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Case Study

Three Types of Approaches to Product Longevity: A Multiple Case Study of 18 Best-Practice Companies

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Abstract: Product longevity is one of the keys to achieving more sustainable production and consumption patterns. However, in many companies, extending the longevity of products means overcoming several complex barriers. For small and medium sized enterprises, it may be difficult to identify where to start, and the available solutions may seem too complex or radical and therefore may be ignored as viable options. The purpose of this paper is to study how best-practice companies implement product longevity in everyday practices and map the principles of how they engage with product longevity at different stages of the development process, to provide knowledge about the solutions available to companies.
We conducted a multiple case study of companies striving to design and produce long-lasting products. Through interviews with developers, CFOs and CEOs from 18 best-practice companies that work systematically with product longevity, we identified three key types of approaches to implementing product longevity: performance-driven approaches, behaviour change-driven approaches, and vision-driven approaches. The key approaches forms a baseline for a discussion about companies implementing these types of approaches and their ability to adopt them.

Introduction

The consumption of consumer products (electronics, household appliances, etc.) is increasing worldwide (Wang, F. et al. 2013; Dwivedy, M. & Mittal, R. K. 2010). This has led to increases in resource consumption and a global problem with waste disposal. Increases in waste production have led to calls for new environmental initiatives, including extending product longevity. Looking at the entire footprint of products, the longevity of products must be increased to meet global environmental goals (Konietzko, J. et al. 2020).
In the academic, political and public spheres, interest in product longevity has increased rapidly in recent years, and researchers have suggested and mapped various factors that influence product longevity.
Much existing research on product longevity has focused on specific areas, to gain a deeper understanding of the mechanics that influence the longevity of consumer products. The findings show that
business (Bakker et al. 2014; Ertz et al. 2019; Loon et al. 2020; Konietzko et al. 2020; Alqahtani & Gupta, 2017; Mohr et al. 2001; Bradley & Guerrero, 2008), marketing, (Simpson & Radford, 2012; Sinclair et al. 2018; Dixon et al. 2010; Amolo & Beharry-Ramraj, 2016; Butz et al. 1996), design, (Hagedorn et al. 2018; Cupchik, 2017; den Hollander et al. 2017; Page, 2014; Bridgens et al., 2015), development, (Cooper, 2010; Rivera & Lallmahomed, 2016; Cooper 2004; Cooper, 1994; Bernard, 2019; Goel, 2006), legislation, (Bakker, 2017; European Commission, 2019), consumer behaviour, (Zhou & Gupta, 2019; Poppelaars et al. 2018; Boot et al, 2008; Boks, 2018; Ackermann et al, 2018; Mugge et al. 2006; Page, 2014; van Nes & Cramer, 2005), purchase behaviour (Skene, 2018; Hou et al. 2020; Nieuwenhuis, 2008; Lilley et al. 2019; Montalvo et al., 2016; Cox et al., 2013; Dalhammer, 2015), and much more affect product longevity.
For many SMEs, it might be difficult to identify how to approach, develop and succeed, as many factors influence each other. This affects the pace of implementation and development and, therefore, the total sustainability

transformation. Consequently, many researchers have argued for an incremental approach to extending product longevity, especially for SMEs, which are vulnerable to radical changes in production (Poppelaars, F. et al. 2018). It is therefore important to investigate how incremental changes within company structure and development approaches can mature companies to increase longevity while still maintaining a healthy and profitable business (Mura, M. et al. 2020). The debate therefore centres on longevity not only as a sustainability goal but also, and perhaps more importantly, as a sensible element of profitability and scalability.
This multiple case study investigates 18 companies striving for longevity and uncovers what enables them to produce long-lasting products.
We argue that the most practical way for companies to learn about and adopt longevity is through examples. We therefore argue that it is important to map the existing solutions presented by best-practice companies and evaluate the feasibility for new companies to adopt. Except for Rizos et al.'s (2016) study of SMEs investigated the enablers of and barriers to a circular economy, no comprehensive best-case study across product categories with a focus on longevity have been conducted. This paper, therefore, aims to answer the following question:
What approaches do best-practice companies use when designing physical products for longevity?

Method

This study employed a qualitative research method, in which data were collected through interviews with key decision makers from 18 physical product-producing companies. Selection of the companies was based on their efforts to increase longevity. Some of the companies exist in markets where high longevity is expected, whereas others have historically proven to produce long-lasting products. To broaden the study as much as possible and ensure variety, we selected companies of various sizes and ages and with various product categories. Likewise, the companies chosen for this study differed in terms of markets, portfolios and pricing. A few of the companies were relatively new but focused on delivering products with high longevity.
This approach resulted in a collection of physical products producing B2B and B2C companies situated in Germany, the UK and Denmark. This differentiation contributed to a more elaborate and feasible collection of approaches among the companies.
Participating companies in random order: Miele, Vola, Danfoss, Bang & Olufsen, Vitsoe, Skagerak Denmark, Hydrema, Takt, Rosti, Porsche Automotive, Marcus Pedersen, Toni, Butchers and Bicycles, Demant, Fredericia Furniture, Monstrum, Morsø Jernstøberi, and Nilfisk.

Data collection

At each of the 18 companies, with the help of an interview guide, we conducted qualitative semi-structured open-ended interviews with 1–3 participants. The interview guide was supported by additional questions emerging from a thorough background check of each company to ensure that the questions in the interviews were as contextualized as possible. Some interviews were conducted with several participants and others individually to suit the preferences of the interviewees. Before the interviews, the interviewees were asked to name a single exemplary product in the company portfolio. This made the conversation more precise and tangible but still allowed for references to other products.
The interview guide centred around four topics of interest: business (e.g. What do you experience as the greatest challenge or barrier when it comes to running a business based on long-lasting products?), development (e.g. In what ways would you say that your products are 'designed to last'?), consumers (e.g. What do you experience as the greatest challenge or barrier with respect to the customer or user of a long-lasting product?) and the future ambitions. The interview guide was not a systematic guide, but rather a list of questions to address different perspectives on longevity. This strategy allowed for a more relaxed conversation with spontaneous questions that permitted participants to elaborate on their answers and stories.

Interview #	Company #	# of participants	Employment position	Duration
1	A	1	Owner & CEO	1:44:13
2	B	2	CEO Lead Industrial Designer	1:22:35
3	C	2	CEO & Founder Design Director	1:03:45
4	D	1	CEO & Co-founder	1:15:39
5	E	1	CEO	1:56:46
6	F	2	Owner & CEO Senior Designer	1:56:55
7	G	3	CEO Sales & Marketing Director Head of Design/MA	2:04:31
8	H	2	VP R&D Director of Portfolio Management	2:07:15
9	I	1	Global Product Manager	1:27:20
10	J	1	R&D manager	1:31:09
11	K	2	CEO Creative Director	1:18:17
12*	L	1	Head of Hardware development	1:14:02
13*	M	2	Brand manager Purchasing manager	2:00:51
14*	N	1	Director, Product Quality Management	1:45:46
15*	O	1	Director	0:57:55
16*	O	1	Manager Advanced Design	0:43:59
17*	P	1	Vice President & Head of Innovation	1:37:20
18*	Q	2	Owner Head of Design & Product Management*	1:48:04
19*	R	1	Vice President of Design	1:03:19
20*	R	1	Executive Director	1:12:03

Table 1: Information on participating best-practice companies and employees. The letters that are listed twice (e.g. interviews 15 and 16, company O) refer to two individual interviews with different participants within a single company, whereas interviews with multiple participants are listed as one (e.g. interview 2, company B). All interviews were conducted physically at the company location, except for the interview marked with a * next to the interview number, indicating interviews conducted digitally due to COVID-19 lockdowns.

Data analysis

The data analysis was conducted concurrently with the interviews. This enabled a grounded theory approach to all 20 interviews. Using the analysis programme ATLAS.ti, the interviews were coded using a basic open coding technique (Strauss, A & Corbin, J. 1998) regarding product longevity. The search was therefore a combination of breaking down the data into discrete parts, comparing the parts for similarities and differences and categorising them. Some of the key codes from this search were 'personal vanity towards result', 'business transparency', 'long development times', 'brand nurturing through design', 'selling professionalism' and 'personal pride reflected in products'. These codes were then structured

using Corley and Gioia (2004) data structure model to distil the number of codes to analyse and find a more coherent interpretation. By grouping the codes into themes, we were able to compare codes across interviews and look for similarities and differences. Further clustering revealed an emergent pattern: there were several approaches to product longevity throughout the interviews.

To further reveal a pattern among the identified approaches, we shifted the coding technique. With an offset from Jensen, Laursen and Haase's (2021) mapping of barriers to product longevity, the second part of the data coding was based on how practitioners handled and recognised the 14 described barriers to product longevity described in the literature.

Barriers for long-lasting products		
Business barriers	**Product development barriers**	**Usage barriers**
Barrier 1: High cost of changing business model	Barrier 6: Inability to follow fast-moving trends and fashions	Barrier 10: Short lifecycles promoted by retailers affects user behaviour
Barrier 2: Customer rejection of change in business model	Barrier 7: Technological innovation makes long-lasting products obsolete	Barrier 11: Lack of attachment to products
Barrier 3: High price points of long-lasting products	Barrier 8: Change in societal behaviour makes long-lasting products obsolete	Barrier 12: Customers are partly unaware of material quality
Barrier 4: Vulnerability regarding short, fixed leasing periods	Barrier 9: Lack of focus on longevity in innovation	Barrier 13: Evaluating longevity in a purchase situation
Barrier 5: Time-consuming alteration of customer perception of product and brand		Barrier 14: Misperception of modularity in advanced products

Table 2: Overview of Jensen, Laursen and haase's (2021) identification of barriers to product longevity

The data analysis focused on whether the companies had faced or recognised the barriers described in the literature and how they managed the challenges. The solution principles to the barriers presented by the companies formed parallels to the initial data analysis.

Findings

Through this coding, it became apparent that there were three types of approaches to product longevity in best-practice companies striving for product longevity. Even though the companies engaged with significantly different product categories, the interviews revealed that their approaches could be categorised according to three types of approaches: performance-, behaviour change- and vision-driven approaches to product longevity.

Performance Driven Approach to product longevity	**Behaviour Change Driven Approach** to product longevity	**Vision Driven Approach** to product longevity
The performance-driven approaches to product longevity focuses on how to achieve the ultimate performance of a product. Often seen as physical improvement like technical or aesthetical changes, but also digital, interaction and general product performance aspects.	The behaviour change-driven approaches concentrate on how a service or behaviour changing can support longevity in a company. This behaviour change can both be a change in the company behaviour and/or in the customer behaviour to support the longevity of a product.	The vision-driven approaches are controlled by a company vision, often by passionate visionaries in the company. The visions can often seem abstract and undefined at first glance; however, create a clear direction and vision goal and striving for longevity in everything they do.

Table 3: The three types of approaches to product longevity observed at the best-practice participants

Performance-driven approaches

The most salient approaches to product longevity concern the product performance. Striving for performance typically results in the use of better materials, more durable construction, and increased sturdiness, reparability and modularity (all tools that potentially prolong the physical longevity of the products). For customers, these are the most recognizable improvements to longevity, as many (but not all) of them are visually obvious in the purchase situation. Differentiation from other brands through performance (e.g. with unique designs or materials, such as solid wood instead of laminate or steel instead of plastic shells) can yield better customer impressions of product durability in the purchase situation. Likewise, choosing a sturdy technical build for a product is often recognised and appreciated by customers over time, as the product exceeds initial expectations. Some of the tendencies observed at the best-practice companies are as follows:

Examples of performance-driven approaches to product longevity	Description	Quotes from the data
Setting extraordinary performance criteria	The companies set extraordinary performance criteria (e.g. being the most durable/fastest/clearest/strongest in the market). Products that deliver extraordinary performance and simultaneously differentiate themselves aesthetically from other products give customers satisfactory experiences and fulfilling emotions regarding their purchase.	*"Our customers just want to be comfortable, so there is no reason for a wide range of customization options. If we talk about low maintenance, then you also have to select components that are durable in the use situation." (Company D, 0:21:07)* *"I set up two criteria when we develop. The first is that it is not allowed to look like anything else in the marked […]. Secondly, it must perform extremely well. Naturally, there is also some underlying criteria to price points etc." (Company F, 0:34:30)*
Following performance lead-user	For the companies, uniqueness and extraordinary performance differentiation have led to the creation of independent communities of users. These discuss, enhance and customize their products and associate greatly with the product. These communities, therefore, form an independent user base, which companies observe and cater to without interfering and thus commit themselves to ensuring extraordinary performance and longevity in the future.	*"We are very careful not to interfere with these groups, as they provide us with the raw truth about our products. We use this a lot to tweak the product to become even better." (Company F, 1:17:00)*
Implementing performance values	Participating companies closely compared their new products to older successful products. One of the values expressed by the companies was 'super optimized for longevity'. Such products were able to deliver extraordinary performance, aesthetics and functionality, which made owners cherish and keep the products longer. This applied to several of the companies, which were extremely aware of comparing their older products to new ones.	*"We need to design our future products to deliver on design, material and functionality" (Company M, 0:38:00)* *"When we keep evaluating your product, we develop a set of requirements, that we are bound to fulfil. This setup is our key to use the knowledge that we have to keep developing strong products." (Company N, 0:27:19)*
Development iterations to improve performance	The companies used extraordinarily long development times to ensure that they could deliver the best performance. They did this by looking at the longest surviving products in their respective portfolios. The products where recognized by customers as performance products in the product category and were therefore in demand. The companies were able to deliver in these areas, as the products underwent extraordinarily long development phases, with incremental improvements and changes to improve performance in these areas. Such slow development yielded extremely optimized product features.	*"the simplest product possible […] thought through, but not exaggerated in any way" (Company H, 0:54:00)* *"You can create products that can sell now or you can create products that are future proof for next sales. Even if the customer has new demands, the product still delivers." (Company B, 1:18:49)*

Table 4: Examples of performance-driven approaches to product longevity

Behaviour change-driven approaches

Behaviour change-driven approaches focus on how companies can change their behaviour and/or current or potential customers to increase the longevity of their products and, in some cases, encourage more sustainable production and consumption patterns. One example of behaviour change is the selection of a business model that supports greater product longevity. These initiatives engage with consumers to support product longevity and potentially improve customers' perceptions of the company as a responsible seller. The behaviour change approach can also comprise initiatives by the company that are likely to increase customers' attachments to products and thus increase their likelihood of taking better care of them. Both companies and customers actively change via these support initiatives, which potentially prolong the longevity of the purchased products.

Examples of behaviour change-driven approaches to product longevity	**Description**	**Quotes from the data**
Transparency to production	The companies used transparency to increase customers' trust of their brands. An approach used by the case companies to provide a more authentic service was to increase customer's accessibility and familiarity with the company. The trust and recognisability of the company among customers increased if customers were familiar with the company, which increased brand awareness. Selling an experience rather than simple products can engage customers and highlight the values and products that a company sells. Several of the participating companies actively worked with customer relationship through being present for the customers.	*"We want to be completely naked. You can see your product be assembled etc. It is almost a family feeling, that if you are one of our customers, then you are allowed to be part of the process." (Company K, (0:13:00)* *"you can compare it to a restaurant with an open kitchen. You can see it all. The right raw ingredients and the cooking. When you are served your dinner, you have been on the full journey." (Company K, 0:14:00)*
Local presence and after-sale services	The companies committed themselves through service to deliver products with high longevity. If customers expect and demand continuous service after purchase, require the local presence of the service provider. If the company is unable to provide immediate service, the customer is unlikely to choose the same brand again. The longevity of a product is essential to minimizing the required service needed to satisfy a customer. While this commits a company to a strict service agreement, it also creates a strong market advantage in the geographical location in which the company is present.	*"We have decided that service is a business opportunity for us. We have to be present in the market where we sell" (Company J, 0:21:00)*
Change company illustration	The companies consciously kept their portfolios limited and instead iterated existing products and designs even after market launch. Limiting the number of products in portfolio enables companies to limit the number of spare parts to keep in stock, which increases the reparability of the products in the future. The limited number of products, which all are preserved in the portfolio, are, however, in constant development. This is only possible due to	*"In nature, there are no new species. Species evolve and it is a constant sequence of small changes. So this whole notion that humans have come up with, that every year we have to go to a trade exhibition to see all this new stuff. That is absolute rubbish! We as a society have come to value new rather than better. Yet, as an industrial designer*

	a limited portfolio, as a broad portfolio with seasonal product changes would counteract this. The company, therefore, accumulates a specific knowledge of the exact product that helps it maintain a market advantage and a product that has, through consecutive evaluation, become the best on the market.	*yourself, you know that the most difficult challenge is to make something better. […] That is what nature does and we as an economic society, we are wholly owned subsidiary of nature." (Company P, 0:25:42)* *"We have not launched a new series in 15 years. It seems like almost the same product today as 15 years ago, but naturally with upgrades." (Company L, 0:19:48)*
Long-lasting aesthetics	The participating companies were very cautious about the design language they saw as representing their identity. The design language had to be unique, reflect identity and apply to all their products. When designing new products, companies can mimic the aesthetics of older successful, long-lasting products. Visually familiar products are associated with each other and likewise are the values and impressions of them, meaning that customers also expect the new products to be of high quality and longevity. One company, for example, expressed a desire to measure all new product suggestions against prior designs to mimic their aesthetics.	*"Before we even thought about drawing anything, we need to find out what is the DNA. This was the first time in a long time the company wanted to introduce a new series of products […] so it was very important that we continued to follow this DNA and that this too became a classical product. This was an ultimate requirement." (Company G, 0:07:23)* *"The difference between being modern and being fashionable. […] Even when we make products that are supposed to be as modern as possible, we still try to keep away from fashionable design items and design languages. This is sometimes quite hard to distinguish, what is what. " (Company O, 0:03:58)*
Limiting seasonal trends	The participating companies in markets that are highly influenced by fashion only used fashion elements in exchangeable parts of their products. Products designed for fast-moving fashion are prone to substitution before they are worn out, which conflicts with longevity. The company aimed to design products, which was not prone to fashion, but sustained aesthetical relevance in the market, however, selected elements of products that were easily substituted included fashion-driven design elements. The selected elements that were affected by trends were small and obvious substitutional parts of products, which only influenced the longevity of the part rather than the entire product. The ability to cater to fashion-focused consumers positions companies in a unique market where a larger potential buyer group is present while producing products with high longevity.	*"We know that we have made a fashion element here, but we can also see a demand for this. So if we are pursuing these fashion elements, it must be on these selected parts." (Company A, 1:02:27)*
User involvement in assembly	The companies used customers' experiences to increase their relation to products. By engaging customers in the assembly process can generate a feeling of personal accomplishment. The feeling	*"many brands make a great effort to the storytelling. You can almost smell the workshop when you buy some products. Maybe you can deliver that experience to*

	of being part of the assembly process is likely to increase customer satisfaction and present the hidden details of a product. Customer who have good assembly experiences will remember it when looking at the product. This pleasant memory is likely to increase attachment and, in turn, increase the time the product stays in the customer's possession.	*the customer in a more realistic way so that it does not come through the ears and eyes but the hands and body. You get that from assembling your product. […] I even may become happier with the chair. (Company C, 0:09:39).*

Table 5: Examples of behaviour change-driven approaches to product longevity

Vision-driven approaches

The companies' visions differed and were phrased variously, but they all expressed their visions through the decisions they made. Vision-driven approaches often emerge from visionaries within a company that has successfully implemented its vision. The vision-driven approaches seldom refer directly to products existing in the company's usual category. Instead, they can seem undefined and universally applicable. However, some of the products of companies that are aware of and fulfil their vision remain prized possessions among consumers due to high attachment, even after the products break down. A combination of more specified business, design and customer management enables companies to establish and fulfil their visions.

Examples of vision-driven approaches to product longevity	**Description**	**Quotes from the data**
Solving long-lasting problems	The companies are engaged with solving 'long-lasting problems', which could initially seem unrelated to the product category they produce. Long-lasting problems are defined by being static and basic (e.g. improving convenience or performance). Although long-lasting problems may seem vague and undefinable from an outside perspective, they constitute a foundation upon which companies build requirements and sub-problematics, therefore controlling the design in a certain desired direction. Long-lasting problems, therefore, guide the design and the decision-making process towards the solutions to the surrounding problems that may not be immediately apparent, by adding new elements, aesthetics or features that add to the uniqueness and longevity of the product.	*"you have to make absolutely sure that you are solving the right problem." "and the problem that you are trying to solve, need to have a certain relevance and longevity […]." (Company I, 0:42:22)*
Longevity through collective attachment	The companies design for collective attachment rather than only personal attachment. A vision-based approach creates products that last through value, pride and satisfaction. Stimulating a collective attachment means that the product is often better maintained, repaired and used, as the users not only appreciate the functionality of the product but also the underlying personal values such as pride or affiliation. This approach comprises a combination of focusing on the artistic and aesthetic values of a product while understanding the customers' identities. This requires the production of custom-made, unique solutions that are tailored to the community.	*"Right now, we exist in a nice market, where we are quite different from our competitors: specially designed products, we no standard assortment and this is the only thing you see when you visit our website." (company F, 0:09:00)* *"No standard production means that we are more directed to the customers and that we become increasingly good at producing specially designed things that can match the other companies in price, with high-quality materials.*

		Make a balance between longevity, design and everything so that it just works." (Company F, 0:09:58) *"If we can create something that gives identity to an area, then it is especially meaningful." (Company F, 0:55:44)*
Confidence in product portfolio	The companies expressed exceptionally high confidence in their product portfolios. This confidence was expressed as an insistence to keep the product alive in the portfolio even if sales were limited at times. Rapid discontinuation of production of a certain product is likely to lead to the product being forgotten by customer and indicate a lack of confidence in the product. Therefore, if the product remains available for decades, it can gain more recognisability and show proof of concept. This increases the chances of creating a 'classic' and signals future relevance.	*"If we had discontinued our production of the [product], it would not have become iconic, because it needs to be nurtured. You have to be brave enough to stick to one idea." (Company O, 0:20:18)* *"It is, at its core, about running a business. Products that last is also about a well-managed business and that you keep showing the products and believe in them […]. If you believe in the product, you have to give it time to find its place in the market." (Company Q, 0:26:09)* *"everybody wants to do something iconic. There is one big issue. An icon is not created. An icon is grown over decades. When we talk about making something iconic, it is not only about shape. It defiantly helps when you have a distinctive shape and I think as well there is a pragmatic involved. Is it well designed? […]" (Company O, 0:17:16)*
Longevity as a quality parameter	The participating companies perceived longevity as a quality parameter. Increasing longevity was understood as part of a vision to create quality products. The quality vision is expressed differently in each product and product group and longevity was always one of the parameters to consider, among others, such as convenience.	*"Our customers are very experienced. They have already owned a lot of stuff. They know about the energy you need to substitute products. When you are busy there is no energy left for this decision. […] therefore, it is much better to have something better, durable, working and does not add complexity to my life. This is an important success factor." (Company R, 0:15:12)*

Table 6: Examples of vision-driven approaches to product longevity

Discussion

Looking at the three types of approaches, namely the performance-, the behaviour change- and the vision-driven approaches, it becomes apparent that there exist a hierarchy between the approaches. To be successful in the production of long-lasting products, companies first need to employ performance-driven approaches. The physical experience of the product and product–user interaction constitute the baseline for the longevity of a product. Companies that employ vision-, service- or behaviour-driven approaches without experience with performance-driven approaches are likely to experience difficulties as the physical longevity need to live up to the expectation of the customers. Performance-driven approaches are also the most tangible, as they are primarily concerned with material selection, patina, durability and performance. Companies committed to delivering products with high longevity can then extend engagement with longevity through behaviour change-driven approaches. Supporting an already durable product with service extends its

potential longevity and even further (e.g. authorized service and maintenance in the car industry prolong cars' lifespans and signal that companies still vouch for their products even after purchase).

Figure 1: Sequence of approaches to longevity

It seems that the companies that employed more abstract approaches to longevity had also previously employed more physical approaches. However, over time, as the more tangible and physical approaches became incorporated into the business, they could concentrate on the more abstract approaches, and the physical approaches became a matter of course. The transition to being a producer of long-lasting products, however, still seems winding. It seems, however, that there is a slow evolution in the process towards total implementation of approaches and a need to improve the already implemented approaches in companies. Both the implementation and maintenance of approaches are time-consuming processes, which shows that slow consumption is the result of slow evolvement and development.

Conclusion

Despite the ongoing international debate about environmental caution and awareness of consumption, global consumption continues to rise. One way to comprehend the increasing waste problem is through the longevity of our products. Through interviews and an extensive multiple case study of 18 best-practice companies producing a wide variety of products, we catalogued a number of business and development approaches that elucidate the concept of longevity. The approaches shared similarities but could be differentiated into three major types: performance-, behaviour change-, and vision-driven approaches to product longevity. We discussed the companies' implementation of these approaches and concluded that, to be successful, companies first need to focus on product performance, then behaviour change and lastly vision-driven approaches. Finally, this study's findings indicate that there, despite engagement with different product categories, exist similar approaches across product categories that form the baseline for companies' views on product longevity. This knowledge can be used to develop more practicable strategies for improving the longevity of products.

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