various reasons can either force management to a mission drift or provide incentives for a 'hidden, slow' mission drift. Some trade-offs

can be temporary (e.g. due to investments in increasing production capacities), design related (e.g. as certain ingredients or inputs become scarce or unavailable), or fundamental (e.g. as the sustainability characteristics get lost with increasing production such as biofuels requiring monocultures when produced on a large scale; see Sommer, 2012).

- *Competition by incumbents*. Once market segments of sustainability-oriented products exceed a certain threshold they move on the 'radar' of large firms which then enter the market by imitating the sustainable offerings (Petersen, 2006). This is a challenge for sustainable entrepreneurs as they either need to compete for market shares with their larger counterparts or need to find ways for protecting their niche (Holt, 2012). Often the incumbents have larger financial and personnel resources and they can create cost reduction pressure in early growth stages of the bioneers in phases when they are particularly challenged with new investments to enlarge their production. Another competitive challenge created may emerge if incumbents do not enter the market with the same high sustainability standards of their 'sustainable products' thus questioning the credibility of the sustainability offers of the bioneers, too.

Given these insights, one central challenge is how, and how fast sustainable entrepreneurs can grow from the niche into the mass market and increase their sustainability impact (Hockerts & Wüstenhagen, 2010; Schaltegger & Wagner, 2011; Wüstenhagen, 1998) while not losing their radical sustainability orientation. Achieving success with this double aim requires careful decision-making based on organisational design principles.

Organisational design principles

Organisational design principles are related to terms such as 'logics of action', 'interpretative scheme', 'organizational frame of reference', and 'implicit theory of organising' (Parrish, 2010) and are understood here as a "a heuristic for how actors interpret and represent information and how they select appropriate behaviours" (McEvily, Perrone, & Zaheer, 2003, p. 92; see also Parrish, 2010). "Design" as "an activity is value-laden in the sense that the goal is taken to be desirable or valuable. It is rule-governed to the extent that the process is guided by general rules of action" (Niiniluoto, 2001, p. 375). These rules can be considered to guide sensemaking of sustainable entrepreneurs (Kearins & Collins, 2012).

Parrish (2010) finds in a comparative case study that sustainable entrepreneurs who successfully survive and thrive in competitive environments make decisions based on

principles of 'perpetual reasoning' in contrast to 'exploitative reasoning' in conventional firms (Table 1).

Organization design requirement	**Principles of organizational design**	
	'**Perpetual reasoning**' (*sustainable* entrepreneurs)	'**Exploitative reasoning**' (*conventional* entrepreneurs)
Justifying existence (purpose)	**Resource perpetuation** Produce benefit streams by enhancing and maintaining quality of human and natural resources for the longest time possible	**Resource exploitation** Produce profits by using human and natural resources to generate maximum financial return in the shortest time possible
Achieving synergies (efficiency)	**Benefit stacking** Stack as many benefits as possible onto each operational activity	**Least-cost economizing** Reduce inputs without a parallel reduction in outputs
Balancing competing objectives (tradeoffs)	**Strategic satisficing** Strategically identify satisfactory outcomes of multiple objectives	**Single-objective maximizing** Maximize the outcome of a single overriding objective
Prioritizing decision choices (criteria)	**Qualitative management** Use expected quality of outcomes and processes as decision criteria	**Quantitative management** Use expected quantity of outcomes as decision criteria
Allocating benefits (inducements)	**Worthy contribution** Structure benefit streams to privilege worthy recipients by providing opportunities for contributing to the enterprise	**Claims of power** Structure benefit streams such that claims by recipients with more power are privileged over those with less power

Table 1 Organisational design requirements in relation to different sets of principles (source: Parrish, 2010, p. 517)

In this paper, we are particularly interested in how sustainable entrepreneurs apply the principles of perpetual reasoning to growth challenges. The five principles of perpetual reasoning are explained in more detail next (Parrish, 2010):

- *Resource perpetuation.* Conventional entrepreneurs and firms are based on a purpose of "exploitative reasoning" meaning that they exploit resources – ecological, social, and economic – and translate them in productive ways to generate maximum financial returns. Sustainable entrepreneurs are rooted in *resource perpetuation*, that is, they develop value chains through which resources are perpetuated for the longest possible – if not indefinite – use in the future. Rather than just maximizing of financial return, they are in fact interested in the preservation of the resources, with financial returns sometimes only being a side effect. Sustainable entrepreneurs' approach to ecological resource perpetuation can be best described by the concept of industrial ecology

(Huber, 2000): first, they design value chains with environmentally compatible industrial material flows and energy use and, second, they do this in the most (eco-) efficient way possible. Applied to agriculture (which is relevant in this paper), this means that "ecologically appropriate farming maintains and improves soil and water, thereby *perpetually* reproducing, and perhaps even increasing, the yield of biomass. So every percentage point of economic growth is welcome, because it means maintenance and growth of biodiversity and ecological stability at the same time" (Huber, 2000, p. 281). Social or human resources can also be perpetuated, in this case, by striving for long-term partnerships and fair exchange relationships as, for instance, represented by fair trade principles (Holt & Watson, 2008).

- *Benefit stacking*. Conventional entrepreneurs and firms operate with the logic of least-cost economizing. First, certain outcome goals are specified (usually certain quantities with a certain quality); then, the inputs are streamlined as to realize the most cost-efficient way of production. In contrast, sustainable entrepreneurs operate on the principle of "*benefit stacking*". Their enterprise is designed so that "as many beneficial outcomes for as many stakeholders as possible are produced for each organizational activity" (Parrish, 2010, p. 518). For instance, against a narrow logic of process efficiency, this can allow to use more workers or less efficient workers (e.g. disabled persons) than necessary in conventional industry practices if this supports the achievement of desired sustainability goals.
- *Strategic satisficing*. Conventional businesses are focused on maximizing a single goal – financial performance – under certain secondary conditions (e.g. certain environmental standards). Against this background, trade-offs are often accepted fast (instead of searching hard for options how to overcome them) and usually 'solved' against social and environmental dimensions. As a difference, sustainable entrepreneurs do not *maximize* financial performance or other goals – they pursue strategic satisfaction. They formulate threshold goals by specifying quantitative and qualitative outcomes which are maybe best represented by terms such as "reasonable", "fair", or "viable". Once target levels for the various goals are reached, the organisation can search how to overcome trade-offs among different ends, thereby considerably enhancing the potential scope for engaging in sustainability.
- *Qualitative management*. Conventional enterprises are foremost focused on quantitative outcome goals (e.g. sales volume, profits). Sustainable entrepreneurs,

however, focus predominantly on outcome quality. They aim to achieve or maintain a high quality ecological environment and high quality stakeholder participation and satisfaction in the value creation processes and decide for achievable production quantities and financial outcomes against this background. This means that even quantitative goals such as growth are constrained by qualitative goals. More generally, they want to achieve high sustainability quality of their organisation and sustainability contributions to the market and society.

- *Worthy contribution*. In conventional enterprises those stakeholders with most power over resources which are crucial for the organisation usually receive the highest returns (or receive benefits at all). This privileges shareholders and senior management over other less powerful stakeholders. In contrast, the principle of worthy contribution, pursued by sustainable entrepreneurs, creates also benefits for vulnerable stakeholders most in need. This is not charitable giving or strategic philanthropy, but achieved through the design of business model. Sustainable entrepreneurs provided opportunities to stakeholders in need to contribute to the value creation of the organisation and thus participate with a share of the generated value.

METHOD

Research design

We conducted a single longitudinal case study in the German beverage sector with the small family business Voelkel GmbH (in the following simply "Voelkel"). The case study is based on two units of analysis: the organisation Voelkel with its growth and sustainability-related practices and the entrepreneur (and owner manager) with his reasoning.

Case selection

Voelkel is a family-owned business in the third generation and has experienced steady growth over several decades. The bioneer is a producer of exclusively organic juices with approximately a third being Demeter certified (one of the most ambitious international organic certification standards). The company has successfully diversified its product portfolio from pure fruit and vegetable juices to soft drinks and life-style drinks (Voelkel, 2011). Voelkel received various prestigious awards for sustainability, environmental management, and outstanding employer practices. In 2012 it was ranked 3rd in the category future sustainability strategy for small and medium-sized enterprises in Germany's most

prestigious sustainability award ("Deutscher Nachhaltigkeitspreis"). In 2013 it received the "Best Apprenticeship Award" of the regional employment office for its significant support of apprentices. Last but not least, its product range is regularly awarded with the highest mark of Germany's most popular ecological product test "Oeko Test" (Lützenkirchen, 2014). Together this makes Voelkel a sustainability pioneer and an "extreme case" of particular interest for case study research (Yin, 2003).

Data collection

We conducted research with the company for a period of more than five years observing developments in a close academic-practitioner relationship. This "engaged scholarship" (van de Ven, 2007) enabled not only better access to (informal) data, but also allowed to analyse processes when they did emerged rather than a mere ex-post analysis (van de Ven & Poole, 1990). Data collection therefore covered desk research, formal interviews, site visits, participant observation (e.g. participating in meetings), informal meetings with the entrepreneur, and formal and informal exchange in various research and study programmes of the research centre. The latter includes company presentations, discussions, and project seminars with students of the MBA Sustainability Management, a teaching case study, workshops facilitated by the company, project-based learning, various full day seminars with a small group of local sustainability oriented SMEs, and innovation networks (Table 2).

Type of data	Quantity	Date	Description
Corporate documents	various	2010 – 2014	Internet websites; sustainability report; company vision and principles; quality and environmental guidelines; press releases and external media reports
Formal interviews	8	2011, 2012	Several interviews were conducted as part of the Development of a teaching case study for the institute's MBA Sustainability Management Programme
Site visits	3	2012, 2013	Several site visits were accomplished for visiting the different sites (e.g. production), to conduct interviews, or to participate in company activities.
Participant observation	1	2011	One of the authors spent 4 days at the company's marketing department with access to documents and employees.
Events in centre's sustainability network	>12	since 2010	The university's innovation network for sustainability in small and medium-sized enterprises ("INaMi") is an EU funded transfer project in which networking events are fostered so that local SMEs meet, learn about sustainability practices, learn from each other, and get motivated to advance their sustainability performance. At least three workshops per year are offered. Voelkel has been member of the network from the beginning.
Visiting lectures and workshops	>6	2012 (MSc.) 2010, 2012 (MBA lectures) 2011-2013 (facilitation of MBA Teaching Case)	Voelkel gave several company presentations in sustainability-related courses (e.g. MBA Sustainability Management and Master Sustainability Sciences).
Supervised student projects	1	2010 – 2011	A team of five Master students worked on sustainability marketing concept for and in collaboration with Voelkel
Informal meetings	>5	2000 – 2014	The (co) authors of the paper have met company representatives on various occasions since the foundation of the university's institute and have continuously discussed issues related to the case.

Table 2 Data collection for the longitudinal case study based on engaged scholarship

Data analysis

Data from the various interaction formats was mostly explicated in internal reports (e.g. workshop protocols; seminal papers; masters theses). For each interview a protocol was created. In a first step these data points where triangulated (Yin, 2003, p. 100). Together all data items very analysed and reflected in the light of different theoretical streams in an iterative process. Further data was collected until theoretical satisfaction was achieved for this analysis. Overall, we applied an iterative, abductive approach by "constantly going 'back and forth' from one type of research activity to another and between empirical observations and theory" (Dubois & Gadde, 2002).

The remainder of the paper presents the case study results. First, an introduction to the beverage industry is given. Second, the case company Voelkel is presented. Third, the results of the analysis are elaborated showing how Voelkel has dealt with growth-related challenges using organisational principles of perpetual reasoning. Fourth, the results are discussed.

SUSTAINABILITY, AGRICULTURE AND THE BEVERAGE INDUSTRY

Before describing the actual results of the case study at Voelkel, this section briefly describes the sustainability-related characteristics and practices of the beverages industry and its links to the agricultural system.

Sustainability in the beverage industry

The beverage industry – and more broadly the food and beverage industry – is traditionally closely linked to the agricultural sector, as it is based on agricultural produce which it transforms into so called processed beverages. Therefore sustainability characteristics of beverages (and foods) strongly depend on the agricultural practices in the supply chain. In the modern beverage industry the degree of processing can differ from rather cautious processing to so called "ultra-processed" drinks (Moodie et al., 2013) and the latter is often subject to a strong replacement of agricultural inputs by 'artificial' chemical inputs (e.g. artificial flavours and sweeteners). Accordingly, also non-agricultural aspects have become increasingly important particularly in those ultra-processed beverages industries. Dealing with rather traditional, low-processed beverages this paper focuses on agricultural practices.

Sustainability and agricultural practices

Conventional agriculture is subject to many severe sustainability problems. It depends on

high amounts of chemical and energy inputs – fertilizers and pesticides as well as related crop protection measures. These materials and conventional agricultural practices are heavily criticised to not only damage soil, ground water, and ecosystems, but to also cause health risks for farmers, the local population, and – via residues in the end product – to consumers (Notarnicola et al., 2012). Moreover, increasingly high yields can lead to changes of the characteristics of the plants and fruit and to an reduced nutrition levels (Halweil, 2007). Last but not least, genetically modified plants, particularly those which incorporate "systemic pesticides" are seen as a new challenge. Though proponents consider these engineered plants as solution to overcome problems of conventional pesticides and even to bring world food security (Edge et al., 2001), opponents consider them as myths of industrial agriculture (Kimbrell, 2002). A systematic review recently conducted by independent scientists demonstrates that systemic pesticides are indeed responsible for a massive biodiversity loss – also bees, one of the most important species responsible for pollination of virtually all fruit and vegetable plants, as well as most other plants (Gibbons, Morrissey, & Mineau, 2014). Against this background, three important approaches exist for improving the sustainability characteristics of agriculture (Hansen & Schaltegger, 2013; Illge & Preuss, 2012):

- *Integrated production*. A first approach aims at sustainability-oriented improvments of conventional agricultural production system, referred to as integrated production or integrated pest management (IOBC/WPRS, 2004). The integrated production system is an *efficiency* approach and deals with the reduction of environmental impacts by using less pesticides and fungicides, chemical fertilizers, and water and was already called for in the Brundtland report (WCED, 1987, p. 67). As it basically follows the same approach as conventional agriculture, most farmers can or could easily adopt it. This approach can therefore lead to significant improvements. However, integrated production is often criticised for its unclear regulation, regional differences, and lack of a holistic approach (UN, 2003, p. 6).
- *Organic agriculture*. In contrast to the integrated production system, the organic production system is a 'consistency' approach (Schaltegger & Burritt, 2005) as it aims at cultivating fruits and vegetables with material flow systems in harmony with the natural environment. This is achieved by crop rotation, use of natural fertilizer (usually from animal husbandry), and natural plant protection. It thus represents a circular economy in the agricultural sector. With few exceptions, chemical pesticides and fertilizers are forbidden (UN, 2003). Organic agriculture is also considered

important to mitigate climate change (Scialabba & Müller-Lindenlauf, 2010). Though the opposite is often stated, organic agriculture is more efficient in resource utilization (i.e. relationship between external energy inputs and related yield increase) than conventional agriculture (Mäder et al., 2002) and can also lead to yield increases in specific contexts such as developing nations (e.g. Badgley et al., 2007). At the same time it produces higher costs as more manual labour is required, however, sales prices are usually also higher due to price premiums of certified organic products. The organic standard is also the only one which rejects genetically engineered plants. The organic standard is internationally standardised by the International Federation of Organic Agriculture Movements (IFOAM) and is represented by various national and regional standards, most importantly the organic standards of the European Union ("EU organic") and the U.S. Department of Agriculture ("USDA organic") (Huber, Schmid, & Napo-Bitantem, 2010). For the last decade organic produce has become an important trend in the food and beverage industry particularly in Germany, but also in Europe and the US (BÖLW, 2013; UN, 2003). In Germany organic food and beverages accounts for about 4 per cent of the total market (BÖLW, 2013, p. 9).

- *Bio-dynamic agriculture ("Demeter").* The biodynamic or Demeter agriculture is basically organic, but with an even more holistic and strict philosophy of environmental, social, and ethical issues (UN, 2003, p. 4; VFBDW, n.d.). In comparison to other organic standards, Demeter only allows reduced levels of certain crop protection agents (e.g. copper). It requires a strict closed-loop system where only manure of *farm-owned* cattle is used for fertilizing the plantations (Demeter International, 2013). Demeter farms are thus always integrated operations of animal husbandry and farming. Additionally, the quality of the soil is emphasized and therefore soil is additionally treated with extracts from plants and animals, the so called "biodynamic preparations" (UN, 2003, p. 4).
- *Fair trade.* While the previous standards originate from the ecological domain, other more socially driven agricultural standards exist such as fair trade. Fair trade principally aims at more just contracts and payments between producers and agricultural suppliers, particularly in developing nations, but it also covers improved environmental practices or even the thrive towards organic agriculture (Fairtrade International, 2012). In turn, organic standards increasingly integrate fair trade aspects (Kröger & Schäfer, 2014). A trade-off can occur for producers offering sustainable

agricultural-based products, because they have to decide whether they aim at using fair trade produces from suppliers in developing nations which provide income to socially deprived farmers but cause high environmental impacts of transportation – or whether they use produces of local suppliers thus contributing to a thriving local economy with only a fraction of transport emissions (Holt & Watson, 2008).

The case company, which is presented next, uses organic, biodynamic, and fair trade standards for its entire product range.

AN INTRODUCTION TO VOELKEL JUICES (DESCRIPTIVE ACCOUNT)

Voelkel GmbH (in the following simply "Voelkel") is a medium-sized limited company and family enterprise located in Pevestorf in Wendland, a region in the Northern part of Germany (near Lüneburg). The rural region is characterised by extensively managed agriculture land and forests in a rather pristine nature, and is considered a "structurally week" area.

Voelkel was founded in the 1920s by the family Voelkel who invested into first plantations of fruit and vegetable applying the biodynamic philosophy (i.e. Demeter standard). Their sales operation was based on travelling from village to village with a portable juice press. In 1936 the first professional production facility was established in Pevestorf and 1950 the company became member of the Demeter association. In the 1980s the third generation turned the business into a modern organic juice producer and has managed the business since then. While the business was founded on basis of the biodynamic philosophy, a more flexible approach to alternative organic standards has been chosen because the supply of Demeter certified inputs (fruit and vegetables) has been very limited and is often simply not available for certain product categories. The business is now more than 75 years old with the fourth generation already working for the enterprise (Voelkel, 2011, Voelkel, 2014b).

The company offers 100 per cent pure, natural, and not-from-concentrate fruit and vegetable juices, fruit juice drinks, fruit-based soft drinks (i.e. mix of fruit juice with mineral water and natural sweeteners; soft-drinks comparable to lemonades) and nectar juices which are all organic or Demeter certified. Some of the products with exotic fruit from developing nations (e.g. oranges) are additionally fair trade certified with an international fair trade label, while the products with regional fruits are based on fair trade principles of the national organisation BioFair (BioFair, 2014).

Its core brand "Voelkel" alone offers a product range of roughly 160 juices. The entrepreneurial spirit is illustrated by the introduction of a high number of new products each year. For example, in 2010 Voelkel introduced 21 new products for specialised wholefood shops (Voelkel, 2011, p. 13). Additionally, the company also produces for various third party trademarks. In 2010 it produced 90.000 litres per day (Voelkel, 2011). Today, Voelkel employs about 156 employees and has a sales turnover of 45 Million Euros. About 20 per cent of the production is exported to 33 countries worldwide (Lützenkirchen, 2014; Voelkel, 2011).

In 2011, the owner created a foundation which is the sole owner of Voelkel GmbH and aims to guarantee that the company is not maximizing return on investment for the owner family (or anybody else), but that it pursues the sustainability mission of the company in the long-term. The foundation furthermore defines in its purpose to secure that profits are reinvested in the company (Voelkel, 2012c).

CHALLENGES OF GROWTH AND PERPETUAL REASONING (ANALYSIS)

The entrepreneur has a clear vision to generate societal impact by stimulating sustainable consumption with the company's products. In contrast to the "small is beautiful" believe, sustainable entrepreneurs therefore have the ambition to influence the mass market and therefore growth is an important approach to achieve the targeted sustainability transformation of the market:

> "To be famous as Persil, BMW, or Hipp [these are three very popular brands in Germany], this would be something ... " (Entrepreneur)

> "Voelkel juice is for everybody! Voelkel juice should be for everybody. Voelkel doesn't want to be an elitist or luxurious brand. We want to address all people with our healthy and natural juices and stimulate sustainable consumption." (Entrepreneur)

> "We stand for continuity and steady growth." (Entrepreneur)

Voelkel has pursued a strategy of organic growth by employing a deliberate strategy of incremental opening to the mass market and at the same time carefully nursing its sustainability ambition. Sales have steadily increased both in units and turnover over the last few years (Figure 1, Figure 2).

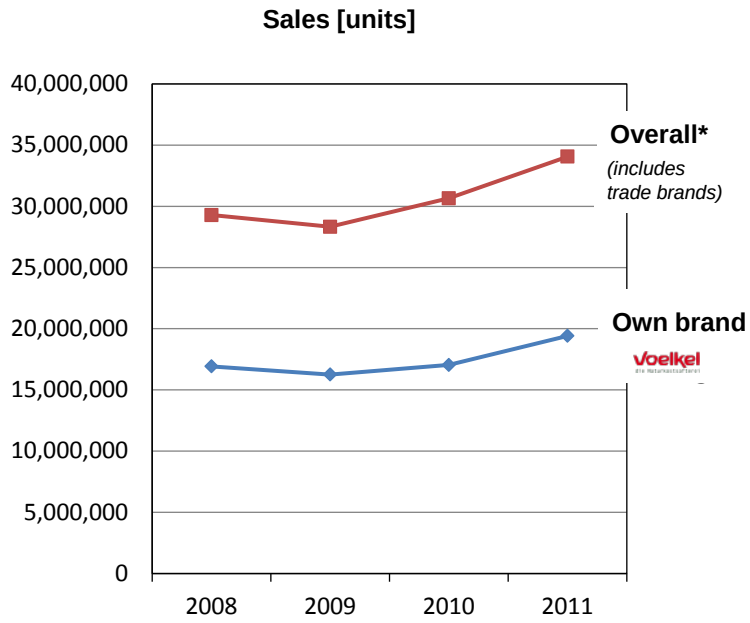

Figure 1 Organic sales growth at Voelkel (Source: Voelkel, 2012b)

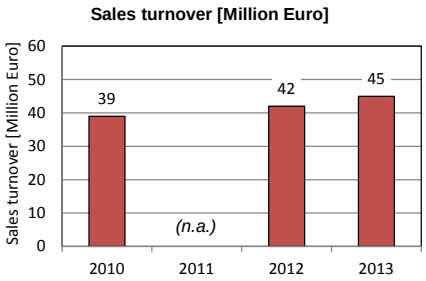

Figure 2 Sales turnover at Voelkel (Source: own compilation based on Goslich, 2013; Lützenkirchen, 2014; Voelkel, 2011)

The company has successfully diversified its product portfolio from pure fruit and vegetable juices to soft-drinks and life-style drinks. During this process the personal conviction of the owner-manager to "do the right thing" has played an extremely important role. Various trade-offs between growth opportunities, sustainability impacts, and consequences for the organizational identity and values had and still have to be dealt with.

As explained in the literature review, growth for sustainable entrepreneurs usually leads to challenges in various phases of the physical life-cycle of the offered products. In the case of Voelkel this is particularly evident, as they depend on agricultural produce for which supply cannot be instantly increased, but needs a significant amount of time for development (e.g. developing new tree plantations). In the following the growth challenges are examined for each phase in the life-cycle starting with the market or consumption side (i.e. use phase) and

then moving upstream to the supply side. For each life-cycle phase the growth challenges are introduced and the entrepreneurial responses are analysed using the principles of perpetual reasoning.

Life-cycle phase	Growth challenge	Explanation of growth challenge
Consumption (use and post use)	Market and product development strategy	Decisions must be made on how to grow: existing vs. new markets and existing vs. new products
	Packaging	- Perceived efforts necessary for returning reusable (glass) bottles detains more convenience-oriented customers. - Focus on glass bottles which are perceived to be environmentally friendly prohibits new market segments in which glass bottles are forbidden (e.g. sports, festivals, events) or strongly discouraged (children).
Retail	Need for new distribution/ retail channels, partners, and strategies	Existing organic retailers mostly involved and contributing to the good sustainability reputation. However, their limited distribution range and customer base limit further growth while a change into mass market distribution channels/retailers risks hampering the good sustainability reputation
	Adaptation of pricing strategy	While in the sustainability niche a significant price premium is accepted, in mass markets this is not (necessarily) the case
	Product labelling	Flood of sustainability labels (e.g. Demeter, EU organic, fair trade) leads to information overload and irritation of mass market consumers.
Production	Closed-loop production and resource/energy efficiency	Growing product sales leads to increased production volumes and requires a cleaner production strategy for decoupling growth from ecological resource and energy use
	Increasing complexity of production due to diverse product portfolio	Very high variety of products to serve all potential mini segments hinders economies of scale in production
Supply	Expansion of supply of sustainable input	Supply of Demeter and organic produce limited or non-existent and requires adequate selection and development of suppliers and agricultural production systems

Table 3 Product life-cycle phases and growth challenges for sustainable entrepreneurs in the beverage industry

Consumption (use and post-use) challenges for growth

The basis for sales growth is satisfied customers. This requires that new customers who so far bought conventional mass market products try the sustainable products and have a positive

consumption experience with this ‘experiment’. If existing niche market customers *using* the offered products (or services) are satisfied and engage in repetitive purchases they maybe even establish habitual consumption patterns with sustainable products. Observing this and talking about the good experiences of niche market consumers may eventually also motivate mass market consumers to buy the same product if the two groups of consumers are not too different. Accordingly, no matter whether mass market consumers try new sustainable products by accident, at a special occasion, as an ‘experiment’ or through observation of consumption patterns and recommendations of niche market consumers, the product life-cycle’s *use* phase is strongly linked to the market, customer (need), and related product strategy (e.g. product diversification). Two major growth challenges occurred in the case organisation: the question how to grow with regard to product diversification and the question of how to deal with mass market constraints of certain packaging types due to their sustainability characteristics.

Growth challenge I: product diversification vs. standardisation

The main challenge for Voelkel’s growth ambition is – not much different to many other businesses – the question of where and how to grow with regard to market segments, customer groups, products, and the related sales channels. As with many other sustainability entrepreneurs, Voelkel started in sustainability niche markets. Today it is in a situation where niches markets are more and more saturated and they have to assess how much more potential niche penetration is possible and whether entering the mass market is necessary and sensible. Voelkel follows an intermediate strategy based on strong commitment to organic and fair trade standards and further extensive product diversification.

Response to growth challenge based on principles of perpetual reasoning

First of all, Voelkel’s growth strategy in the beverage market is strongly bound to the *principle of resource perpetuation*. This is represented by its strict commitment to organic beverages meaning that new customer segments are only targeted as far as this is compatible with Voelkel’s fundamental values. Voelkel even aims at growing the share of the most ambitious Demeter-certified products in its product range. This quality-focused ‘sustainability plus’ strategy and commitment to organic standards in general and Demeter in particular also leads to serious challenges in the supply chain from which organic agricultural produce has to be sourced (see section “supply and growth”). It also limits flexibility in product pricing and therefore mass market diffusion as organic and Demeter certified

products are relatively expensive:

> "I know that with a bit less anthroposophic philosophy according to Steiner [i.e. as part of the Demeter certification] and by rather focusing on conventional organic standards as, for example, represented by the European Union's organic standard, juice production could be less expensive." (Entrepreneur)

Still, the maintenance of the two different organic standards (EU certified and Demeter), though both expensive in comparison to conventional juices, allow Voelkel to serve different (premium) price segments (Table 5).

Brand	Special product characteristics	Packaging	Qty [litres]	Quality standard	Price [€/litre]
Voelkel	Unfiltered, not from concentrate, no added water, no additives, no sugar added	Returnable glass bottle	1	Organic (Demeter)	2.19
		Returnable glass bottle	1	Organic (EU)	1.99
		Carton package (Elopak)[1]	1	Organic (EU)	1.99
Beutelsbacher		Returnable glass bottle	1	Organic (Demeter)	1.99
Albi (offered in supermarkets)		Carton package (Tetra Pak)[1]	1	Conventional	1.49
Becker's bester (offered in supermarkets)	From concentrate	Carton package (Tetra Pak)[1]	1	Conventional	1.39
Aldi (hard discounter)	Not from concentrate	Carton package (Tetra Pak)[1]	1	Conventional	1.29
	From concentrate	Carton package (Tetra Pak)[1]	1	Conventional	0.79

[1] *Carton packages are composites consisting of plastic, aluminium, and raw paper; Elopak and Tetra Pak are competing packaging companies.*

Table 4 Price range in the German fruit juice market with the example of apple juice in 2011 (source: internal case report)

The *principle of strategic satisficing* is strongly represented in the entrepreneur's approach to new product development. As introduced earlier, with roughly 160 juice products Voelkel is exceptional regarding the diversity of its product portfolio. Conventional management

thinking would probably consider the large product range as unreasonable and even value destroying. A dedicated mass market strategy would require more product standardisation to reduce complexity and costs:

> "Given the small batches, a conventional economist would most likely cancel 40 per cent of the product range and he would probably propose to slow down the frequency for new juice development." (Entrepreneur)

The broad product range is only possible as the entrepreneur does not aim at maximising sales and profits from each single product. Rather, he aims at achieving sales quantities with which the product turns profitable at all, and in some cases, just to cover costs. The satisficing principle allows to more easily introduce new and keep existing products. One reason for this decision is the creative and innovative spirit of the entrepreneur:

> "Yes, I could save a lot of money with reduced set of [juice] varieties. […] But with the juice recipes it is comparable to ideas: do you like to give up one of your own ideas?" (Entrepreneur)

Overall, the entrepreneur's "product love" logic focussing on a niche oriented product differentiation is confronted with the mass market logic of handling complexity through standardisation and global marketing.

Another reason is linked to the *principle of worthy contribution* and *benefit stacking*, because the broader product portfolio allows the entrepreneur to involve more diverse and worthy actors into the company's value streams and generate multiple benefits in support of the entrepreneur's sustainability mission. The principle of worthy contribution is applied in various ways. First, regarding the product range, some products were simply developed to support sustainability projects. For example, an orange and lime juice with fruit from the Egyptian biodynamic farm Sekem was developed, to support the supplier's Demeter philosophy. Also other Demeter-certified products were developed such as the pomegranate juice, which helped to support a long-term supply partner to converse his agricultural practices to Demeter standards (Demeter, 2011; Voelkel, 2012a).

Product development also applies the *principle of benefit stacking* in three ways. First, by sticking to organic high quality juices, Voelkel provides the consumer with healthy natural drinks, enables various actors (retailers, employees, suppliers) to appropriate a fair share of an increasing income generated in the value chain, and contributes to both environmental protection and sustainable regional development. This one is more general and also relates to other life-cycle phases which will be explored further. Second, cause-related marketing is used to link product sales with corporate giving for social causes. This includes a juice for

kids (“7 Zwerge Kindersaft”) as well as the lemonade product line (“BioZisch”) for which a fraction of the sales price is contributed to educational projects in developing nations (Demeter, 2011). A more recent apple juice product is directly related to financing a project and newly founded association protecting rare apple tree landscapes. A third approach to benefit stacking is Voelkel’s political campaigning in the regional anti-nuclear movement. Voelkel’s production sites are only a few kilometres away from Germany’s main planned radioactive waste repository Gorleben. While this does not directly impact its operations, the entrepreneur resonates with the arguments against nuclear power and the problem of nuclear waste. In a first attempt, he therefore motivated his employees to participate in annual anti-nuclear demonstrations. In a second step, he bound the spirit of political activism to a new product line, the organic lemonade “BioZisch”. It is positioned as a drink for young and politically conscious people rejecting nuclear and other risk technologies and supporting the call for environmental protection, sustainable development, renewable energy, and transparency (Voelkel, 2014a).

Growth challenge II: packaging restrictions

Related to the question of choosing market segments for growth, in the food and beverage industry the *packaging strategy* plays an important role. In these industries packaging is particularly important for sustainability as once the product is “consumed” in the use phase only the packaging remains and leads to negative environmental impacts in the post-use phase. In the organic food market niche delivering beverages in glass bottles is largely unquestioned because glass prevents oxygen from entering or parts of the packaging material diffusing into the beverage (as is the case in certain circumstances in plastic packaging). Glass packaging thus guarantees longer expiry dates and superior product quality, does not require preservatives, and the packaging material (i.e. glass) has perceived superior environmental characteristics. The standardised glass bottles used by Voelkel are reused up to 50 times which is high above average and makes them very resource efficient (Voelkel, 2011, p. 19). Afterwards they can be recycled without loss in material quality (in contrast to PET bottles which are “downcycled”). Disadvantages of glass packaging are the risk associated to glass braking and the higher weight which makes them more difficult to handle and energy-intense in distribution logistics. Moreover, in the case of reusable bottles, the consumer needs to return bottles to the retailer which counteracts the increasing need of consumers for “convenience”. In the aim to streamline distribution and entertain consumers’ demand for convenience, most companies in the mass market switched to non-glass packaging such as

plastics (e.g. PET), or to cans.

Voelkel's commitment to glass bottles limits the opportunities for growth in various ways: first, the price gap between Voelkel and competitive products using more cost efficient packaging increases. Second, certain market segments with strong demand for convenience or with security risks (e.g. travelling; sports activities; events; children activities) prevent the sales of glass bottles and therefore cannot be reached at all.

Response to growth challenges based on principles of perpetual reasoning

Despite the limitations to sales growth into certain market segments, overall, Voelkel has followed its original support for returnable glass bottles. Being reusable and truly recyclable this packaging aligns most strongly with the principles of closed-loop production and consumption and therefore the *principle of resource perpetuation*. The environmental downside of glass bottles, its energy-intensity in distribution and return logistics, are less relevant in a regional and national distribution range, as is still predominantly the case with Voelkel. According to the *principle of qualitative management*, Voelkel prioritises product quality and safety as guaranteed by glass bottles over cost savings (and related eco-efficiency) in the distribution and retro logistics with alternative types of packaging. Last but not least, the glass bottle philosophy also entertains the *principle of benefit stacking*. As Voelkel only uses glass bottles which are standardised by the national fruit juice association, it participates in an interorganisational approach intended to collaboratively improve the environmental impacts and convenience of the entire beverage life-cycle – including post-use. The standardised system for reusable glass bottles does not only decrease the costs of (retro) logistics for all participating companies, but also increases the convenience of consumers as they can more easily return bottles in most retail stores. This system advantage is traded off against the individual companies' constrains in their marketing efforts as they cannot deviate from standard bottle designs.

While Voelkel has strongly committed to the glass bottle and aims at maintaining a very high share (currently 80 per cent; see Figure 3), it does not completely ignore growth opportunities in segments adverse to glass bottles. Voelkel carefully introduced a carton packaging (a composite material of plastic, aluminium, and raw paper) for a specific product line for kids. The entrepreneur argued that it is important to enable his customers to use his drinks in sports environments (e.g. kids at school) where more and more security rules impede the use of glass bottles. This demonstrates that Voelkel's decisions are not dogmatic

but based on the *principle of strategic satisficing* or, in other words, they could be described as sustainability informed pragmatism. This makes it easier to deal with trade-offs between growth and sustainability to a certain degree, while overall maintaining the strong sustainability orientation.

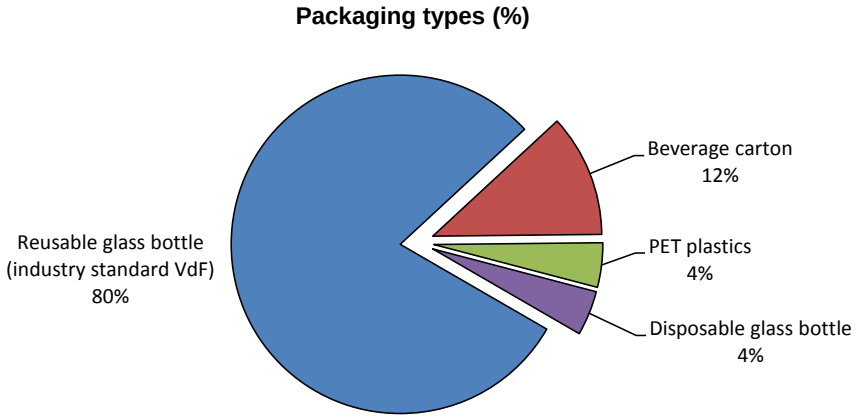

Figure 3 Packaging used by Voelkel (Source: based on Voelkel, 2011, p. 19)

Retail and growth

Growth challenges

The aim to grow implies various challenges for Voelkel's retail approach. Historically, Voelkel grew exclusively with the specialty whole food retail sector – particularly characterized by small owner-managed retail stores – as other retailers did not offer organic food and beverages. As organic food has started to become a mainstreaming trend, today also other types of retailers offer organic products as well, particularly large organic super market chains (e.g. Alnatura, Denn's) and conventional large retailers (e.g. Rewe, Edeka). Voelkel is therefore challenged to consider various retail channels if it wants to take part in the overall growth of the organic beverage market and to counteract pressure from new competitors:

> "Our traditional customers [from niche organic markets] remain relatively loyal, but it seems central to us how – in line with our philosophy – we can address *all* people with our healthy natural juices and influence them towards sustainable consumption. I particularly mean customers in the mass market who buy organic products by chance or impulsively. Studies show that these consumers predominantly buy organic products in conventional retail stores. We need a marketing strategy which better adapts to these overall market developments for organic products." (Marketing team)

Response to growth challenges based on principles of perpetual reasoning

Voelkel's retail strategy is most strongly based on the *principle of qualitative management*.

The quality of both product and service in retail is prioritized over fast sales growth. Each retailer is personally evaluated and selected by the entrepreneur. Only owner-managed retailers are considered, because this allows Voelkel to negotiate at eye level. The strategy differs depending on the type of retailer: first, based on the company's tradition, Voelkel highly values the expertise and service of specialised organic retailers and prioritizes this retail channel. The entrepreneur shares their fundamental values and the tradition of introducing and increasing the market share and acceptance of organic food for several decades. In fact, he finds these specialised retailers most worthy to benefit from his sales growth (*principle of worthy contribution).* Second, other conventional retailers are considered only if they have a significant organic product range. Third, some retail channels are excluded by principle. Very large European discounters (e.g. Aldi, Lidl) and retail stores in petrol stations, though an important gate to mass markets, are not considered as their philosophy is considered to be in conflict with the own sustainability values. Also they do not commit to long-term partnerships (Mirkovic, 2011, p. 19) and therefore are in conflict with the *principle of (social) resource perpetuation*.

> "Why don't we cooperate with large discounters? Let me tell you the following story: Aldi [the largest discounter in Germany] had at some point of time seven organic sausage varieties in its product assortment. I knew one of the farmers who supplied Aldi. Another day I met him and he looked terrible, so I asked him 'what's the problem'? He said: 'Aldi has reduced its organic sausage varieties from seven to two virtually overnight!' And he was affected considerably by this reduction. This let me to think: what is with the agriculture, and the people working for these products? Such relationships with powerful retailers who can fundamentally change the business relationships on short notice is nothing we want to engage in. We aim at continuity and steady growth." (Entrepreneur)

Overall this very selective approach to retail growth, on the one hand, guarantees long-term business partnerships and high expertise in the retail stores which supports consumer education on the complex characteristics of Voelkel's premium product quality. On the other hand, it only allows for gradual diffusion into the mass market. This gradual and controlled growth of the retail channels permits Voelkel to stick to its sustainability mission and represents the *principle of strategic satisfying*.

Production and growth

Growth challenge I: producing a very diverse product assortment

A first challenge in the area of production is linked more specifically to the way *how* Voelkel grows, i.e. with a very large product range and diversity of quite unique products.

Conventional businesses try to diversify their product assortment to address market segments as broadly as possible, but build product diversity on a reduced set of standard ingredients or components in order to increase economies of scale in production. Voelkel, however, innovates juices and drinks on a rapid scale, with rather independent product varieties (e.g. completely different fruit and vegetables). With 160 juices the production department is under considerable stress to also successfully produce small many different beverages with high setup costs for changing from one to another product (Mirkovic, 2011, p. 12).

> "I guess that a conventional economist would see the relatively small production charges for each of the juice varieties and would therefore suggest narrowing down our product portfolio by 40 per cent and significantly reduce the introduction of new juice recipes. Voelkel's innovative products just require costly development and production processes." (Entrepreneur)

Response to growth challenges based on principles of perpetual reasoning

This deliberately accepted inefficiency represented by the vast number of product varieties can only be accepted on the basis of the *principles of benefit stacking* and *strategic satisficing*. The ultimate goal is not streamlined production and efficiency, but it is accepted that the large product variety enables the company to generate multiple benefits for multiple worthy constituents (*principle of benefit stacking*) thereby fulfilling the sustainability mission. Process inefficiencies can be accepted as long as reasonable profit is made (*principle of strategic satisficing*).

Growth challenge II: increasing demand for resources

A second production challenge is more generally linked to the firm's growth in the sense that selling more leads to higher production quantities. This in turn drives not only resource and energy consumption as well as related emissions, but also the need to increase the workforce.

Response to growth challenges based on principles of perpetual reasoning

Increasing sales numbers is, at least in businesses based on sales of physical goods, inherently linked to higher resource consumption. Thus, even the business of sustainable entrepreneurs is linked to resource consumption, emissions, and negative impacts on the natural environment and societies. For a sustainable entrepreneur it is therefore important to manage growth in the most sustainable manner possible by implementing circular rather than linear resource and energy streams, bringing them into harmony with the environment, and design them in an eco-efficient way (*principle of resource perpetuation*). Voelkel realises this principle by using 100 per cent renewable energy for its entire operations and investing in

various energy-efficiency measures (Voelkel, 2011, p. 17). All kinds of wastes are almost completely recycled (97%). Circular resource and energy flows are also realised with organic residues from juice production which are partly delivered to a local biogas plant. The derived natural gas fuel is in turn used for the company's heating demand and transport fleet (various cars and trucks work with natural gas engines).

In support of the ongoing energy transition in Germany, Voelkel has lent the roofs of some of their buildings to a local solar company to install a large solar photovoltaic facility with 1.000 square metres (Voelkel, 2011, p. 17). The generated electricity is feed into the grid which allows the partnering solar company to generate income from national feed-in tariffs. This enables Voelkel to add another benefit to its operation (*principle of benefit stacking*) and integrate additional actors – which are considered worthy as they also contribute to sustainability – into its value chain (*principles of worthy contribution).*

The principles of perpetual reasoning are also evident in the handling of the human (or social) resources. Instead of changing production routines to maximise process and labour efficiency, Voelkel - in line with the *principle of benefit stacking* – employs 20 to 30 percent more labour than necessary:

> "The earlier mentioned economist would suggest heavy investments into automation. Consider that the company needs about 20 to 30 per cent more labour than would be necessary in a scenario with more intense use of machines and less traditional manufacturing processes." (Entrepreneur)

Voelkel maintains a rather traditional manufacturing processes to maintain the uniqueness of its product quality (*principles of qualitative management*), to maintain and develop traditional professions in the area of juice production and train apprentices in these areas (e.g. the profession 'master of juice production' has been established and is now acknowledged by the association of craftsmen), and to enable more people to participate in the value chain thereby contributing to local economic development (*principle of worthy contribution*). It is important to mention that the sole provision of employment cannot be considered as a contribution to sustainability – it is the provision of employment in the context of a value chain strictly oriented towards sustainability which can be considered truly sustainable. An important aspect of the worthy contribution is that disproportionate to its growing business, the company employs an increasingly high amount of apprentices (around 5 per cent of the total employee base) which are trained in all professions needed in the company. In contrast to common practices in Germany, apprentices receive the guarantee to be fully employed after

their apprenticeships. For this extraordinary engagement, Voelkel received an award from the local job centre (Voelkel, 2013).

Supply and growth

Growth challenges

Voelkel's business model is characterised by its engagement for organic agricultural practices and more specifically the biodynamic agricultural practices of the Demeter standard on which the business was founded by the first generation of the family. One third of its juices are Demeter certified (Voelkel, 2011, p. 13). One major challenge it faces is securing the necessary supply in the quality as required by organic and Demeter standards. This is challenging as the supply base for organic and Demeter produce is small or very small, respectively. For example, much more products are sold in the German organic food and beverage market than the agricultural sector of the country produces (BÖLW, 2013). Voelkel thus also has to source from abroad. For certain produce supply in the required qualities may not even exist. This can be particularly challenging for new product development.

Response to growth challenges based on principles of perpetual reasoning

To adapt to the growing sustainability-oriented market segments, many companies, particularly large enterprises, apply a rather relaxed approach in which they introduced products with relatively low sustainability standards. For example, many sustainable agricultural initiatives are based on integrated production, which only requires very limited sustainability-related improvements (UN, 2003, p. 5). In contrast, the entrepreneurial reasoning of Voelkel is strongly rooted in the *principle of resource perpetuation*. Voelkel has not lowered its standards and strictly sticks to certified organic ingredients and a very high percentage of Demeter certified produce. The entrepreneurial family even aims at increasing the share of Demeter-certified products and focuses their attention on related supplier development (Demeter, 2011). As organic agriculture rejects the use of chemical inputs (i.e. fertilizer, pesticides) and therefore crops, ground water, and biodiversity are protected, resources are ultimately *perpetuated*. Moreover, with its emphasis on a high Demeter share in its product assortment, Voelkel has strengthened the most ambitious agricultural sustainability standard.

Resource perpetuation also relates to *social resources*: 98 per cent of its suppliers are long-term partners (Voelkel, 2011, p. 9). Fair trade is considered important for sourcing from

remote developing countries for which Voelkel requires the Fairtrade International certification. Unique is that Voelkel applies the fair trade approach also to local sourcing. It is an active member of the "BioFair" association (BioFair, 2014) which requires their members to prioritize regional suppliers over more distant ones and negotiate fair prices on a long-term basis. Accordingly, Voelkel prioritises local suppliers and is able to source 80 per cent of raw materials from Europe (Voelkel, 2011, p. 9).

Given the fact that Voelkel maintains high ecological sustainability standards, long-term partnerships with suppliers, and a commitment for the region, how does Voelkel then manage growth of its resource supplies at all? Voelkel rests its growth ambition on this long-term supplier pool (though not exclusively). The company helps suppliers develop certified organic production so that in the long term Voelkel can increase its purchasing volume. This involves large and risky investments in suppliers which can only be made through long-term trust-based partnerships. Long term partnerships are also maintained even when a supplier occasionally misses the very high quality standards of Voelkel; in this case agreements are made for how to solve the quality problems (e.g. by establishing contact to another customer for the respective produce) and most of the time conflicts are resolved (Voelkel, 2011, p. 10).

Despite these supplier development initiatives, the constraints on the supply-side prevent Voelkel to grow as fast it could retail-wise. This represents the motto of the biodynamic farmers which "aim at quality, and not only quantity" (UN, 2003, p. 4) and is therefore closely linked to the *principle of qualitative management*. But retraining from sales and profit opportunities due to restricted supply base and reducing margins by voluntarily adopting fair trade practices is a demanding self-constraint and can only be realised in combination with the *principle of strategic satisficing*: profits are not maximised – as long as the company generates enough profit to secure organisational survival, growth opportunities involving trade-offs at the cost of sustainability are not pursued.

Voelkel's supply chain practices also resonate with the *benefit stacking principle*. In the conventional food and beverage industry, agricultural inputs are streamlined to a maximum in the sense of high chemical and artificial inputs (e.g. pesticides) and low labour in order to decrease costs and safeguard a continuous and stable availability. This, however, leads to various negative externalities such as a reduced number of jobs, increased environmental degradation, and chemical residues in the end product. In organic agriculture on which Voelkel is based, inputs from integrated or organic farming are used, which is, in a sense, a replacement of chemical inputs with labour (due to the necessary manual pest protection

measures instead of pesticide application). This leads to various additional benefit streams: more and smaller farmers can participate in the value chain; the farmers and local population is protected from negative chemical side effects (e.g. pesticides), and consumers receive natural and healthy products. This demonstrates that the organic approach to agriculture is not merely a mechanism to maintain a healthy environment, but also the foundation for developing multiple beneficial value streams for various stakeholders participating in or being effected by Voelkel's value chain. Simultaneously with Voelkel's sales growth, these benefit streams are also amplified.

The *principle of worthy contribution* also plays a role in the expansion of the supplies. Voelkel has created various supplier development initiatives which enable regional actors to participate in its value chain:

- A flagship programme is the meadow orchard initiative ("Streuobstwiesen") initiated in 2001. The entrepreneur initiated a local association for land owners wishing to cultivate meadow orchards (Bio-Streuobstvereine Elbtal e. V.). The main incentive for the meadow orchard owners is that Voelkel guarantees to purchase the entire crop for his apple juice production. The fruit from meadow orchards are organic and not treated with artificial fertilizer or pest management. However, in order to secure his organic certified product range, he also offers an efficient organic certification routine to the owners. This allows local small orchard owner (i.e. gardeners, owners of few organic apple trees) to become a valuable part of Voelkel's supply chain. The initiative has already spread to neighbouring communities and therefore drives the development of the structurally weak region, but also contributes to Voelkel's growing need for organic produce.
- A second approach reflecting the principle of worthy contribution is the sourcing from sustainability initiatives in the developing world. Voelkel for example sources oranges and lime fruit from Sekem (Demeter, 2011; Voelkel, 2012b), a North African flagship sustainable agricultural initiative based on the Demeter philosophy. Sekem and its founder transformed empty land in the desert close to Cairo (Egypt) into agriculturally productive land using the principles of biodynamic farming and thereby providing local people with work, housing and education on his establishments (Mader et al., 2010). The initiative mostly depends on export markets and therefore on sourcing practices by retailers as well as food and beverage companies in international markets. By sourcing their fruit, Voelkel

makes Sekem part of its own value chain so that they can thrive together.

- The same also accounts for other suppliers and supplier development projects, for example, in Turkey. There, Voelkel motivated and supported a long-term supply partner to converse their agricultural practices to biodynamic farming and ultimately were able to develop the first Demeter-certified pomegranates juice product in the market (Demeter, 2011; Voelkel, 2012a).

DISCUSSION AND CONCLUSION

Summary

As sustainable entrepreneurship is a market-based approach (Schaltegger & Wagner, 2011), growth is not only linked to make the sustainable entrepreneur commercially successful and guarantee the organisation's long-term survival, but particularly to increase the sustainability impact which is derived through the value chain. In sustainable entrepreneurship, market success and sustainability impact are inherently linked. Still, this win-win is by no means an automatism, it is rather consciously developed by the entrepreneurs through perpetual reasoning (Parrish, 2010). As expressed by the *principle of strategic satisficing*, it is not pure *profit maximisation* which is the guiding principle as this would not necessarily ensure the desired positive sustainability impact. Rather sales growth and increasing markets are important goals – of course in a profitable way as otherwise the organisation cannot survive. While the commercial emphasis on growth can easily lead to a mission drift (Battilana & Dorado, 2010), the *principle of qualitative management* prioritises sustainability quality over growth-related quantities (e.g. sales) and thus strengthens the commitment to the sustainability mission. By designing value chains in a way that both environmental and social resources are perpetuated (*principle of resource perpetuation*), by stacking multiple benefits to each value creation activity (*principle of benefit stacking*), and by including worthy actors (*principle of worthy contribution*) in the value chain, with each unit of product sold multiple sustainability benefits are generated. In this logic, growth is inherently sustainable (which is clearly a different approach than proponents of "de-growth" take; see e.g. Kallis, 2011).

Our case study showed that growth challenges of sustainable entrepreneurs cannot be treated as monolithic entity. If market growth is desired as represented by the "growing David" pathway (Hockerts & Wüstenhagen, 2010), growth challenges occur in all phases of

the product's physical life-cycle: supply chain, production, retail, use, and post-use. These partial growth challenges are interlinked and need to be carefully managed by the entrepreneur and the organisation as a whole in order to successfully grow *and* maintain the sustainability mission. The application of the principles of perpetual reasoning in each of the life-cycle phases allows for a steady successful growth path for sustainable entrepreneurs:

- *Use (consumption)*. Given the market-based approach of sustainable entrepreneurship (Schaltegger & Wagner, 2011), sustainability impact is realised through market diffusion which means that products have to be used (or consumed) by customers and ultimately satisfy them. This in turn, can only happen if existing markets expand or new markets are identified and developed with both existing and new products. These products must inherit sustainability characteristics in line with perpetual reasoning of which *resource perpetuation* is clearly at the core. But products are not only developed as means to serve customers, rather, the *principle of benefit stacking* explains how the product's value chain is carefully designed to serve multiple benefits and beneficiaries. These include not only the likely value chain partners but also other "worthy" actors. This can be to the extent that the customer is just a means to the end of providing benefit to the rest of the beneficiaries. Even in a growth scenario, the *principle of qualitative management* emphasizes quality over quantity and thereby maintaining committed to the sustainability mission and, vice versa, prevent mission drift (Battilana & Dorado, 2010). For example, the *principles of benefit stacking* and *worthy contribution* can only be fully developed with commercially successful products and the positive sustainability impact can only be expanded with growing market shares. The principle of strategic satisficing allows to introduce and maintain even products with low profit margins or which just cover production costs.
- *Post-use*. In contrast to conventional businesses, sustainable entrepreneurs need to consider the full life-cycle of their product offers. Particularly in growth scenarios when the volume of products (or product residues or product packaging) reaching the post-use phase becomes significant this cannot be ignored anymore. Therefore sustainable entrepreneurs usually develop products and services which make the post-use phase as sustainable as possible (considering the packaging problem in the food and beverage industry the case company uses returnable glass bottles as means to mitigate environmental and health issues in the post-use phase).
- *Retail*. When new market segments are approached, also new retail channels are

required which sometimes operate in a way sometimes incongruent with the entrepreneur's principles of perpetual reasoning. While sustainable entrepreneurs mostly focus on niche retail channels which are capable of delivering the full complexity of the sustainable product offering to the customer, this is not necessarily the case with larger retailers, conventional retailers, or even discounters. The principles of perpetual reasoning help the entrepreneur to carefully develop new sales channels while retaining from sales channels potentially harmful to his sustainability mission and reputation.

- *Production*. As production is organised based on the *principle of resource perpetuation*, sustainable entrepreneurs are usually champions in cleaner production both with consistency and eco-efficiency approaches (Huber, 2000), which decouples growth from negative environmental externalities. For *social* resources this is the opposite: growth is linked to expansion of social resources (i.e. labour) and this to a much higher degree for sustainable entrepreneurs than in conventional businesses. Consider that in conventional management the primary aim for growth is to leverage economies of scale from increased production volumes by driving professionalization, replacing labour with capital, and thereby increasing the efficiency of production routines. However, as sustainable entrepreneurs philosophy for product development is more multi-faceted (consider that the principles of benefit stacking and worthy contribution are prioritized over process efficiency and quality is emphasised over quantity), their organisation cannot always leverage the same degree of economies of scale and often maintains a higher degree of manual tasks. For example, while conventional businesses often make trade-offs regarding product quality or sustainability characteristics in order to streamline production and distribution logistics, the principle of qualitative management hinders sustainable entrepreneurs to do so. While this enables the entrepreneur to let participate more people and generate higher social impact as compared to conventional businesses, underutilising economies of scale can also increase production complexity and related risk and ultimately limit growth.
- *Supply*. Product offerings by sustainable entrepreneurs can only be seriously "sustainable" if their supply side is managed sustainably (Seuring & Müller, 2008) – this is, to represent the *principles of resource perpetuation*. In growth scenarios this usually leads to a bottleneck as sustainable resource and inputs as well as their

suppliers are often scarce or do not even exist. Sustainable entrepreneurs often need to develop suppliers and their supply base in order to increase availability of more sustainable inputs (Harms et al., 2013). *Social* resource perpetuation in the sense of long term partnerships usually provide a good pool of suppliers, the *principle of strategic satisficing* allows them the necessary economic flexibility to support suppliers (e.g. fair trade), and the *involvement of "worthy" actors* in the supply chain can unlock unconventional sources of supply – together enabling the gradual expansion of sustainable supply. The playing together of the individual principles are very important. Otherwise either growth cannot be realised or a mission drift (due to degradation of the sustainable quality of supplies) occurs. Moreover, if the expansion of the supply base is realised without long-term partnerships, the entrepreneur risks to loose suppliers to competitors turning investments into supplier development into sunk costs (Harms et al., 2013).

While we ordered the growth challenges using an upstream logic starting with the market side, it is for sustainable entrepreneurs by no means the only possible logic. For many sustainable entrepreneurs it is not the product-related growth per se in which the entrepreneur is interested, but rather the supply side. For example, in the case company the entrepreneur also wants to contribute to expansion of sustainable agriculture because it aligns with his philosophy of caring for nature and sustainable societies. Sales growth can then also be a means to the end of sustainable agriculture. This again demonstrates that for sustainable entrepreneurs it is often sustainability challenges which stand at the beginning, with sales and profits only being a (necessary) side effect (Parrish, 2010).

Overall, we showed that the principles of perpetual reasoning help sustainable entrepreneurs to balanced sustainability mission and growth opportunities carefully and thereby successfully realise a gradual growth path over several decades without losing sustainability mission nor independence (e.g. through acquisition). Though the literature review presented the principles of perpetual reasoning as analytical distinct categories, our case evidence shows that they are empirically closely interlinked and partly overlap. Moreover, only together they unfold their full potential and only if this principled reasoning is consistent over the various product life-cycle stages can they enable both a continuous growth path and high sustainability standards (Figure 4).

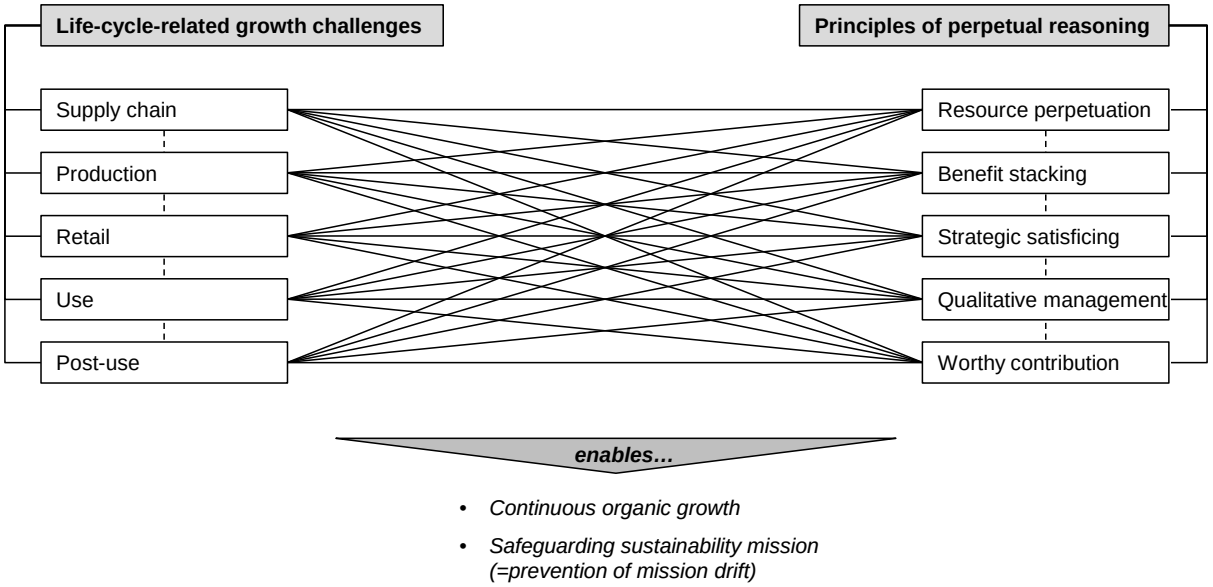

Figure 4 Relationship between growth challenges and principles of perpetual reasoning for successful sustainable entrepreneurs

Future research on speed of and actors involved in growth?

We have demonstrated how principles of perpetual reasoning allow sustainable entrepreneurs to grow steadily. However, it remains unanswered if this is the only successful growth path and whether it is the one always most strongly desired with regard to industry transformation (Hockerts & Wüstenhagen, 2010). Moderate organic growth takes many years to develop a critical mass and this is sometimes too slow for both exploiting the full market potential and actually achieving real impact in mass markets – particularly as usually less sustainable market offerings from incumbent firms will try to catch the new sustainability-related customer segments in the mass market. Therefore, with regard to industry transformation (Hockerts & Wüstenhagen, 2010) organic growth may be too slow. Future research should analyse in more depth if and how exactly such slowly growing sustainable entrepreneurs influence incumbents and how they ultimately co-evolve (Hockerts & Wüstenhagen, 2010; Illge & Preuss, 2012). At the same time, it is also evident that too fast growth than jeopardise the entrepreneurial organisation and its sustainability reputation, as the case of the German lemonade Bionade demonstrates (Tischner, 2007; WIWO, 2012). Future research should therefore engage in comparative (and most likely longitudinal) studies of growth pathways with alternatives speeds (no growth, organic growth fast growth) and alternative actors (founder-driven vs. acquisition) and analyse the advantages and disadvantages.

From this perspective it is also important to ask whether it is indeed desirable that the

founder and entrepreneur manages the growth path into mass markets. Usually this path requires significant organisational changes regarding organisational structure, culture, and professionalization – overall, some form of bureaucratisation when developing from niche into mass markets is necessary. It is not necessarily the entrepreneur who is best suited to engage in these organisational development efforts. Another option is that the entrepreneur sells up the company to let others (e.g. large corporates with professionalised managers) pave the way into the mass market. The entrepreneur could then use his entrepreneurial spirit, creativity, and sustainability knowledge to found new sustainable businesses as a serial entrepreneur (Kearins & Collins, 2012) and in line with the "multiplying Davids" pattern (Hockerts & Wüstenhagen, 2010). While some anecdotal evidence exists on these questions (Entine, 1994; Moore & Manring, 2009), future research must develop more knowledge on the consequences of acquisitions on the sustainability mission and impact on the industry.

Implications for management

This research gives in-depth insight into entrepreneurial decision-making and sensemaking processes in regard to growth strategies. The results can help practicing entrepreneurs to better understand the growth challenges of small sustainable businesses concerning the various product life-cycle phases of use/post-use, retail, production, and supply chain. The principles of perpetual reasoning explicate and therefore make conscious how sustainable entrepreneurs make sense of growth-related aims and challenges. They are a good decision-making template for all life-cycle phases enabling sustainable entrepreneurs to maintain their hybrid character in that they entertain organic growth strategies and at the same time secure their sustainability mission. In contrast to unprincipled fast growing entrepreneurs, this is validated mechanism to remain a healthy, sustainable business and maintain entrepreneurial independency.

REFERENCES

Badgley, C., Moghtader, J., Quintero, E., Zakem, E., Chappell, M. J., Avilés-Vázquez, K., … (2007). Organic agriculture and the global food supply. *Renewable Agriculture and Food Systems*, *22*(02), 86–108. doi: 10.1017/S1742170507001640.

Battilana, J., & Dorado, S. (2010). Building Sustainable Hybrid Organizations: The Case of Commercial Microfinance Organizations. *Academy of Management Journal*, *53*(6), 1419–1440. doi: 10.5465/AMJ.2010.57318391.

BioFair e.V. (BioFair). (2014). *BioFair Online*. Online: http://www.biofairverein.de/ (accessed: 30.6.2014).

Boyd, B., Henning, N., Reyna, E., Wang, D. E., & Welch, M. D. (2009). *Hybrid organizations: New business models for environmental leadership*. Sheffield, UK: Greenleaf.

Bund ökologische Lebensmittelwirtschaft e.V. (BÖLW). (2013). *Die Bio-Branche 2013: Zahlen, Daten, Fakten*. Berlin. Online: http://www.boelw.de (accessed: 28.05.2011).

Clausen, J. & Fichter, K. (2011). *Sustainable Venturing – Sustainable Entrepreneurship: Creative construction as an answer to the megatrends of sustainability* (Borderstep Working-Paper No. 4/2011).

Demeter e.V. (Demeter). (2011). *Voelkel: Bio-Safter aus Leidenschaft*. Online: https://www.demeter.de/verbraucher/produkte/herstellerreportagen/voelkel (accessed: 30.6.2014).

Demeter-International e.V. (Demeter International). (2013). *Production Standards: For the use of Demeter, Biodynamic(R) and related trademarks*. Darmstadt, Germany. Online: http://www.demeter.net/sites/default/files/DI%20production%20stds%20Demeter%20Biodynamic%2013-e.pdf (accessed: 27.6.2014).

Dixon, S. E., & Clifford, A. (2007). Ecopreneurship – a new approach to managing the triple bottom line. *Journal of Organizational Change Management*, *20*(3), 326–345. doi: 10.1108/09534810710740164.

Dubois, A., & Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, *55*(7), 553–560. doi: 10.1016/S0148-2963(00)00195-8.

Edge, J. M., Benedict, J. H., Carroll, J. P., & Reding, K. H. (2001). Bollgard Cotton: An Assessment of Global Economic, Environmental, and Social Benefits. *Journal of Cotton Science*, *5*, 121–136.

Entine, J. (1994). Shattered Image: The Body Shop for years has been seen as a paragon of socially responsible business. But what kind of company is it really? *Business Ethics Quarterly*, (September/October), 23–28.

Fairtrade International. (2012). *Annual report 2011-12. For Producers, with Producers*. Bonn, Germany. Online: http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2011-12_AnnualReport_web_version_small_FairtradeInternational.pdf (accessed: 20.09.2012).

Fichter, K., & Pfriem, R. (2007). Leading Innovations to Sustainable Future Markets. In M. Lehmann-Waffenschmidt (Ed.), *Innovations Towards Sustainability. Conditions and Consequences* (pp. 103–116). Heidelberg, New York: Physica.

Fowler, S. J., & Hope, C. (2007). Incorporating sustainable business practices into company strategy. *Business Strategy and the Environment*, *16*(1), 26–38. doi: 10.1002/bse.462.

Gibbons, D., Morrissey, C., & Mineau, P. (2014). A review of the direct and indirect effects of neonicotinoids and fipronil on vertebrate wildlife. *Environmental Science and Pollution Research. doi:* 10.1007/s11356-014-3180-5.

Goslich, L. (2013). Beim Wechsel in die nächste Generation wird oft das Kerngeschäft vergessen: Interview mit Stefan Voelkel, Geschäftsführer, Voelkel GmbH. *Unternehmer Edition*, (Februar), 42–43. http://www.unternehmeredition.de/wp-content/uploads/sites/4/_EPAPER_/epaper-UE_2013-01/epaper/unternehmeredition_1-2013.pdf.

Hahn, T., & Figge, F. (2011). Beyond the Bounded Instrumentality in Current Corporate Sustainability Research: Toward an Inclusive Notion of Profitability. *Journal of Business Ethics*, *104*(3), 325–345. doi: 10.1007/s10551-011-0911-0.

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2010). Trade-offs in corporate sustainability: you can't have your cake and eat it. *Business Strategy and the Environment*, *19*(4), 217–229. doi: 10.1002/bse.674.

Hall, J. K., Daneke, G. A., & Lenox, M. J. (2010). Sustainable development and entrepreneurship: Past contributions and future directions. *Journal of Business Venturing*, *25*(5), 439–448. doi: 10.1016/j.jbusvent.2010.01.002.

Halweil, B. (2007). *Still no Free Lunch: Nutrient Levels in US Food Supply Eroded by Pursuit of High Yields*. Boulder, CO, US. Online: http://www.organic-center.org/reportfiles/WithTheGrainFinalReport2012.pdf (accessed: 20.09.2012).

Hansen, E. G., Große-Dunker, F., & Reichwald, R. (2009). Sustainability Innovation Cube – A Framework to Evaluate Sustainability-Oriented Innovations. *International Journal of Innovation Management*, *13*(4), 683–713. doi: 10.1142/S1363919609002479.

Hansen, E. G., & Schaltegger, S. (2013). 100 per cent organic? A sustainable entrepreneurship perspective on the diffusion of organic clothing. *Corporate Governance: International Journal of Business in Society*, *13*(5), 583–598. doi: 10.1108/CG-06-2013-0074.

Harms, D., Hansen, E. G., & Schaltegger, S. (2013). Strategies in Sustainable Supply Chain Management: An Empirical Investigation of Large German Companies. *Corporate Social Responsibility and Environmental Management*, *20*(4), 205–218. doi: 10.1002/csr.1293.

Hockerts, K., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids — Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, *25*(5), 481–492. doi: 10.1016/j.jbusvent.2009.07.005.

Holt, D. (2012). The Journey of a 'Green' Micro-Enterprise - The Green Planet. *Corporate Social Responsibility and Environmental Management*, 90–101. doi: 10.1002/csr.290.

Holt, D., & Watson, A. (2008). Exploring the dilemma of local sourcing versus international development – the case of the flower industry. *Business Strategy and the Environment*, *17*(5), 318–329. doi: 10.1002/bse.623.

Huber, B., Schmid, O., & Napo-Bitantem, G. (2010). Standards and regulation. In H. Willer & L. Kilcher (Eds.), *The world of organic agriculture. Statistics and emerging trends 2010* (pp. 72–79). Bonn/Frick, Germany: International Federation of Organic Agriculture Movements (IFOAM); Research Institute of Organic Agriculture (FiBL).

Huber, J. (2000). Towards industrial ecology: sustainable development as a concept of ecological modernization. *Journal of Environmental Policy & Planning*, *2*(4), 269–285. doi: 10.1080/714038561.

Illge, L., & Preuss, L. (2012). Strategies for Sustainable Cotton: Comparing Niche with Mainstream Markets. *Corporate Social Responsibility and Environmental Management*, *19*(2), 102–113. doi: 10.1002/csr.291.

International Organization for Biological and Integrated Control of Noxious Animals and Plants, West Palearctic Regional Section (IOBC/WPRS). (2004). *Integrated Production. Principles and Technical Guidelines* (3rd). Dijon, France: International Organization for Biological and Integrated Control of Noxious Animals and Plants, West Palearctic Regional Section. Online: http://www.iobc.ch/iobc_bas.pdf.

Jolink, A., & Niesten, E. (forthcoming). Sustainable Development and Business Models of Entrepreneurs in the Organic Food Industry. *Business Strategy and the Environment*, n/a. doi: 10.1002/bse.1826.

Kallis, G. (2011). In defence of degrowth. *Ecological Economics*, *70*(5), 873–880. doi: 10.1016/j.ecolecon.2010.12.007.

Kearins, K., & Collins, E. (2012). Making Sense of Ecopreneurs' Decisions to Sell Up. *Business Strategy and the Environment*, *21*(2), 71–85. doi: 10.1002/bse.710.

Kearins, K., Collins, E., & Tregidga, H. (2010). Beyond Corporate Environmental Management to a Consideration of Nature in Visionary Small Enterprise. *Business & Society*, *49*(3), 512–547. doi: 10.1177/0007650310368988.

Kimbrell, A. (2002). *Fatal harvest: The tragedy of industrial agriculture*. Washington: Foundation for Deep Ecology in arrangement with Island Press.

Kröger, M., & Schäfer, M. (2014). Between Ideals and Reality: Development and Implementation of Fairness Standards in the Organic Food Sector. *Journal of Agricultural and Environmental Ethics*, *27*(1), 43–63. doi: 10.1007/s10806-013-9444-0.

Kyrö, P. (2001). To grow or not to grow? Entrepreneurship and sustainable development. *International Journal of Sustainable Development & World Ecology*, *8*(1), 15–28. doi: 10.1080/13504500109470059.

Lützenkirchen, C. (2014). Bio-Säfte. Gestern das Wendland, heute die ganze Welt. *Öko-Test Sonderheft N1495*, pp. 47–49.

Mader, C., Steiner, G., Zimmermann, F. M., & Spitzeck, H. (2010). SEKEM – Humanistic Management in the Egyptian Desert. In E. von Kimakowitz, M. Pirson, H. Spitzeck, C. Dierksmeier, & W. Amann (Eds.), *Humanistic Management in Practice* (pp. 204–214). Palgrave Macmillan.

Mäder, P., Fließbach, A., Dubois, D., Gunst, L., Fried, P., & Niggli, U. (2002). Soil Fertility and Biodiversity in Organic Farming. *Science*, *296*(5573), 1694–1697. doi: 10.1126/science.1071148.

McEvily, B., Perrone, V., & Zaheer, A. (2003). Trust as an Organizing Principle. *Organization Science*, *14*(1), 91–103. http://www.jstor.org/stable/3086036. doi: 10.2307/3086036.

Mirkovic, S. (2011). *Nische oder Haifischbecken? Premiumprodukt oder Preiskampf? Voelkels Marketing auf einem boomenden Bio-Markt: Was anderes als Saft kommt uns nicht in die Flasche!* Teaching case study for the MBA Sustainability Management. Lüneburg, Germany.

Moodie, R., Stuckler, D., Monteiro, C., Sheron, N., Neal, B., Thamarangsi, T., … (2013). Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *The Lancet. doi:* 10.1016/S0140-6736(12)62089-3.

Moore, S. B., & Manring, S. L. (2009). Strategy development in small and medium sized enterprises for sustainability and increased value creation. *Journal of Cleaner Production*, *17*(2), 276–282. doi: 10.1016/j.jclepro.2008.06.004.

Niiniluoto, I. (2001). Futures studies: science or art? *Futures*, *33*(5), 371–377. doi: 10.1016/S0016-3287(00)00080-X.

Notarnicola, B., Hayashi, K., Curran, M. A., & Huisingh, D. (2012). Progress in working towards a more sustainable agri-food industry. *Journal of Cleaner Production*, *28*, 1–8. doi: 10.1016/j.jclepro.2012.02.007.

Parrish, B. D. (2010). Sustainability-driven entrepreneurship: Principles of organization design. *Journal of Business Venturing*, *25*(5), 510–523. doi: 10.1016/j.jbusvent.2009.05.005.

Petersen, H. (2005). The Competitive Strategies of Ecopreneurs: Striving for Market Leadership by Promoting Sustainability. In M. Schaper (Ed.), *Making Ecopreneurs: Developing Sustainable Entrepreneurship* (pp. 174–187). London: Ashgate Publishing.

Petersen, H. (2006). Ecopreneurship and Competitive Strategies: Striving for Market Leadership by Promoting Sustainability. In S. Schaltegger & M. Wagner (Eds.), *Managing the business case for sustainability. The integration of social, environmental and economic performance* (pp. 398–411). Sheffield: Greenleaf.

Plieth, H., Bullinger, A. C., & Hansen, E. G. (2012). Sustainable entrepreneurship in the apparel industry – The case of manomama. *Journal of Corporate Citizenship*, *45*(Spring), 123–136.

Schaltegger, S. (2002). A Framework for Ecopreneurship - Leading Bioneers and Environmental Managers to Ecopreneurship. *Greener Management International*, *38*, 45–58.

Schaltegger, S., & Burritt, R. L. (2005). Corporate Sustainability. In H. Folmer & T. Tietenberg (Eds.), *The International Yearbook of Environmental And Resource Economics 2005/2006: A Survey of Current Issues* (pp. 185–222). Cheltenham, UK: Edward Elgar.

Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business Strategy and the Environment*, *20*(4), 222–237. doi: 10.1002/bse.682.

Schumacher, E. F. (1975, c1973). *Small is beautiful: Economics as if people mattered*. New York: Harper & Row.

Scialabba, N. E.-H., & Müller-Lindenlauf, M. (2010). Organic agriculture and climate change. *Renewable Agriculture and Food Systems*, *25*(02), 158–169. doi: 10.1017/S1742170510000116.

Seuring, S. A., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, *16*(15), 1699–1710. doi: 10.1016/j.jclepro.2008.04.020.

Sommer, A. (2012). *Managing Green Business Model Transformations: Managing Green Business Model Transformations*. Berlin, Heidelberg: Springer Berlin Heidelberg, Berlin, Heidelberg; Springer Berlin Heidelberg.

Tischner, U. (2007). Bionade. In S. Lahlou & S. Emmert (Eds.), *SCP cases in the field of Food, Mobility, and Housing. Workshop proceedings* (pp. 151–166).

United Nations (UN). (2003). *Organic Fruit and Vegetables from the Tropics: Market, Certification and Production Information for Producers and International Trading Companies*. New York, United States, Geneva, Switzerland. Online: http://unctad.org/en/docs/ditccom20032_en.pdf (accessed: 30.6.2014).

van de Ven, A. H. (2007). *Engaged scholarship: A guide for organizational and social research*. Oxford: Oxford Univ. Press.

van de Ven, A. H., & Poole, M. S. (1990). Methods for Studying Innovation Development in the Minnesota Innovation Research Program. *Organization Science, 1*(3), 313–335. doi: 10.1287/orsc.1.3.313.

Verein zur Förderung der biologisch-dynamischen Wirtschaftsweise e.V. (VFBDW). (n.d.). *Unterschiede EG-Bio-Verordnung, Bioland, Demeter-Richtlinien*. Online: http://www.vzfbdww.de/informationen/VergleichEGBiolandDemeter.pdf (accessed: 27.6.2014).

Voelkel GmbH (Voelkel). (2011). *Nachhaltigkeitsbericht 2010*. Höhbeck OT Pevestorf, Germany. Online: http://www.voelkeljuice.de/fileadmin/downloads/Nachhaltigkeitsberichte/Voelkel_Nachhaltigkeitsbericht_2010.pdf (accessed: 27.6.2014).

Voelkel GmbH (Voelkel). (2012a). *Demeter-Projekt trägt Früchte: Pressemeldung (Press release)*. Höhbeck Pevestorf, Germany. Online: http://www.voelkeljuice.de/fileadmin/downloads/Pressemeldungen/Demeter-Projekt_traegt_Fruechte.pdf (accessed: 2.7.2014).

Voelkel GmbH (Voelkel). (2012b). *Voelkel Naturkostsäfte: Company presentation*. Höhbeck Pevestorf, Germany.

Voelkel GmbH (Voelkel). (2012c). *Voelkel-Stiftung: Pressemeldung (Press release)*. Höhbeck Pevestorf, Germany (accessed: 2.7.2014).

Voelkel GmbH (Voelkel). (2013). *Voelkel erhält Auszeichnung als engagierter Ausbildungsbetrieb: Pressemeldung (Press release)*. Höhbeck Pevestorf, Germany. Online: http://www.voelkeljuice.de/fileadmin/downloads/Pressemeldungen/Voelkel_erhaelt_Auszeichnung.pdf (accessed: 2.7.2014).

Voelkel GmbH (Voelkel). (2014a). *Voelkel BioZisch - Philosophie*. Online: http://www.biozisch.info/philosophie/ (accessed: 4.7.2014).

Voelkel GmbH (Voelkel). (2014b). *Voelkel Online*. Online: http://www.voelkeljuice.de/ (accessed: 27.6.2014).

Wirtschaftswoche Online (WIWO). (2012). *Bionade ganz in Oetkers Händen*. Online: http://www.wiwo.de/unternehmen/handel/kultbrause-bionade-ganz-in-oetkers-haenden-seite-all/6137288-all.html (accessed: 30.6.2014).

World Commission on Environment and Development (WCED). (1987). *Report of the World Commission on Environment and Development: "Our Common Future"*. General Assembly document A/42/427.

Wüstenhagen, R. (1998). *Greening Goliaths versus multiplying Davids: Pfade einer Coevolution ökologischer Massenmärkte und nachhaltiger Nischen*. St. Gallen, Switzerland: IWÖ.

Yin, R. K. (2003). *Case study research: Design and methods* (3. ed.). *Applied social research methods series: Vol. 5*. Thousand Oaks, CA: Sage.