

Bean-to-Bar or How to Combine Sustainability and Creativity: The Example of an Iconic Austrian Chocolate Manufacturer

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<https://doi.org/10.53465/CEECEBE.2025.9788022552257.36-49>

Abstract: Bean-to-bar is a movement born in San Francisco (USA) in the first decade of the 2000s. For the chocolate industry, it is a kind of modern re-interpretation of the ancestral craftsmanship of the chocolatier-torréfacteur, who controlled the whole production process from the bean to the bar. The Austrian chocolate manufacturer and family business Zotter, established in 1999 in Bergl, in the region of Styria in southern Austria, is equally committed to the bean-to-bar concept. The purpose of this paper is to investigate Josef Zotter's bean-to-bar philosophy and to understand the firm's founder's reasons for distancing himself from certain conventional sustainability certification schemes. The method is a case study following the principle of theoretical sampling, combined with a socio-semiotic study of the narratives of the company. The most significant findings concern the way that Zotter's model successfully combines sustainability and creativity issues, and how the company's commitment to sustainability outperforms traditional certification standards.

Keywords: Bean-to-bar, Certifications, Cacao, Craft Chocolate, Fairtrade, Sustainability

JEL Classification codes: L66, M31, Q01

INTRODUCTION

The emergence of bean-to-bar chocolate (also called „craft chocolate“, or „small batch chocolate“) is linked to a movement born in San Francisco (USA) in the first decade of the 2000s (Gallo et al., 2018). For the chocolate industry, it is a kind of modern re-interpretation of the ancestral craftsmanship of the chocolatier-torréfacteur, who controlled the whole production process from the bean to the bar. Starting in the 16th century, chocolate manufacturing began to develop in Europe, first in Spain, then in England, France and Switzerland. The beans were imported from the New World, and all processing was carried out by small-scale craftsmen, located as close as possible to the consumer (Ma ville en Chocolat). The industrial era contributed considerably to the emergence of a chocolate industry, accompanied by specialization and the appearance of new cocoa professions like traders, grinders and cover-makers (ibid.). Between the 19th and the 20th centuries, the chocolate industry was reorganized in such a way that the consumer had little or no contact with chocolatiers-torréfacteurs (ibid.).

The bean-to-bar sector, representing 4% of the global chocolate production industry (Boegman et al., 2023), is striving to reverse this trend. It is driven by the emergence of new consumers who are keen on organic, short-distance, Fairtrade and slow-food products, and who appreciate quality food with a supposed positive impact on health and environment (Ma ville en Chocolat). Conventional chocolate, particularly white chocolate, but also milk chocolate, is often accused of being too high in fat (saturated fats), increasing the risk of cardiovascular

diseases, obesity and metabolic disorders, but it is also criticised for containing too much sugar (Kommander, 2017). The widespread use of palm oil in lower-quality mass chocolate production (less expensive than cocoa butter) is blamed for extensive deforestation and considered one of the causes of climate disruption (Hutabarat et al., 2019).

In this context, bean-to-bar has become a synonym for high-quality and tasty chocolate made from fine cacao, often associated with fairly or directly traded products, focused on complete supply chain transparency (Bean-To-Bar World). This means that during the bean-to-bar production process, manufacturers control all stages from the acquisition of the cocoa beans for the fabrication of cocoa mass, to the obtention of the final chocolate bar (Kolaritsch, 2010; Kommander, *ibid.* p. 22; Provasnek, 2015).

The chocolate manufacturer and family business Zotter, established 1999 in Riegersburg/Bergl, in the province of Styria, in the southern part of Austria, is committed to the bean-to-bar concept, in processing everything in-house, from the first step to the last, making the company „one of the very few bean-to-bar producers in Europe” (Zotter Austria; Zotter, 2010; Gutmann et al., 2020). In 1992, Zotter introduced the principle of layers of different ingredients to a single chocolate bar (Zotter.at; Zotter & Lintschinger, 2006; Zotter, 2010), but in 1996 the company went bankrupt and Zotter reorganized his business within three years (Zotter & Wildner, *ibid.*). The company expanded to the United States, with an importer and distributor in Florida, and to Shanghai with a Zotter Chocolate Theatre, where people can create their own candy and sample chocolates (zotter.cn; Brix, 2015; Köppl, 2017). Today, Zotter employs around 220 people, has a production volume of about 1000 tonnes of chocolate per year, and a turnover of 29 million euros (Zotter).

Several prizes recognized the long-lasting sustainability efforts of the company (Kolaritsch, 2010; Freiburger, 2014; Provasnek, *ibid.*; Köppl, *ibid.*). But Zotter is also famous for its original product innovations accompanied by artistic packaging (Zotter, 2010).

The present paper will explore the most important sustainability goals of Zotter’s bean-to-bar model and investigate sustainability and creativity issues in product innovation and packaging.

It will further explain Josef Zotter’s stated reasons for distancing himself from certain conventional certification schemes. To facilitate reading, the German and French quotations are directly translated into English.

The research questions are:

- What are the sustainability and creativity issues of Zotter’s *bean-to-bar* model?
- What are Josef Zotter’s reasons for distancing himself from certain conventional certification schemes?

1 LITERATURE REVIEW

1.1 Certification schemes and their limits

The pressure of different stakeholder groups like „consumer organizations, environmental advocacy groups, policymakers, etc.” on food industries and retailers is growing „to assess and improve the ecological and social performance of their food supply chains” (Lalwani et al., 2018; p. 3994; see also Cadby et al., 2021 and Boegman et al., 2023). Responsible cacao cultivation is therefore crucial to guarantee consumers that they are buying and consuming products without any risk (Long, 2008). The cocoa supply chain is made up of „an extensive network of actors, the majority of which are invisible to consumers” (Lalwani et al., 2018; p. 3994). Political instability, unacceptable working conditions, low income of farmers, child labour and child trafficking on cacao plantations, climate change, deforestation, disappearance

of farmland, pests and diseases, and the presence of heavy metals in cacao beans constitute incalculable risks for a sustainable value chain. Food suppliers therefore have to prove to buyers that their products come from supply chains that are „socially equitable and environmentally sustainable“ (Lock & Alexander, 2023; p. 692). A truly sustainable supply chain can only be established when industry and cacao providers work together in partnerships and can trust each other (Lalwani et al., 2018; p. 3995, referring to Long, 2008). Regardless of criticism, certifications seem to remain the most adapted method of „approaching sustainability“ (Lalwani et al., 2018; p. 3995). In focusing on the three certification schemes, Fairtrade, Rainforest Alliance, and Organic, Krumbiegel and Tillie (2024) develop a scale that incorporates dimensions of „agroforestry, soil conservation, pest and disease management and farm sanitation“ (ibid, p. 1).

Sustainability certification may be positive for certain farmers, but provides no benefit, or may even have a negative impact on others (Oberlack et al., 2023; p. 3). In Peru, for example, certification is more widespread among large, agro-industrial farms (13-21% in 2018) than among small family farms (0.7-0.9% in 2018) because of „low levels of interest and awareness“ of small-scale farmers, and „lack of education, ability to invest land, land titling“ etc. (Oberlack et al., 2023; p. 3; referring to Brandi et al., 2015; Hutabarat et al., 2019; Elder et al., 2021). Female cacao farmers in the Ivory Coast and Ghana participate less in certification schemes, perhaps due to limited access to information or networks (Krumbiegel et al., 2024; p. 8). The joint participation of farmers in both, certification schemes and farmer cooperatives, is associated with a significantly higher sustainability score.

Increased production and the quest for certification can lead smallholders to establish themselves in forest frontier areas, thereby illegally contributing to more deforestation [which has been growing continuously since 2000], ecological degradation and economic instability (Lock & Alexander 2023; p. 691). Farmers are looking for cheap forestland in freshly cleared areas of tropical forest, where they find natural shade and relative soil fertility, but the benefits disappear within 20-25 years, leaving room for pests, plagues, and depleted soils (ibid.) The two largest cacao-producing provinces, both with large Fairtrade and Organic certified exporters, have among the highest rates of deforestation in the region that was studied in Peru (ibid.,p. 703).

A key obstacle for certifications may be the cost of certification and certified production, or a lack of compensation of farmers by price premiums (Oberlack 2023; p. 3). The „oversupply“ of certified agricultural products compels farmers to sell their certified products on the general market, thereby compromising the price premium they could otherwise charge (Krumbiegel et al., 2024, p. 10, see also De Janvry et al., 2015). The proliferation of certification labels can likewise put pressure on producer organizations to strive for the obtention of multiple certifications, the impact of which is often limited. The structure of the value chain may equally be an obstacle to the well-being impacts of certifications, if producers depend on only a few buyers, or unstable supply chain relations (Oberlack, 2023, p. 4; see also Bray & Neilson, 2017; Elder et al., 2021).

Another problem may be the limited effectiveness of certain assessments because of a lack of transparency, or „accountability and context-sensitivity of auditing procedures“, or by manipulation of auditing processes by „producers, producer organizations and exporters“ (Oberlack et al., 2023; p. 4). Some researchers (Boegman et al., 2023; p. 9) deplore a lack of standardized definitions in the sector. Craft chocolate makers often reject sustainability certifications because they believe „that direct trade is preferable and a sustainability certification would dilute their brand“ (Brown et al., 2020; p. 3).

1.2 Bean-to-bar, a business model dedicated to sustainability issues

Cacao production takes place in the Global South, whereas chocolate consumption mostly occurs in the Global North, where consumers are increasingly demanding information about what they eat, who produced the cacao and how (Schaltegger et al., 2016; Cadby et al., 2021). Certain consumers have become aware of the negative impacts of mass chocolate production, and are willing to pay more for high-quality chocolate, ethical commitment and sustainability initiatives (Schrobbach et al., 2023).

In the last few decades, different types of innovative business models have emerged, like the so-called sustainable business model adopted by firms looking for „long-term social and environmental sustainability“ (Gallo et al., 2018; p. 905). This type of business model is particularly valuable in regions like West Africa that are still struggling to overcome numerous challenges, such as poor infrastructure or fluctuating cacao prices. Bean-to-bar has its place in this context, because this model provides innovative solutions concerning, for example, „income inequality between chocolate markets and cacao farmers“ (Gallo et al., 2018; p. 908).

Bean-to-bar has become an industry in its own, a „small-scale production of superior chocolate products“ (Cadby et al. 2021, p.1) based on a „values-driven“ business model, differentiating itself from the bulk chocolate model (Boegman et al., 2023; see also Gallo et al., 2018; Woolley et al., 2021). Bean-to-bar chocolate companies emphasize ethical and moral issues as motivating factors for their transparency efforts. Virtuous values (equity, sustainability) are considered more important than money (Boegman et al., 2023; p. 7). However, Boegman et al. (2023) found that sustainability-conscious consumers often buy bean-to-bar chocolate for reasons other than transparency such as better taste.

Craft chocolate producers see themselves as „the drivers of their own corporate transparency, but also the primary source of education of consumers“ (Boegman et al., 2023; p. 9). Cacao origin location, „arguably the most basic kind of information“, is the data most frequently shared with consumers (ibid.). Manufacturers intend to meet consumers' expectations by offering a high level of transparency, particularly through three fields of information: traceability, transaction and ecological and social impact (Boegman et al., 2023; p. 3). Traceability ranges from cacao origin indication (country, community, farmer cooperative or precise farm), usually of great interest to consumers, up to farm relationship, in sharing details about the farm, the cooperation with cacao growers, etc. (ibid., p. 4). Transaction information (like about different prices) is generally less frequently shared, justified by the bean-to-bar makers by a lack of data and a supposed fear of overwhelming consumers (ibid., p. 4). They essentially communicate about the high amount they pay for their best-quality cacao beans, thereby justifying the relatively high price of their products. Ecological impact information frequently concerns agricultural practices that neutralise ecological damage (71%), and social impact is illustrated by development projects, mostly farmer business investments (57%) (ibid., 5). Craft chocolate processors employ a variety of digital and analogue communication channels to convey information to consumers: social media (80%), websites (79%), packaging (66%), QR codes, blockchain, word of mouth (57%), transparency reports (much more popular among larger companies), and external certifications (45%) (Boegman et al., 2023; p. 4).

2 METHODOLOGY

This research is a case study of the Austrian bean-to-bar chocolate manufacturer Zotter, following the principle of theoretical sampling (Eisenhardt & Graebner, 2007; Yin, 2009), combined with a socio-semiotic investigation of the narratives of the company (Bartel & Garud, 2009). The study was carried out between November 2024 and February 2025.

The first step of the research was a general familiarisation with the global cocoa sector and its current challenges and threats, followed by collecting and analysing information about the chocolatier Zotter and the operational process of the bean-to-bar model. Academic articles provided more detailed and also critical information about sustainable social and environmental practices, and the (sometimes questionable) benefits of sustainability certification schemes. A variety of sources like firm websites, blogs, social media platforms, YouTube videos and recorded interviews, archival data, press articles, press release reports, and industry-related articles provided numerous insights.

A certain number of (older) publications by the firm founder Josef Zotter himself, often authored in cooperation with other company managers, provided precious insights into Zotter's chocolate innovation and firm philosophy. To give a few examples of these books (only published in German), there are (in chronological order): „Schokol'art: das Buch zur Schokolade" (2004), a cooperation with Zotter's wife and his Art Director A.H. Gratze; or, a very personal portrait of Zotter and the origin of his chocolate creations, including some recipes around chocolate: „Schokolade: die süßen Seiten des Lebens" (Zotter & Lintschinger, 2006), where the company founder takes the reader with him to visit one of the cacao plantations in Latin America, and where he explains the importance of a sustainable and responsible business. In „Innovationsherd der Schokoladenwelt. Über das Spriessen und Gedeihen meiner Schokoladenvisionen und ihrer Wurzeln" (Zotter, 2010), Zotter describes his path from farmer's son to top chocolatier. „Kopfstand mit frischen Fischen: mein Weg aus der Krise" (Zotter & Wildner, 2012) explains to the reader how Zotter overcame his professional crisis after his bankruptcy. The most recent publication, a book entitled „Eine neue Wirtschaft. Zurück zum Sinn" (2020), authored with the founder of the Austrian sustainable food company Sonnentor, Johannes Gutmann, and the investment banker Robert Rogner, considers how to align economic mechanisms with broader societal values.

Additionally, some Austrian master's theses have examined the topic, mostly academic work completed at the University of Graz, the capital of the region of Styria, where Zotter's head office is located. They deal with management goals like CSR (Corporate Social Responsibility) commitments of Austrian companies, including Zotter (Kolaritsch, 2010), Zotter's decision to open a subsidiary in Shanghai (Brix, 2015), general management decisions of the firm (Köppl, 2017), an energy analysis of the company (Freiberger, 2014), scientific outcomes of chocolate like the analysis of raw material of Zotter chocolates (Provasnek, 2015), and a study about the physical qualities of chocolate, combined with a visit to the company headquarters (Kommander, 2017).

No academic journal publication could be found, in spite of enquiries at the Austrian National Library in Vienna.

As part of this research, Zotter was contacted in February 2025 by e-mail to request online interviews with some company managers, but because of time constraints, semi-structured interviews could not be carried out. One of the company managers did, however, offer to answer a list of written questions. A rather exhaustive questionnaire (about 50 questions) divided into different topics was sent to the company and then distributed internally to different managers according to their responsibilities.

Tab. 1 Company questionnaire (about 50 questions, February 2025)

Topics	Details
Bean-to-bar	Definition of bean-to-bar and its introduction by Zotter, and other Austrian or international bean-to-bar manufacturers.
Sustainability certifications/logos	Conditions for bearing the bean-to-bar seal, Fair Trade, Fair logo, WFTO (World Fair Trade Organisation), Mass Balance.
High-quality cacao bean countries of origin	Why do they mention certain countries of origin for their cocoa, but not the Ivory Coast? How do they find high-quality cocoa growers? The case of Belize, and transport by ship, „Labooko“ origin chocolate, the consumer as a chocolate connoisseur, Zotter's personal visits to cocoa farmers.
Creativity and sustainability	Factors of sustainability and creativity in chocolate innovations, particularly „hand-scooped“ chocolates.
Chocolate wrappers and their messages	Creative, artistic packaging, chocolate messages, sustainability and art.
Relationship with the final consumer	Distribution points, targets/consumers.

Source: own processing

The written answers to the questionnaire were returned by e-mail. They figure in the article anonymously, without differentiating the authors, under the name Zotter (in brackets).

Zotter's headquarters are in Austria, and all products except chocolates mixed by the visitors themselves are manufactured at the company's headquarters in Austria. The independent American importer has its own, self-designed website, whereas the „Chocolate Theatre Shanghai“ and the Zotter shop in Shanghai, originally managed by Zotter's daughter Julia, are managed directly from the company headquarters in Styria. In this paper, the Austrian Zotter website is indicated in brackets as Zotter.at whereas the American importer is mentioned as Zotterusa, and the Chinese factory as Zotter.cn (in brackets).

3 RESULTS AND DISCUSSION

3.1 Bean-to-bar, sustainability, Mass Balance and certifications

Zotter has been focusing on sustainability since the early years of the chocolate factory's existence, and in 2004, it switched the entire product line to Fairtrade. In 2006, the range was converted to organic, in order to have more control over the production process (Zotter), and in 2007, the bean-to-bar plant opened. In this way, the company controls formulation and production itself, which makes it entirely independent (Zotter). In 2009 Zotter initiated the 'Bad Blumau Manifesto for Sustainable Management'. Numerous certifications followed, such as ISO 14001 and EMAS (Eco-Management and Audit Scheme) certification in 2014, which analysed the sustainability measures of the whole company. In 2018, the firm won the Energy Globe Styria Award, and some weeks later, the Energy Globe Austria Award. In the same year, Zotter renounced the conventional Fairtrade seal and started applying its own fair 'hand sign' to packaging. The decision to use this independent logo has been made to demonstrate that

the firm goes further than the commonly used Fairtrade seal: Zotter pays its suppliers several times more than the world market price for raw materials, closely knows the suppliers themselves, and practices physical traceability (Zotter.at).

Fig. 1 Zotter's self-created Fair logo



Source: Zotter Austria: <https://www.zotter.at/en/about-zotter/organic-fair-trade-green>

The company took this step to separate itself from the mass balancing principle in the certification system, and in 2019, it became a member of the WFTO. Zotter was the first chocolate company in Europe to do so, and for a long time the only one, to produce chocolate from the bean to the bar exclusively with 100% organic quality and Fairtrade (Zotter.at).

The company has long been concerned with the well-being of the people who produce the raw material it uses (Zotter). Since 2001, Josef Zotter has travelled regularly (often accompanied by his daughter Julia) to cacao-growing regions to establish direct trade relations with farmers and purchase the best quality cacao beans (Zotter). The chocolate they source must also taste better than conventional alternatives (Zotter.at). Zotter pays up to 12,000 dollars per tonne of cacao beans, which is around four times the price of bulk cacao, mainly grown in Africa (Dohmen, 2016). Fairtrade can only work if it is transparent with consumers, and if farmers receive a fair wage for their hard work (Zotter.at).

Mass balance is a practice that Zotter rejects. This method means that while the quantity of ingredients required for a fair product must be certified fair, these ingredients are not necessarily physically present in the product. They can be mixed with conventional (non-Fairtrade-certified) ingredients during processing. Example: A chocolate producer buys certified cacao for 10 bars and conventional, non-certified cacao for 90 bars. The cocoa is blended, 100 bars are produced, 10 of which bear the Fairtrade logo, although in purely mathematical terms each bar contains 10% Fairtrade cacao beans and 90% conventional cacao beans (Zotter.at). As a bean-to-bar manufacturer, Zotter attaches great importance to the traceability of the raw materials (cacao beans), but this is no longer possible if mass balance sourcing is used (Zotter).

On the company website, Zotter provides a comprehensive comparison of the three major chocolate certification labels UTZ Certified (UTZ Kapeh, meaning 'Good Coffee' in the Mayan language Quiché; UTZ Certified merged with Rainforest Alliance in 2018), Rainforest Alliance and Fairtrade, highlighting their respective advantages and disadvantages. The following summary briefly notes the negative aspects in an attempt to explain Zotter's distancing from certain certifications.

- UTZ Certified: Highly market driven and interested in production growth. UTZ labelled products do not have to contain 100% certified ingredients. For cocoa, the percentage is 90. UTZ allows mass balance.
- Rainforest Alliance: An NGO (non-governmental organization), that has faced criticism for being close to the industry and helping companies manage their image. There is no cost to the industry to obtain the label, but farmers do have to pay for auditing and

administration. 90% of ingredients must be certified to carry the label. If only 30% are certified, this fact has to be indicated on the label. Mass balance is allowed.

- Fairtrade: All ingredients of a product must be certified. In the case of chocolate, the sugar must be 100% certified as well. Fairtrade was the last of the three organisations to introduce mass balance.

In 2018, Josef Zotter abandoned the Fairtrade seal system because he was not willing to accept the mass balance tolerance. Nevertheless, for Zotter, Fairtrade is the most rigorous and trusted fair labelling system. Zotter is a member of the WFTO, „the only global network that brings together stakeholders across the Fairtrade value chain, from production to retail” (Zotter.at). WFTO audits the entire company, not only individual products, respecting ten principles like „transparency, respect for the environment, the payment of fair prices and no use of child labour” (Zotter.at).

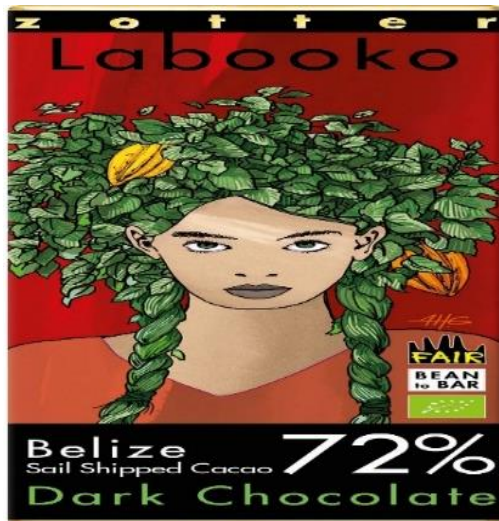
3.2 A focus on high-quality cacao origins

Each region of origin has special characteristics that are reflected in the aroma profile of the cacao. Like the features of wine, cacao - and therefore chocolate - is influenced by the soil in which it is grown (Zotter). Only the bean-to-bar manufacturing process, where cacao beans with diverse origins are processed separately, makes it possible to take these differences into account (Zotter). Zotter’s cacao beans mainly originate from countries in Latin and Central America, like Peru, Bolivia, Nicaragua, Panama, Ecuador, Guatemala, Brazil, Belize, but also from other countries like the Dominican Republic, Madagascar, Togo, Ghana, Tanzania and Uganda. Nevertheless, supplier countries may also change depending on the availability and quality of cacao (Zotter). In India, for example, Zotter’s partners experienced crop failures, so that the Indian version of the original chocolate is not available for the moment (Zotter). Zotter deliberately avoids sourcing cacao from the Ivory Coast, citing the country’s predominant focus on mass production methods (which do not align with the values they seek to promote) (Zotter).

Zotter’s „Labooko” origin chocolate range (milk, dark and white) clearly specifies the country of origin and the cocoa percentage, which is considered to be proof of high quality. On the front of each original chocolate wrapper, there is a hand-painted face, representing the mentioned country, designed by Zotter’s Art Director, Andreas H. Gratze. The three certification labels that are visible on the wrapper emphasize the sustainability of the product. Inside the wrapper, there is a product description (written by Gratze’s wife, Yvonne Quella), praising the characteristics of each cacao variety, the place of origin, and the reasons for the high quality of the chocolate. Aromas and taste notes, reminiscent of wine tasting, help consumers to train their gustatory skills. A detailed listing of ingredients and nutritional information is also included. Those who want to enhance their tasting skills can also watch training videos with Julia Zotter on the website, in which she guides consumers on how to taste the chocolate.

The packaging of the „Belize” chocolate bar highlights the special feature of this chocolate, containing the only cacao beans shipped by sailboat, which makes the product even more sustainable. The project is the result of Timbercoast/Avontuur’s restoration of an old cargo ship and the sale of cargo volumes (Zotter). Cacao beans can be safely transported and stored for considerable periods of time under dry conditions, so Zotter started the experiment with an initial three tons of cacao. They now source six tonnes of cocoa a year (Zotter).

Fig. 2 The „Labooko” origin chocolate wrapper for „Belize” chocolate



Source: Zotter Austria: <https://www.zotter.a>

The most recent „Labooko” origin chocolate creation is „Tansania”, a 50% milk chocolate bar, that even mentions the hospitality of the cacao farmers, thus testifying to the company’s objective of having a personal relationship with its suppliers.

3.3 An iconic chocolate based on creativity

Within the bean-to-bar community, the company is regarded as one of the „beacons” of innovation when it comes to new ingredients, processing methods, etc. (Zotter). The Austrian manufacturer offers over 500 different chocolate flavours, and processes around 400 organic ingredients, so that Zotter considers himself a „pioneer in creativity and sustainability” (Zotter & Lintschinger, 2006). Josef Zotter is the inventor of the „hand-scooped” chocolates, first experimented with in 1992, which led him to claim that he had re-invented chocolate (Zotter, Schreiner et al., 2004). Chocolate and fillings are spread by hand, layer by layer, on long strips, without the usual mould, to develop new flavours. This method of „hand-scooped” chocolate manufacturing was completely new at the time, and is still practiced today, perfected year after year with ongoing innovations. It seems as if the typical Zotter consumers are looking for novelty and expecting to see unusual creations (Zotter). Several new varieties for the 2024/25 edition, introduced with the motto „Let it crack!”, contain, for example, innovations such as „Caramel Nougat Crunch”, „Cherry on Nut Wafer”, „Wafer Brittle”, „Cheesecake” or „Peanut Caramel”. With „Mandarine Tonka Caramel” Zotter provides a vegan, super-soft caramel bar. The small bars (70g), which clearly distinguish this chocolate from the classic 100g bar in terms of format and weight, have more in common with pralines and premium products (Zotter), and are sold for three times the price of a standard chocolate bar (Zotter.at).

Andreas H. Gratze, Zotter’s Art Director, has collaborated with Josef Zotter since 1994 (Schreiner et al. *ibid.*). His first packaging designs stood out for their simplicity and humor, and were a breakthrough in the chocolate sector, winning several awards (Zotter.at). The wrappers are recyclable and printed with sustainable paints, and the company tries to avoid unnecessary packaging material (Zotter).

The following example of chocolate packaging for „hand-scooped” chocolate illustrates the creativity of the firm.

Fig. 3 Wrapper of a „Seaweed/caramel/pineapple” „hand-scooped” chocolate bar



Source: Zotter Austria: <https://www.zotter.at>

3.4 What are the sustainability and creativity issues of Zotter's bean-to-bar model?

As illustrated in chapters 3.1.2 and 3.1.3, Zotter considers itself „a pioneer in creativity and sustainability”. This assertion can be confirmed and reinforced when its chocolate packaging is considered. The wrappers of Zotter's product range „Labooko” origin chocolates, and „hand scooped” chocolates, distinguish themselves by the particular focus on either sustainability or creativity. The „Labooko” storytelling puts the accent on the origin of the cacao beans, the taste of pure chocolate, and the close relationship between producer and processor. „Hand-scooped” chocolates are characterized by their creativity and proximity to the final consumer. They are „small works of art” and an „advertising medium”, taking over the task of „seducing” the buyer (Zotter). They achieve this via the creativity of their design and the messages expressed through humour, wordplay, idioms, colloquial speech, rhymes, neologisms or anglicisms.

3.5 What are Zotter's reasons to distance himself from certain conventional certification schemes?

As extensively explained in chapter 3.1.1, with mass balance, there is no longer a guarantee that the consumer is buying and eating 100% sustainable chocolate, even if the bar carries a sustainability certification label. In an effort to avoid consumer confusion and to ensure full traceability of the value chain, Zotter has abandoned the Fairtrade Label, used between 2004 and 2018, in favour of becoming a member of the WFTO. The bean-to-bar concept is not a certification program, and does not need any certification label to be valid (Zotter). It is a „values-driven” business model, differentiating itself from the mass-chocolate model (Boegman et al., 2023; Gallo et al., 2018; Woolley et al., 2021). The self-declared values Zotter stands for are „variety, quality, innovation, creativity and sustainability” (Zotter.at). Zotter's ingredients have to meet its own quality requirements (Boegman et al., *ibid.*). Chocolate wrappers, video tasting sessions on their own website and YouTube, and chocolate pairing sessions seem to have the educational objective mentioned by Boegman et al. (2023). Another crucial objective is transparency (Zotter.at), a value targeted by bean-to-bar processors with regard to traceability, transaction and ecological and social impact (Boegman et al., *ibid.*).

Tab. 2 Zotter's values comparable with bean-to-bar standards

Zotter	Facts mentioned and measures undertaken	Topic-relevant academic research
Sustainability/certifications	Bean-to-bar, WFTO certification.	Gallo et al. (2018); Lalwani et al. (2018); Cadby et al. (2021); Boegman et al. (2023); Oberlack et al. (2023); Krumbiegel et al. (2024).
Quality	400 organic ingredients; know-how.	Long (2008); Cadby et al. (2021).
Creativity/variety	500 different products offered; creative chocolate flavours and artistic packaging.	Woolley et al. (2022).
Innovation	Annual catalogue with product innovations.	Cadby et al. (2021).
Flavour	Origin chocolates with specific aroma profiles, original and unusual flavour compositions of the „hand-scooped“ line.	Boegman et al. (2023).
Traceability	Direct trade. Close relationship with cacao growers, all production steps done at Zotter's factory; communication about cacao origin, social and environmental initiatives on cacao farms and in the factory.	Brown et al. (2020) ; Elder et al. (2021); Lock & Alexander (2023); Boegman et al. (2023).
Consumer education	Chocolate wrappers, video-tasting and chocolate pairing sessions.	Boegman et al. (2023).
Trust	Partnership between industry, cacao providers and the final consumers.	Long (2008); Lalwani et al. (2018).

Source: Zotter Austria and the questionnaire addressed to the firm. Table compiled by the author.

The above-mentioned examples demonstrate that bean-to-bar objectives and sustainability certifications are interwoven. Bean-to-bar as a production concept needs reliable certifications to ensure the traceability of raw materials and manufacturing processes, to vouch for a consistent level of quality, and trusting relationships with producers, partners and consumers (Boegman et al., 2023).

CONCLUSION

The article explored Zotter's bean-to-bar approach by examining its innovative sustainability practices and analyzing the company's criticism of standard sustainability certification schemes.

Future research could compare the example of the Austrian company with other bean-to-bar producers and explore if creativity is a common outcome in this sector. It could further question if and how the proportion of bean-to-bar confectioneries could and should increase in the future. And finally, in this context, and considering the very critical situation of the current

global cocoa market, the depletion of worldwide cacao reserves, increasing deforestation, and enormous social challenges in cacao producing countries, the general question arises as to whether it will still be justifiable to use cacao beans for chocolate production, or whether sustainability-oriented confectioners should switch to alternatives such as fava beans, oats, sunflower or grape seeds, or use cellular agriculture cacao beans.

ACKNOWLEDGEMENT

My sincere acknowledgements go to my contact person from Zotter Austria, Susanne Luef, head of Marketing and Communication, for her spontaneous help, for the distribution of my numerous questions to several managers within the company, and the very quick return of the completed questionnaire.

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