CHAPTER 4

Twenty Years of Marketing in the Italian Bicycle Market: Cannondale 1998–2017

Abstract This chapter is focuses on the experience of a well-known bicycle firm and its marketing activity. The analysis deals with its product policy decisions in a specific European market over a twenty years time. The company, named Cannondale, provides a significant example for understanding the complex marketing process carried out by this firm and many others in the bicycle industry. The chapter includes a preliminary historical background to get familiar with the firm. Further sections discuss the market offering of Cannondale and how it evolved over time. Specifically, how the company created and managed variety in its product lines, and which dimensions of variety were employed.

Keywords Fit variety · Taste variety · Quality variety · Catalogue · Price list · Price tier

4.1 A Short History of Cannondale Corporation

The previous chapter examined the fundamental nature of marketing practice in the bicycle industry and laid the basis for understanding the marketing strategy of a particular bicycle firm over a long period of time. The focus is on analysing the offering of a foreign firm in the Italian bicycle market using the data of a 20-year time series drawn from the catalogues and price lists covering the 1998–2017 time frame. These data

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allow to provide a thorough examination of two marketing pillars, out of three, presented earlier: market segmentation and market offering.

The bicycle firm considered in this chapter is Cannondale Corporation, a well-known brand of bicycles founded in the United States by Joseph Montgomery in the early 1970s. The year of its inception is 1970 or 1971, depending on which version of the story is recalled. The company catalogues of 1973, 1983, and 1989 tell that in the early winter of 1970, or in the late summer of 1970, the business was started in a space close to the rail station of Wilton in Connecticut, and the name of the company was chosen by chance looking at the train station's sign, which was Cannondale (Cannondale Corporation 1973, 1983, 1988). The catalogue of 1996 recalls the same story, but this time the year is 1971 (Cannondale Corporation 1995). Perhaps the explanation is simply that a fiscal year was considered rather than a calendar year. For the sake of clarity, it should be highlighted that bicycle firms usually publish their catalogues and price lists, every year, in the autumn of the preceding year. In other words the catalogue of the 1989 season is available approximately in September or October of 1988. At the same time, it is plausible to argue that the catalogues of Cannondale before 1984 do not necessarily follow this practice, since the offering of the company did not include bicycles yet.

Cannondale corporation started as a manufacturer of backpacking and bicycling equipment, such as packs, and bikepack touring system (that is, handlebar pack, seat pack and rear rack pack). Through the 1970s and early 1980s, the company became known for an expanding line of quality bike camping equipment. For instance, a mini-trailer that bike campers could use to tow their gear, a bicycle carrier, a tent, a sleeping bag and a security chain and lock. It was also added a line of apparel, such as insulated clothing, jerseys, shorts, T-shirts and caps. The experience gained through this kind of offering was crucial for Cannondale, particularly to develop a distribution channel capability and, at the same time, build its brand identity (Stone 1998, p. 509). In 1982 the founder of Cannondale met David Graham, an engineer, and they agreed to build an aluminium bicycle, which came out in 1983. This was the first key diversification of Cannondale's business, and it was a very successful choice for the company. The first bicycle was presented as ideal for long distance touring, time trailing, and everything in-between. Cannondale built the frame using large diameter aluminium alloy to make the bicycle structurally

stiffer. The unusually fat tubing gave it a distinctive look. All the fabrication equipment for the aluminium frame had to be custom designed and it was difficult to obtain components that would fit this kind of frame. All components were supplied by third parties. In a few years, Cannondale saw sales explode and expanded its offering adding new models, such as racing bicycles, all-terrain bicycles (later called mountain bicycles), town and country bicycles and tandem bicycles. The company continuously grew in the domestic market and abroad. In 1989, it established a European subsidiary in the Netherlands, which imported components and bicycle frames made in the United States and assembled them. In fiscal year 1992, it began operations in Japan through its subsidiary, which imported fully assembled bicycles, and in 1996 it was formed Cannondale Australia, which imported fully assembled bicycles (Cannondale Corporation 2002a). Cannondale's headquarters was in Bethel (in Connecticut), and its production facilities were located in Bedford (in Pennsylvania), for bicycles and clothing, and in Phillipsburg (in Pennsylvania), for accessories, some clothing, and bicycles subassemblies. In 2001, it employed 773 full-time employees in the United States, 130 in Europe, 14 in Japan, and 6 in Australia (Cannondale Corporation 2002a).

Cannondale put its effort into developing hand-welded aluminium bicycle frames through an innovative production process based on a flexible manufacturing system, patented in 1993. A process employed lasers and other devices to cut the uniquely configured joints of various bicycle models without individual setup or changeover. A slot-and-tub approach allowed parts to interlock without special tools to hold tubes in place for welding. The whole system enabled the cost effective production of a wide offering and a broad range of models in a single day in order to respond to consumer demand. The average time to complete a bicycle fell down from 17 to 3 days (Cannondale Corporation 1995; Stone 1998, p. 505; Ulrich et al. 1998, p. 186). The bicycle frame was the pivotal feature of any bicycle made by Cannondale, and each frame was marketed carrying a *Handmade in USA* logo.

The company changed its business system in 1992 when decided to start the manufacturing of some components, such as handlebars, bar-ends, seat binders, grips, brakes, hubs and cranksets. Cannondale developed a proprietary line of components under the CODA (Cannondale Original Design Application) brand, which appeared for the first time in the 1993 catalogue (Cannondale Corporation 1992). The brand CODA was used until 1999 as shown in the 2000 catalogue (Cannondale

Corporation 1999a). Afterwards, Cannondale disused it, even though it continued to manufacture some components, which were indicated as Cannondale components in the catalogues. Until 1991, almost all components were supplied by third parties, whereas in 1996, 20% were Cannondale components (Stone 1998, p. 510). The company extensively relied on sports as a marketing tool and also as a testing ground for its technological innovations. In 1994, it sponsored a mountain bike racing team, and since 1997 a professional road racing team. It was also involved in sponsoring a triathlon racing team and many individual athletes.

In November 1994, Cannondale went public, offering 2,300,000 shares of common stock. The founder of the company owned 30.2% of the company stock, and company employees owned another 15% (Stone 1998, pp. 511–512). The year 2000 was a watershed for Cannondale since it decided its second diversification. The growth strategy was based on entering the motorsports market with the production of a motocross motorcycle for off-road racing purposes, and two four-wheeled all-terrain vehicles (ATVs). In May 2000, it launched the first motorcycle, and between February and June 2001, the two ATVs. The plan was to manufacture and sell a total of eight 2002 model year motorsports products: four motorcycles and four ATVs (Cannondale Corporation 2002a). The strategy did not work due to a continuing cash drain associated with the new business and, on January 27th of 2003, Cannondale announced its plan to file to restructure the company under Chapter 11 of the Bankruptcy Code, as the founder explained in his letter to Cannondale's customers (Montgomery 2003). Figure 4.1 shows the revenues and operating income of both businesses, and it was clear that the motorsports diversification was compromising the core business of the company.

The restructuring was seen as the most suitable way to preserve and strengthen the bicycle business. Cannondale concluded the Chapter 11 process in May 2003 with the closing on the sales of the assets of its bicycle and motorsports divisions to affiliates of Pegasus Partners II, L.P., a private equity investment firm based in Connecticut. The bicycle business remained profitable, despite the burden and distraction that the motorsports division imposed, and was incorporated as the Cannondale Bicycle Corporation. Pegasus planned to sell the motorsports division (Hartford 2003), and implemented some changes in managing Cannondale, which included several job cuts and outsourcing apparel manufacturing. In the summer of 2005, Cannondale acquired Sugoi Performance Apparel, a Canadian firm of apparel for cycling, training, and

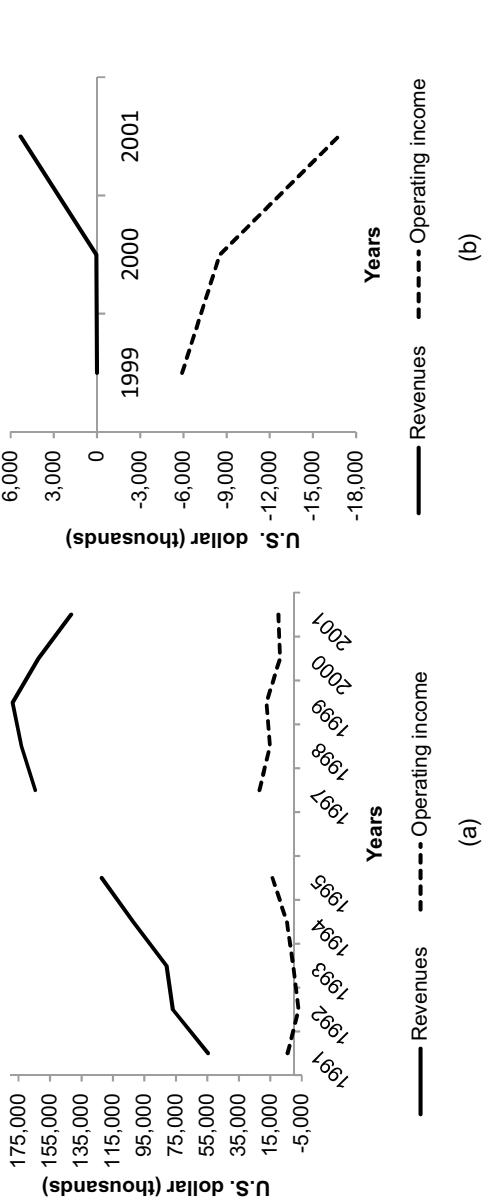

Fig. 4.1 Cannondale revenues and operating income **a** Bicycle business 1991–2001 and **b** Motorsports business 1999–2001

triathlon. In February 2008, after owning Cannondale for less than five years, Pegasus sold the company (including Sugoi) to Dorel Industries, a publicly listed Montreal based company (Norman 2008).

Dorel was established in 1962 and its activity is organized into three areas of businesses: Juvenile Products (such as infant car seats, strollers, high chairs, toddler beds, playpens, swings and infants health and safety aids), Recreational/Leisure (such as bicycles, jogging strollers, scooters and other recreational products), and Home Furnishings (such as ready-to-assemble furniture, metal folding furniture, step stools and ladders). Dorel entered the bicycle industry in 2004 through the acquisition of Pacific Cycle, the owner of Schwinn, Mongoose and GT Bicycle brands. After the acquisition of Cannondale, Dorel created a new division, named Cannondale Sports Group, within the company's Recreational/Leisure business. As a result, Pacific Cycle became a stand-alone division with an exclusive focus on mass merchant customers, and Cannondale Sports Group, including Sugoi and GT Bicycles, was committed to the independent bicycle dealer channel (Dorel Industries Inc. 2008). In 2009, Cannondale Sports Group was renamed as Cycling Sports Group, and the recreational/leisure was reorganized around three primary divisions: Cycling Sports Group (CSG), Pacific Cycle and Apparel Footwear Group. During the same year, Dorel decided to consolidate all North American product development, marketing, and business management functions for all four cycling brands (Cannondale, Schwinn, GT and Mongoose) to Bethel in Connecticut, within the Cycling Sports Group. Moreover, it was created a bicycle testing laboratory at the other location of Cannondale in Bedford, in Pennsylvania (Dorel Industries Inc. 2010, 2011). This choice meant that Cannondale was no longer a bicycle frame manufacturer, and 2009 was the last year to see a bicycle frame carrying a *Handmade in USA* logo. The production moved to Asia in 2010, and Dorel established a sourcing operation in Taiwan to oversee the Far East supplier base and logistics chain, to ensure that its products are manufactured to meet the quality standards required. The process of restructuring continued and, in 2013, the Recreational/Leisure business changed name into Dorel Sports. It was also decided to close the bicycle testing laboratory in Bedford, and to relocate the activity carried out in Bethel to the new headquarters in Wilton, in Connecticut, and, at the same time, to sell the building facilities in Bethel. In 2019, the European operations of Cycling Sports Group were centralized in the Netherlands at the

Cannondale facility in Oldenzaal. The existing assembly plant was transformed to increase its production capacity of Cannondale bicycles and electric-bicycles. The office portion of the Oldenzaal facility was closed.

The annual reports of Dorel include aggregate data for each business and, consequently, it is not possible to know any specific information about Cannondale, such as revenues, operating income, number of employees, or number of bicycle assembled and sold. There are some data about the use of sports as a marketing tool. For instance, in 2009, Dorel provided Cannondale bicycles to a professional road racing team, and from 2010 to 2011, it was a co-sponsor of a road racing team. From 2012 through 2017, it fully sponsored a professional road racing team, named Cannondale Pro Cycling Team (Dorel Industries Inc. 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020).

In about ten years, Cannondale has become something very different from what it was. Cannondale began its activity, in the bicycle industry, as a frame maker from 1983 to 1991. One year later, in 1992, it changed its business system adding some components manufacturing and it became a vertically integrated firm. This situation lasted until 2009, when the new owner of Cannondale decided to discontinue the production of bicycle frames and components. In 2010, Cannondale changed again its business system to become an assembler and this decision marked the end of one of the very few US bicycle frame makers.

4.2 Cannondale's Market Offering

This section examines the market offering of Cannondale in Europe, particularly the Italian market, using a time series of twenty years, starting from 1998 up to 2017. The analysis is based on data drawn from two company sources: catalogue and price list of each year. For sake of conciseness, both sources are included in the reference section and not cited throughout this section. It was not possible to find the same documents, particularly the price list, for further years before and after the 1998–2017 time frame. The time series provides enough information to discuss and trace the evolution of how Cannondale developed its market offering for the Italian market, during a twenty-year time frame. Consistent with the analysis developed in the previous chapter, the main variables used to understand the offering of Cannondale are as follows: the number of product lines, the number of models, the number of product variants, the

number of bicycle frames, and the three categories of variety (that is, fit, taste, and quality).

Cannondale's product policy was extensively based on the annual model change approach. Every year the whole offering was changed. In some cases the company introduced genuine innovations, such as the suspension system for both front and rear wheel, in many other cases, the changes were simply cosmetic, such as the name of a model or the introduction of a new colour. Over time, catalogues show how valuable changes coexist with fashion and fad that duly appear every year. According to the annual model change, Cannondale continuously modified its product lines of high-performance bicycles for the adult market, sold through the specialty bicycle retail channel. In 1998, its offering was organized into five product lines: road and multisport, touring, commuters, hybrids, mountain, and tandems. These categories were based on bicycle usage and some technical features of bicycles as well. For instance, they included bicycles used for competitions, for triathlons, or cyclo-cross; bicycles for travelling; bicycles for city cycling; bicycles for around town cruising; bicycles for off-road riding; and bicycles built-for-two. Cannondale changed its product lines over time, but it is not clear whether such modifications were rooted into a sound market analysis, or simply resulted from a contingency approach aimed at seizing on a market opportunity. Product lines were easily added in a season and discontinued the next year. In some cases, it seemed that Cannondale tried to appeal to potential customers through an offering based on a lifestyle market segmentation. Some catalogues and price lists presented product lines through names that could evoke bicycle usage as a way of sharing a particular lifestyle. A partial list of these name includes: bad boy, road warrior, hooligan, freeride, marathon, adventure, easy rider, comfort or fitness.

When looking at the whole picture, it is fair to state that the entire offering was organized around three product lines, which encompassed the variety of models developed by Cannondale. They can be categorized as follows: mountain bicycles, road and multisport bicycles, urban and leisure bicycles. This offering was changed during the 1998–2017 time frame in three ways.

Firstly, the company strengthened its offering of models specifically designed for women. The catalogues and price lists show that some urban and recreational bicycles for women were already available since 1998, however, only later, in 2001, it was launched a road and multisport line

named *feminine*. In 2002, it was added a mountain line for women, and until 2017, the offering for this group of potential customers significantly increased through a variety of models covering the three product lines mentioned earlier. Secondly, Cannondale launched a product line for children in 2013, in Europe, and one year later in Italy. This was a notable change in the company strategy, which was exclusively committed to serve the adult market since its foundation. Instead, Dorel Industries was already involved in providing bicycles to children market before the acquisition of Cannondale. Thirdly, in 2012 Cannondale added an electric bicycle product line to address the increasing demand for this category of bicycles. Figure 4.2 depicts a comparison between the number of models included in each product line from 1998 to 2017.

The entire offering significantly expanded its variety, from 68 models in 1998 up to 227 in 2017. It is clear that mountain, road, and urban product lines were the core offering of Cannondale for twenty years. The share of mountain bicycle models ranged between 30 and 44% every year, and it was 34% since 2016. There were 30 models in 1998 and 78 in 2017, with a yearly average of approximately 40 models. The share of road bicycle models ranged between 25 and 39%, and it was 30% since 2016. In 1998, there were 17 models and, in 2017, 69 models, with a yearly average of approximately 37 models. The share of urban bicycle models ranged between 25 and 33% during the 1998–2012 time frame. Between 2013 and 2017 it dropped to 15%. There were 18 models in 1998 and 34 in 2017, with a yearly average of 30 models. Tandem models were a minor share within the offering, ranging between 5 and 7% from 1998 to 2003. Then, it became a share of approximately 2–3%, and 1% since 2015. In 2012 and 2013 tandems were not available in the Italian market. The share of electric bicycle models grew very rapidly since 2012 and reached 15% in 2017. There were 4 models in 2012 and 33 in 2017. Children bicycle models accounted for approximately 5% of the offering.

Figure 4.3 provides a further perspective on the entire offering during the twenty years. This time, data regarding each product line are omitted to provide a broader focus on models, product variants, and bicycle frames.

It can be clearly seen that there was a relationship linking together models and bicycle frames. Over time, the more models were added, the more bicycle frame were needed. The yearly average number of models per bicycle frame was approximately 3. It meant that Cannondale was able to use a single bicycle frame for three models across its various product

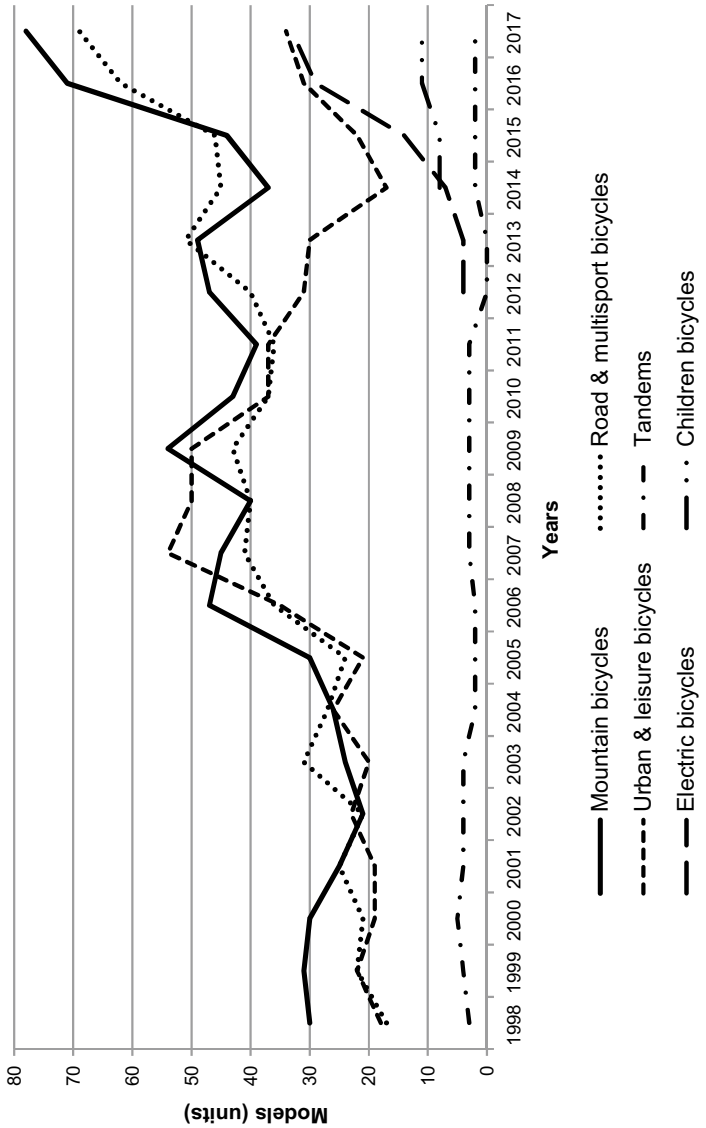

Fig. 4.2 Models and product lines 1998–2017

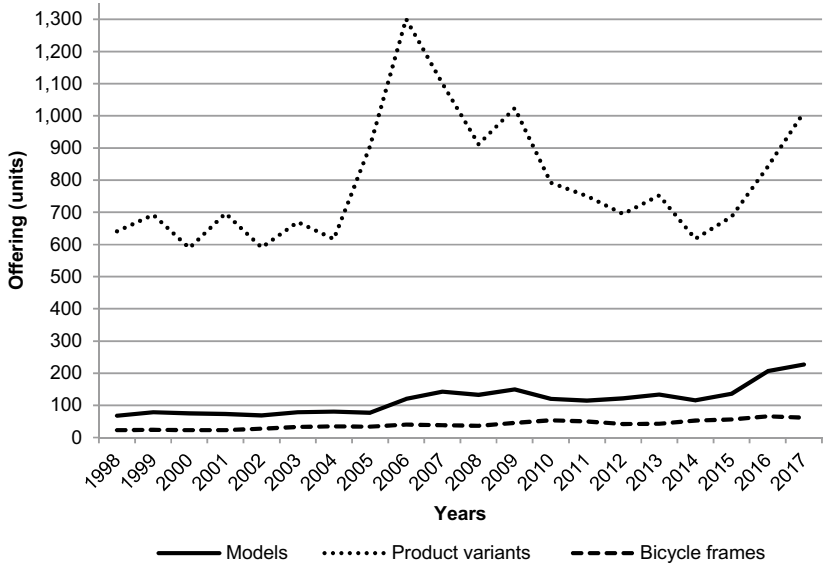

Fig. 4.3 Models, product variants, and bicycle frames 1998–2017

lines. There were 23 bicycle frames in 1998 and 62 in 2017. The other evident information was the continuous fluctuations of product variants, which depended on bicycle size, bicycle colour, and potential options. Changing one of this dimension could produce a significant impact on the number of product variants, and it was usually the fastest way to modify the offering. There was a total of 641 product variants in 1998 and 1011 in 2017. The trend, since 1998, was to reduce the average number of product variants per model. It ranged between 8 and 12 product variants, from 1998 to 2007. It dropped to 7 product variants during the 2008–2011 time frame. It continued to fall and reached 6 product variants in 2012–2013, then 5 product variants in 2014–2015, and lastly 4 product variants in 2016–2017.

The next section examines the three main product lines of Cannondale, particularly how variety was created and managed over time in each of them. The other three product lines are not discussed further. As already mentioned, tandem product line was a minor activity for Cannondale and it was also a special category of bicycle. Children product line is a recent addition to the offering and was beyond the scope of its marketing

strategy for most of the twenty years. Electric bicycles were the rising product line but they played a minor role during the 1998–2017 time frame. It is plausible that, in the near future, this product line will become a key resource for the bicycle industry.

4.3 Dimensions of Variety at Cannondale

The focus of this section is on the three key product lines of Cannondale, analysed through the categories of fit, taste, and quality variety. The data drawn from catalogues and price lists provide a first overview of each product line highlighting the number of models, the number of product variants and the number of bicycle frames. Mountain and road product lines increased their number of models and of bicycle frames during the twenty years (Fig. 4.4). Urban product line showed a different pattern: a growth in the number of models and more variations in the number of bicycle frames. The average number of mountain product variants per model was 7, from 1998 to 2011, then dropped to 5 in 2012 and continued to decline to 4 in 2013 through 2017. The average number of mountain bicycle frames per model was 3, from 1998 to 2007, then increased to 4 in 2008 and remained steady until 2017. Road and multisport product line showed a similar trend. The average number of product variants per model was 14, from 1998 to 2010, then began a persistent reduction to 9 in 2011–2013, to 8 in 2014–2015 and to 6 in 2016–2017. The average number of bicycle frame per model increased from 3, in 1998–2007, to 5 in 2008–2017. Urban and leisure product line also showed a reduction in the average number of product variants per model from 6, in 1998–2007, to 4, in 2008–2017. Its average number of bicycle frame per model was 3 during the twenty years. Overall, it seems clear that Cannondale was trying to prune its offering through a joint action based on the reduction of the average number of product variants per model, and the increase of the average number of bicycle frame per model. Figure 4.4 also makes evident the continuous fluctuations in the number of product variants of each product line. As discussed earlier, it is possible to speculate that such a variation stems from contingent decisions rather than a sound marketing strategy.

The analysis of each product line can be further extended through the three types of variety introduced in the previous chapter. The discussion is therefore intended to answer the following question: How did Cannondale carry out fit, taste, and quality variety between 1998 and 2017? Fit

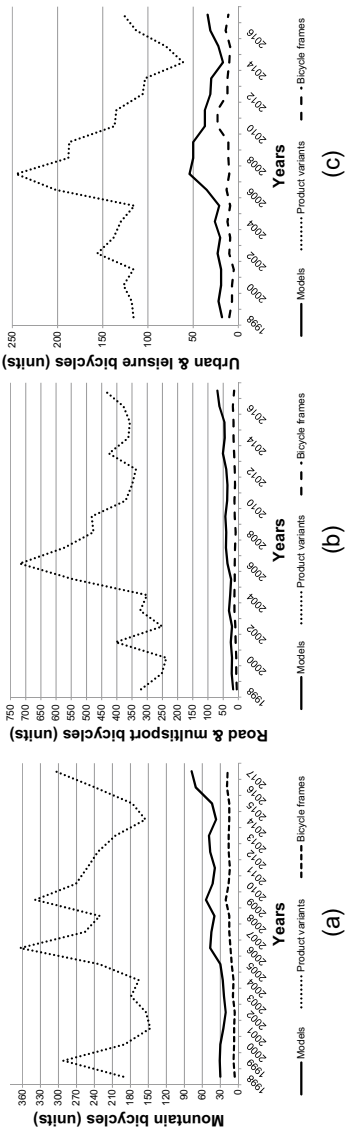

Fig. 4.4 Offering 1998–2017 **a** Mountain bicycles, **b** Road & multisport bicycles, and **c** Urban & leisure bicycles

variety is related to anthropometric measures and Cannondale employed two bicycle features for making its offering closer to customer needs and wants. Firstly, and most importantly, it designed its bicycle frames in different sizes according to basic human body measurements and frame geometry. The latter refers to all the angles and tube lengths, which affect the handling and riding qualities of a bicycle. Frame geometry depends on the use for which a bicycle is designed. It means that mountain, road, and urban bicycles have different frame geometry. Ideally, a bicycle firm should manufacture highly individual bicycle frames, which perfectly fit the anthropometric measures of every individual customer. Such a customized approach is rarely viable and, as a result, bicycle firms make a trade-off between the needs of potential customers and their goals. Pragmatically, this means to decide how many bicycle frame sizes have to be designed and manufactured for each model included within the offering.

The catalogues and price lists of Cannondale, from 1998 to 2017, enable to compare the number of bicycle frame sizes of mountain, road and multisport, and urban and leisure product lines. Figure 4.5 summarizes some key data highlighting the lowest and highest number of bicycle frame sizes available for each product line, during the twenty years. There are variations within and among product lines. Overall, it can be stated that most of the mountain bicycle models were proposed to the market in 4–5 frame sizes every year. Exceptions to this practice were justified for special cases, such as a particular frame geometry, a bicycle frame designed for women, or a combination of wheel size and frame size. Road and multisport models were marketed, in most cases, using 8 bicycle frame sizes. Exceptions were made for special purpose bicycles (such as, triathlon or cyclo-cross), or bicycles for women. This difference, between the number of bicycle frame sizes of these two product lines, addressed crucial needs arising from bicycle usage. Road and multisport models were mainly used for racing or fast fitness riding, and needed a bicycle frame geometry aimed at strengthening aerodynamics. As a result, the fit between the cyclist and the bicycle was a key feature to achieve a high performance in pedalling. This, in turn, required a large number of bicycle frame sizes in order to accommodate most of the customers. The urban and leisure product line presented, in most cases, 4 sizes of bicycle frame. Exceptions were made for bicycles designed for women or for wheel size. The latter example is a bicycle, using a set of 20-inch wheels, available in one size. The fluctuations in the number of bicycle frame sizes, over time,

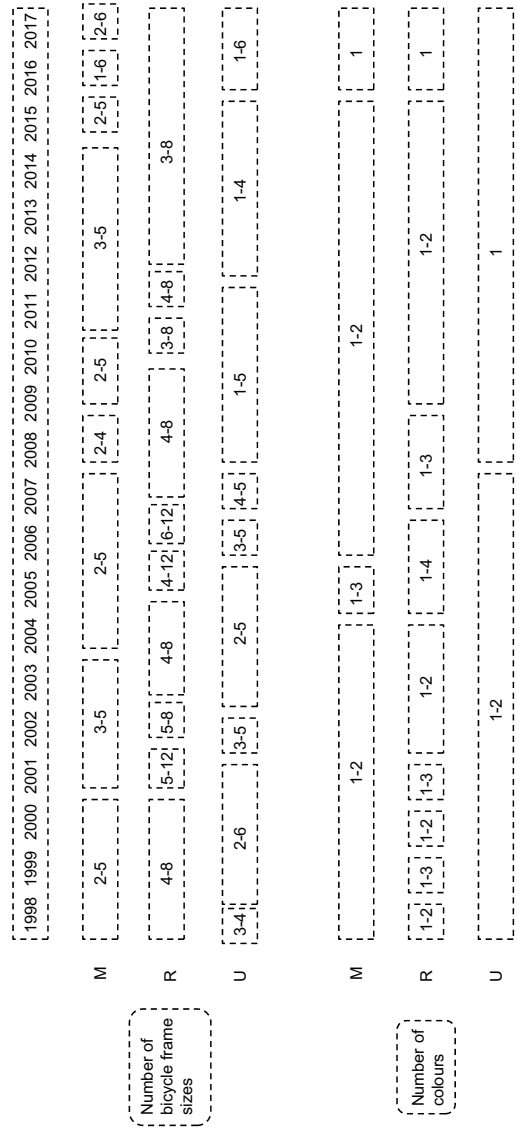

Fig. 4.5 Number of bicycle frame sizes and colours 1998–2017

are difficult to interpret without further data. Presumably, the decision to reduce or increase the number of bicycle frame sizes was based on sales data, which could help identifying customers' demands over time.

The second bicycle feature used by Cannondale to create and manage fit variety is wheel size. This specifically refers to the mountain bicycle product line as there were no significant changes to wheel size of the other two product lines from 1998 until 2017. In contrast, mountain models went through a series of variation regarding wheel size. Reasons behind this variation can be understood recalling that wheel size has marked the history of the bicycle, as discussed in the first chapter of this book, and it resurfaced in the late 2000s prompting a *wheel war* between bicycle firms manufacturing mountain bicycles. This type of bicycle was developed in the United States during the second half of the 1970s and became a product for regular production and retail distribution in 1982 (Berto 1999, pp. 69–70). Mountain bicycles used wheels of 26 inches in diameter since their introduction. The change of wheel size from 26 to 29 inches was explained as a way of improving bicycle performance in off-road riding. This is theoretically true, but there are also drawbacks, such as the increase of bicycle weight and the impact on bicycle frame geometry. It means that a bicycle, using a set of 29-inch wheels, requires a bigger frame, which exclusively fit tall cyclists. The bicycle industry had to confront with a dilemma: was a 29-inch wheel the right size for the whole mountain bicycle market? The answer was something in between a 26-inch and a 29-inch wheel. The industry developed a further wheel size of 27.5 inches, which was offered as an alternative to the 29-inch wheels. This situation put a lot of pressure on bicycle firms, which had to organize their offering around three different wheel sizes during the same year. There was a transition period of time, which saw the coexistence of the three wheel sizes. Arguing that a bigger wheel size improved the performance of cyclists did not tell the complete story. It is fair to state that changing the size of wheels was also a way to fuel the market of a product that, perhaps, needed some help to begin a new phase of its life.

Cannondale participated to the wheel war and changed its offering of mountain bicycles. Figure 4.6 depicts the main decisions made by the company since 1998. Cannondale made three types of mountain bicycles: bicycles without any suspension system (usually called rigid MTB), bicycles using a front suspension system (called front MTB), and bicycles using both a front and rear suspension system (called full MTB). Rigid

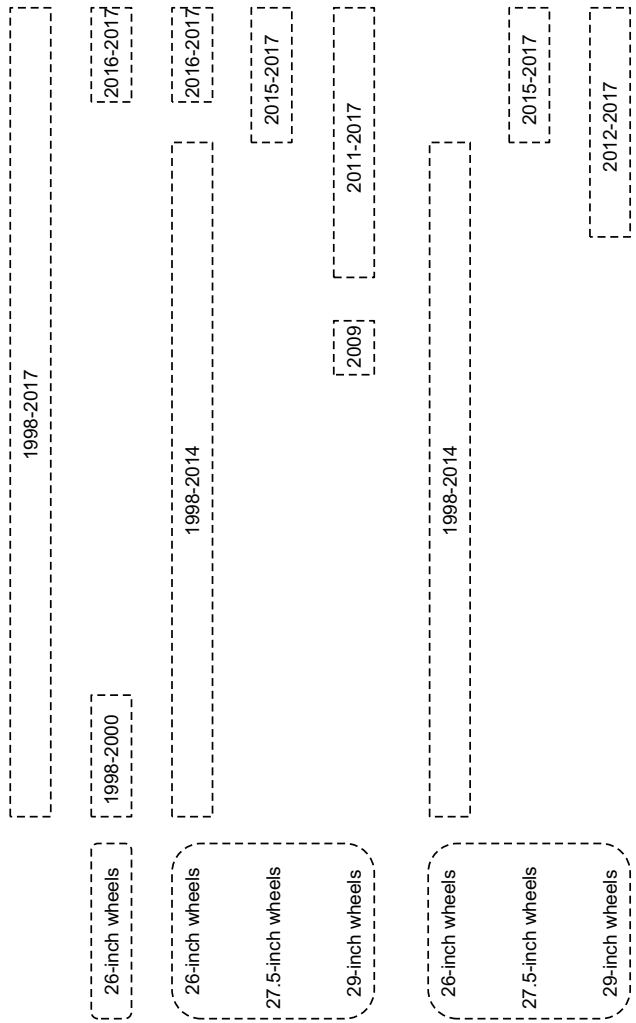

Fig. 4.6 Mountain bicycles and wheel sizes 1998–2017

mountain bicycles, using 26-inch wheels, were manufactured and sold until 2000. Front and full mountain bicycles, based on 26-inch wheels, lasted until 2014. An exception was a special model of 26-inch wheel bicycle, launched in 2016, which was available in various models, rigid and front MTBs. The first front mountain bicycle, using a set of 29-inch wheels, was introduced in 2009. It was an individual model, presumably, a test for the Italian market. In 2010, Cannondale marketed only 26-inch wheel mountain bicycles. One year later, it launched some 29-inch wheel models, based on a front suspension system. In 2012, it broadened its offering of 29-inch wheel bicycles, adding some full mountain bicycles. In 2015, Cannondale decided to increase the variety of its offering through a new wheel size. Some 27.5-inch wheel bicycles, using both front and full suspension systems, were proposed to the Italian market.

Taste variety at Cannondale was mainly carried out through colours and materials used to manufacture bicycle frames. The company adopted a parsimonious approach in managing the number of colours available for its bicycles. Figure 4.5 shows the lowest and highest number of colours available for each product line during the twenty years. Since 1998, the average number of colours per model was approximately 2 across the whole offering. There were exceptions for some mountain and road models available in 3 or 4 colours. In 2016, Cannondale decided to reduce its variety based on colours and, as a result, customers could no longer choose their preferred colour. There was just one colour available for every model. The one-colour practice was already introduced in the urban and leisure product line in 2008.

A further dimension of taste variety was the bicycle frame, particularly the material used to build it. Cannondale was a pioneer in manufacturing handmade aluminium bicycle frames and, as examined earlier, its frames were the most distinctive element of the entire offering. In 1995, the company began to design and manufacture a mountain bicycle frame using both aluminium and carbon fibres. It was a full mountain bicycle available from 1995 to 2001. Ten years later, in 2005, Cannondale presented a road bicycle frame made of carbon fibres co-moulded to aluminium. In 2006, it added its first full-carbon frame for road racing. One year later, it launched its first two mountain bicycle frames made using carbon fibres. Customers could choose to buy a front mountain or a full mountain bicycle, both based on a full-carbon frame. The same year was also available a carbon frame for urban usage. From 2008 to 2017 the carbon fibres frames significantly increased their contribution to

the offering of each product lines, and potential customers had the possibility to express their taste about frame materials. Catalogues and price lists do not reveal whether carbon frames were made by Cannondale or by a supplier. The *Handmade in USA* logo did not appear on bicycles using a full-carbon frame. The manufacturing technology for building a carbon frame is very different from that of an aluminium bicycle frame. Cannondale developed a proprietary co-moulding process, but this is not the same as fabricating a full-carbon frame. What is more doubtful is the rapid increase of models based on carbon frames, which might imply an outside source for this component.

Taste variety was also granted by the introduced of further options, which customers could choose when they ordered a bicycle through the specialty bicycle retail channel. For instance, in 1998–1999, some models offered the possibility to select a different set of wheels or shift levers. After 1999, Cannondale discontinued the practice of options, presumably, because its impact on the number of product variants could be not viable in the long run.

In examining taste variety, it should be underlined that the one of the dimension of fit variety, examined earlier, can also affect the taste of potential customers. The wheel war made available alternative wheel sizes for very similar bicycles, and customers could choose which one was better for them. From 2011 until 2014, Cannondale's customers could compare a 26-inch and a 29-inch wheel bicycle. Later, from 2015 to 2017, the comparison was between a 27.5-inch and a 29-inch wheel bicycle (Fig. 4.6).

The third type of variety refers to variation in quality levels of bicycles and it shows a price-performance link between the models in the same product line. As a result, the price of a bicycle becomes a simple way to infer the quality of that product. Managing variety through prices also reflects a market segmentation approach, as discussed in the previous chapter, which allows to address differences in buying power of potential customers. Cannondale practised quality variety through a joint decision of extending its product lines and developing price tiers for each of them. It is possible to show the evolution of quality variety, during the twenty years, through data drawn from catalogues and price list. For the sake of clarity, all bicycle prices are nominal prices and represent manufacturer's suggested retail prices. They are not adjusted for inflation since understanding the impact of inflation is beyond the scope of the chapter. Data are presented for individual product line using a chart that highlights

the number of models available, every year, within a particular price tier. The price tiers are organized into separate rows of 499 euro each, from the lowest to the highest bicycle price. Exceptions are the beginning and ending of this price tier arrangement. In some cases it is shown the particular price of the most affordable or the most expensive bicycle, rather than the entire price tier. It is useless to include a further price tier when there is just one model or a few models marketed at exactly the same price. Each price tier ends in 9 since this is the way used by Cannondale to set its price list. Price endings can influence the perception of potential customers. For example, prices ending in 9 are often perceived as a better deal than prices ending in other digits.

During the twenty years, mountain bicycle product line evolved from a 10-price tier range, in 1998, to a 20-price tier range, in 2017 (Fig. 4.7). This result was related to the significant increase in the number of models, which raised by 1.6 times in the same years. Since 1998 throughout 2009, Cannondale used between 8 and 12 price tiers. Form 2010, the number of price tiers continuously increased and reached its peak in 2017. The first price tier, from 449 to 499 euro, is smaller than the others, but it is worth keeping it in a separate row to highlight that Cannondale did not market mountain bicycles below 500 euro for a long time. It entered this price tier through the launch of two models at 499 euro, just for one year in 2010. It decided to re-enter the affordable price tier, in 2017, presenting five models, three of them at 499 euro and two at 449 euro. The last two tiers show the precise prices of the most expensive models of mountain bicycles. There were 4 models, in 2016, at almost 11,000 euro, and one model at almost 12,000, in 2017. These models are considered the elite-level bicycles and are called the *halo bicycles* (Anonymous 2018). They play a special role within the offering of a bicycle firm. They do not necessarily contribute to the sales of the company, but they do help build a brand identity. These bicycles are the flagship of a brand usually involved in racing as a marketing tool. Halo bicycles offer the latest technology based on weight savings and improved performance. Potential customers, who cannot afford to pay a huge amount of money for a halo bicycle, aspire to own even a fraction of such technology in buying a mid-price model or an entry-level model. Figure 4.7 shows that it is possible to identify further halo bicycles in every year from 1998 to 2017. The prices were very different from those of the two previous examples, but the bicycles were in the offering to create a halo effect. For instance, the halo bicycle of 1998 was included within the 5500–5999 price tier. In 2003,

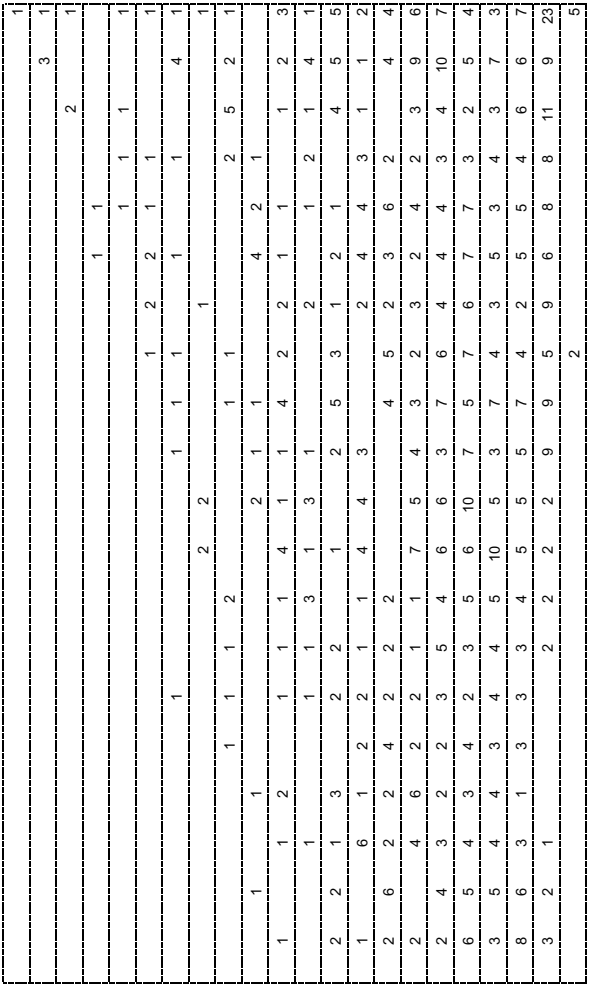

Fig. 4.7 Models and prices of mountain bicycles 1998–2017

the price tier was between 7500 and 7999. The trend of halo bicycle prices, during the time series, is clearly moving upward. On the opposite side, it can also be seen a downward trend focused on increasing the number of more affordable models, particularly below 1000 euro. In 2017, potential customers could choose 23 different mountain bicycles marketed between 500 and 999 euro, the largest offering of the twenty years. The mountain product line was mainly concentrated within six price tiers. From 1998 to 2017, approximately 50% of the models were available at a price between 500 and 2499 euro, whereas a further 15% of models was marketed at a price ranging between 2500 and 3499 euro.

The road and multisport product line shows a similar pattern to that of the mountain bicycles. The number of price tiers increased from 7, in 1998, to 12, in 2017 (Fig. 4.8). It was steady until 2002, and then began to raise reaching a peak of 15 tiers, in 2015. The number of models increased by 3.0 times, during the twenty years, and was higher than that of mountain bicycles. A partial explanation is that road cycling, and particularly road racing, has a much longer history than mountain biking. Figure 4.8 shows that Cannondale did not offer any road bicycle below 500 euro, even though it increased its offering of more affordable bicycles below 1499 euro since the early 2010s. The halo bicycles were available each year, playing their role of show-pieces, through the sponsorship of professional road cycling teams, participating to the main races, such as the Tour de France and the Giro d'Italia. In 1998 a halo bicycle was marketed at a price range between 4000 and 4499 euro. Twenty years later, the price range became between 10,500 and 10,999 euro. The peak was reached in 2008, when a model of road bicycle was marketed at almost 12,000 euro. Most of the road and multisport bicycles are concentrated within three price tiers ranging from 1000 to 2499 euro. These bicycles accounted for approximately 50% of the models during the 1998–2017 time frame. A further 20% is available at a price ranging from 2500 and 3499 euro.

The third product line, urban and leisure bicycles, still employed the price tier approach, even though there were evident differences from the previous product lines. Firstly, the number of price tiers was almost steady during the twenty years, and was also smaller (Fig. 4.9). The average number of tiers was 5, ranging from 3 to 7. From 1998 to 2017, the number of models increased approximately by 0.9 times. Cannondale did not offer affordable urban bicycles below 500 euro. In 2017, it changed its product policy and introduced two models at 499 euro.

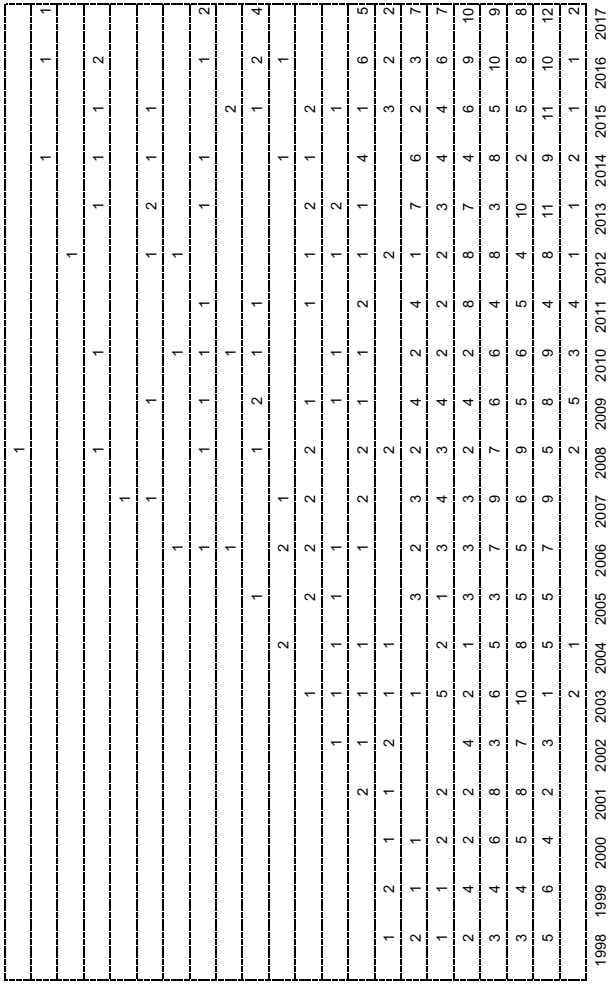

Fig. 4.8 Models and prices of road & multisport bicycles 1998–2017

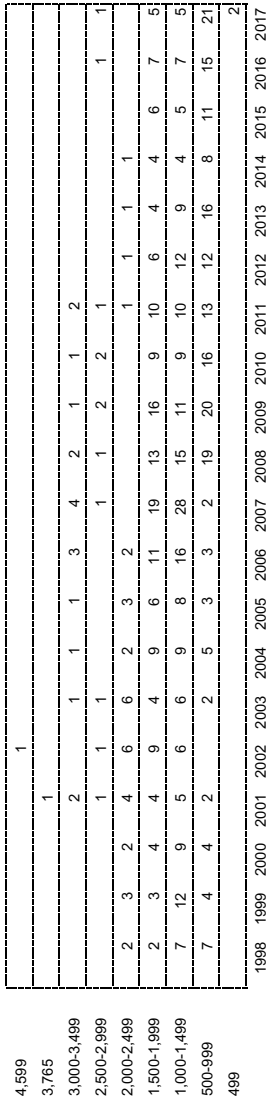

Fig. 4.9 Models and prices of urban & leisure bicycles 1998–2017

There were expensive bicycles within this product line, however they did not resemble the idea of a halo bicycle, since the usage of urban and leisure bicycles is very different from that of the other product lines, and potential customers were unlike as well. These costly bicycles were high-performance models based on high quality bicycle frames and components. Their number was reduced since 2012. The prices of urban bicycles were concentrated between 500 and 1499 euro. Approximately 65% of them was within these two price tiers from 1998 to 2017. A further share of approximately 20% was marketed at a price ranging from 1500 to 1999 euro.

The data regarding the three product lines and their variety, during twenty years, show that Cannondale employed bicycle frame sizes as the key fit variety dimension to address customers' needs and wants. A further dimension of fit variety was added for mountain bicycles, based on wheel sizes. This latter dimension also influenced the taste variety of customers interested in mountain product line. In addition, the company extended its offering of frame materials to include carbon fibres in each product line, so as to accommodate the tastes of a broader customer base. Cannondale also decided that colours were not employed any more as a taste variety dimension. Lastly, price tiers were the crucial dimension of quality variety to approach the price sensitivity of customers.

4.4 Conclusion

The illustration of Cannondale experience in marketing its bicycles provides a valuable source for understanding how bicycle firms deal with marketing concept and tools. Despite the limited data, this chapter sheds light on marketing practices carried out by a leading company that contributed to the recent history of the bicycle industry in the United States and elsewhere.

The time series of twenty years helped to partially follow the evolution of its product policy in Italy, and it indicates that a historical analysis of bicycle industry and its marketing practices is very useful for a twofold purpose. Firstly, this type of endeavour might contribute to fill in the gap of knowledge, regarding a neglected topic and a forgotten industry. Secondly, a historical perspective could also produce a more critical interpretation of facts and events, which, in turn, could become a basis for making future decisions, and hopefully, preventing from repeating the same errors.

Cannondale experience is also instrumental in corroborating the thesis that the bicycle industry has not changed its marketing practices since its inception. This does not mean that changes are always necessary or better than the current situation. It is simply a call for not taking for granted what the bicycle industry has been doing for a long period of time. It is interesting to highlight that very recently (Frothingham 2020), Cannondale announced its decision to replace the traditional model year structure with a version that aligns with the calendar year. In other words, it means that the seasonal cycle, examined in the first chapter of this book, starting in September of every year and ending in August of the next year, is going to be replaced with an annual cycle starting in January and ending in December. It also means that the annual model change is not affected by this decision. This small change is a symptom that, perhaps, the bicycle industry is gradually building a commitment for introducing broader and more impactful improvements to its marketing activity. If the bicycle industry contributed to shape marketing practices since the early twentieth century, it is now time for a renewed interest in developing a more sustainable way of conducting marketing.

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