6. Valuing electronic devices? User narratives and their role for durability

Tamina Hipp and Daniel Fischer[1]

> My grandfather has a washing machine that's 30 years old, and I think it's a bit mean because you can make these machines nowadays so that they're indestructible, so to speak, but it's not done because then the economy suffers because the company then says, 'Well, then I'll only sell one washing machine in a lifetime to everyone. That's not profitable.' (female interview participant, 29 years old)

6.1 Introduction

Why do some electronic devices remain in use for a short time and others for much longer? The durability of electronic devices, in addition to their robustness and reliability, is decisively influenced by how they are used. This chapter argues that everyday narratives about the use of electronic devices play a significant role regarding durability. We argue that narratives contain value judgements about objects that act as mediators between user practices and product life.

Narratives about the everyday use of electronic devices are often addressed in everyday conversations and are conveyed in the media. Whether they are about someone's grandparents' long-lasting washing machine, the printer that broke down prematurely, or a cherished kitchen appliance that has seen other devices come and go. Such stories are based not on facts but on the plausibility of events and their connections. Narratives about the everyday use of electronic devices are not only 'sediments of experience' (Haker 2010: 8); they also shape how people interact with electronic devices, as they provide orientation and a

1 A sincere thank you to Paul Lauer for his diligent proofreading of this article.

specific perspective. Moreover, users' experience, memories, and discussions about how they have used products – and for how long – take place within a narrative structure, as there is a temporal sequence and a connection between events.

Which practices of electronic device use are meaningful are revealed by the sequence of narratively coupled events. As electronic devices are becoming more and more technically complex and their inner processes more and more impenetrable to the user, using them is increasingly fraught with uncertainties. Against this background, we are interested in the stories that users tell us about electronic devices and the role those stories play in relation to durability.

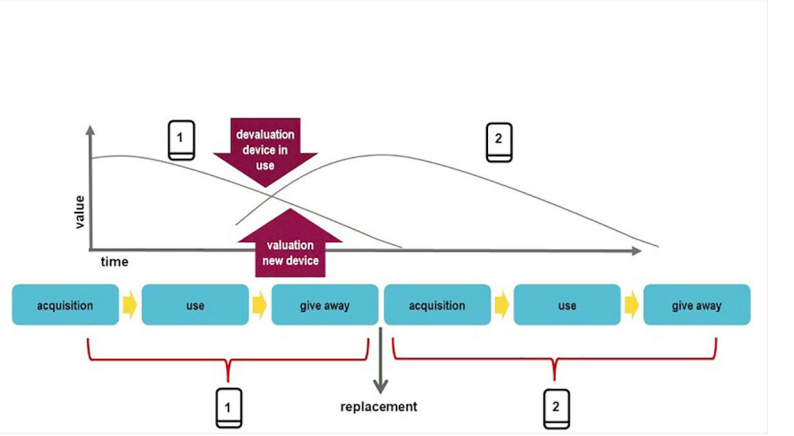
There is ample research showing that users tend to act inconsistently when it comes to their attitudes towards products in the different phases of use, from purchase to disposal (Echegaray 2015; Evans and Cooper 2010). These inconsistencies suggest that approaches that assume that users have fixed norms and value systems have only limited explanatory potential. For example, practices that are relevant to how long products are used for are strongly based on routines, but they are also dependent on context (Jaeger-Erben et al. 2016).

Wieser et al. (2015b, 2015a) propose that the narrative of planned obsolescence – the assumption that manufacturers shorten product lifespans by design – contributes to reinforcing practices associated with a shorter useful life, in that users who believe this assumption may prefer low-cost electronic devices and view repairs as pointless. However, there has been no systematic investigation into which narratives about the use of electronic devices in everyday life are relevant to their durability, and what function they may play in social practices that support or hinder practices relevant to durability. This study aims to contribute to closing this research gap by examining the relationship between practices of talking about the everyday use of electronic devices and use practices that are relevant to their durability. This chapter also helps identify starting points for consumer-focused sustainability communication (Fischer et al. 2021) to promote longer useful product lives as a contribution to achieving durable economies.

6.2 Theoretical background: value assignment by practices of sayings

Narratives are understood differently in different academic fields and traditions. Our approach is informed by theories of practices, which emphasise the materiality of the social and cultural on the one hand, and the implicit, informal logics of social life on the other (Reckwitz 2003). Following Schatzki (2000), practices can be differentiated into those of doing and those of saying. Narratives are thus conceived as verbal expressions in concrete settings, and although they are related to doings, doings and sayings are not mutually determinative. Durability-related practices can be seen as a nexus (Hui et al. 2017) of social practices that include material arrangements and social meanings as well as user competencies (Hipp and Jaeger-Erben 2021). In this context, the electronic devices themselves fulfil the function of linking these practices together over a period. According to practice theorist Warde (2005), consumption is a prerequisite for performing practices. Following Warde, acquisition is followed by appropriation, in which the user becomes familiar with the object, and appreciation, in which the object is used as intended. Evans (2019) adds another process, in which processes of devaluation and divestment occur before an item is discarded. Devaluation refers to the process of depreciation during use. During the phase of divestment, the object is not used, and an emotional and physical separation occurs until it is passed on in the final phase (Encino-Muñoz et al. 2021; Ortega Alvarado et al. 2020). Ortega and colleagues suggest combining these six phases to achieve an integrated understanding of product lifetime (Ortega Alvarado et al. 2020). Hipp and Jaeger-Erben (2021) recommend that the process of product usage should not be divided into distinct phases but should be conceptualised as a continuous process of value assignment. In addition, the replacement of electronic devices should be set in relation to the value assignment of new devices, as shown in Figure 6.1. Following Dewey (1939), a classic of valuation sociology, valuations are understood as processes in which value emerges from interaction. In short, 'value emerges from what people do' (Arnould 2014: 130). This perspective implies that value is also assigned through what is *not* done, such as a lack of product care. Since in the present study actions are not directly observed, the assigned values are reconstructed from practices described in the narratives of interviews analysed.

Figure 6.1: The change in value over the course of electronic devices use.



To understand the value assignment process more precisely, narratology offers helpful starting points. Brian Richardson (2000) defines a narrative as a representation of events that are causally connected. Other definitions of narrative emphasise that attributions of meaning are inherent to narratives (Bruner 1986; Ricoeur 1984). Unlike fictional narratives, everyday narratives are more deeply rooted in people's experiences. Through the process of remembering, narratives are reflected on, organised, and transformed into structures of meaning (Haker 2010). According to psychologist Laurel Richardson (1990), narratives are a part of sense making, and by conveying values and emotions they influence the ways in which the world is perceived. In line with these understandings, we define a narrative as a sense-making story that describes how a subject engages with and interprets the world. This emphasises the function of narratives as a frame of reference for practical everyday action. Narratives about the use of electronic devices reflect everyday life arrangements (Bødker et al. 2014; Middleton et al. 2014) concerning how often and how intensively devices are used – and especially for what purpose. This can yield insights that are important in reconstructing practices relevant to the durability of products (e.g. avoiding defects). However, according to the distinction of practices of doing and saying, narratives do not simply express individual consumption practices. They emerge in social structures, reflect material arrangements, and are shared collectively; as such, they entail social and cultural references (Rahmanian 2021) and reproduce and influence cultural patterns of

interpretation that legitimise the meaningfulness of ways of using electronic devices.

From a practice theory perspective, it is of fundamental interest how communication is enacted physically and habitually. Following John Austin and Ludwig Wittgenstein, Schatzki (2000) considers speaking to be a social act, which thus emphasises the action of the speaker. According to Wagenaar (2011, quoted in Bueger 2014), narratives give temporal and spatial coherence to social practices. They offer an understanding of situations by presenting interpretations about intentions and the consequences of actions. Narratives can reduce complexity, give direction, and allow us to act with greater certainty by providing the basis for judging actions. As Schatzki puts it: 'Sayings and texts contribute to what makes sense to people to do and the intelligibility of things in the world' (Schatzki 2017: 134). Therefore, from the perspective of practice theory, we are not primarily interested in whether a narrative is true or false, or what the intention of the narrator was, but rather in the function a narrative has within the nexus of practices (Bueger 2014; Neumann 2002) – that is, the performative quality of a narrative (Rivera and Nanz 2018). Specifically, we ask which social practices are favoured or disfavoured by narratives and to what extent.

6.3 Research design

This study is exploratory and inductive in nature, following the methodology of reflexive grounded theory (Breuer et al. 2018; Bryant and Charmaz 2011; Mey and Mruck 2011; Strauss and Corbin 1996). It employs problem-focused interviews with users. The findings are supplemented with quotes from 'device stories' on durable electronic devices that were collected in the context of an online campaign.[2]

A special feature of grounded theory is that data collection and data analysis are not conducted as two separate phases, but iteratively. After the first interview was conducted and evaluated, the next interviewee was selected based on the results. It is of crucial importance in this procedure to continuously check theorising approaches that arise in the process, especially through theoretical sampling of contrasting cases. Hence, respondents in this study were purposively selected for specific characteristics to drive theory building. In our

2 See https://langlebetechnik.de/Aktion.html.

case, we were particularly interested in our respondents' experiences with using electronic devices, their usage intensity, and equipment, as well as their concern about durability. Fifteen problem-focused interviews lasting approximately 90 minutes each were conducted with electronic devices users (aged 14 to 78 years) from all over Germany. In addition to the interviews, users kept diaries to document their use of smartphones and washing machines over a period of two weeks.

The interviews were transcribed and analysed using the coding paradigm of Strauss and Corbin (1996) as previously adapted to our research question. The coding paradigm analyses social phenomena in terms of four aspects: conditions, contexts, actions/interactional strategies, and their consequences. The coding of the material was done in three methodological steps: open coding (identification of categories), axial coding (connections between categories), and selective coding (recoding regarding the central category). The method of constant comparison was used. The lead author repeatedly explored the data material based on the questions inspired by the coding paradigm. The paradigm explored which action strategies the interviewees deemed appropriate taking contexts and intervening conditions into consideration. These questions directed the analysis to explore how value was attributed to electronic devices. The analysis showed that users assign a value to their devices in the process of using them and that this value shapes future ways of using devices.[3] During the analysis, we coded all passages in which a positive, negative, or neutral value was assigned to the devices. The analysis revealed the central role played by experiences with devices as well as by stories from others or in the media. From a practice theory perspective, it was crucial to understand the functions a narrative assumes within a network of practices. Therefore, in a second phase, we analysed how social practices are favoured or disfavoured in experienced, narrated, and media stories. In an iterative process, ten narratives were identified that featured prominently in user stories about electronic device use. As is common with grounded theory, interpretations were discussed in research colloquia. We acknowledge credibility as an important criterion of rigour in qualitative research (Tracy 2010) by including extensive excerpts of the material below to allow readers to evaluate the accuracy of our interpretations.

3 These findings have already been published in an article (Hipp and Jaeger-Erben 2021).

6.4 Classification of narratives

Narratives about the everyday use of electronic devices that are relevant to durability often exert an orientating function for everyday actions in concrete situations. People justify their own actions through action strategies that have proven useful in the past.

When talking about their devices, many respondents referred to narratives they know from the media to justify their actions, addressing such issues as successful and unsuccessful repairs, planned breaking points in devices (planned obsolescence), technological innovations highlighted in advertising, television shows about decluttering, and documentaries about the consequences of mass consumption. During the analysis process, we identified ten narratives about the everyday use of devices that are relevant in the context of durability. We classified these into three groups, based on whether the narratives frame the devaluation of the electronic device as accelerated or decelerated, or whether the devaluation was context-dependent – that is, the devaluation could be both accelerated and decelerated depending on additional conditions. In Table 6.1, the ten narratives are assigned to the three groups. The table represents narrative types as ideal constructs. In practical application, narratives are combined and contrasted with each other, as shown in the explanation below.

Table 6.1: Classification of narratives based on their inherent valuation of electronic devices.

Classification	Narrative
Depreciative	'Devices are unmanageable'
	'Repair isn't worth it'
	'The new is appealing'
Ambivalent	'My daily life depends on my electronic devices'
	'High-quality electronic devices last longer than cheap ones'
	'Manufacturers intentionally manipulate the lifespan of electronic devices'

Appreciative	'I don't need anything else'
	'I'm not part of this throwaway society'
	'My device is my companion'
	I have someone to help me'

6.4.1 Depreciative narratives

Narratives that were associated with an accelerated devaluation of electronic devices in everyday life refer to processes of devaluing the device currently in use and valuing a new device. These are often narratives about devices being unmanageable, maintenance and repairs not being worthwhile, and new devices being more attractive. Table 6.2 contrasts key characteristics of these three narratives.

Table 6.2: Characteristics of depreciative narratives.

	'Electronic devices are unmanageable'	'Repair isn't worth it'	'The new is appealing'
Subject of narrative	Regular technical malfunction, spontaneously or in the wrong situations	Repairs are expensive, time-consuming, and associated with risks, while buying something new is easy and safe	More innovative electronic devices are more attractive than old ones
Valuation of device	Complete devaluation of the device possible		Accelerate valuing new devices and devaluing used devices

Practices favoured or disfavoured by narrative	Favour premature product replacement, although the device may have been operated incorrectly or could be repaired Disfavour obtaining fault diagnosis or repair	Favour replacement of devices that are (partially) defective Disfavour checking repairability or carrying out repair	Favour justifying a replacement purchase for a working product and replacement for partial defects Disfavour caring for and repairing older devices

The narrative 'electronic devices are unmanageable' includes stories about electronic devices that malfunction and have defects. Malfunctions can occur from the beginning of the device's use, regularly or spontaneously, and can lead to a complete devaluation of the device. The narrative makes it seem reasonable to replace devices even though they still mostly work, could be repaired, or do not work as expected due to a lack of user competence. Frequent elements of such narratives are attributions of responsibility for (partial) defects. Malfunctions and defects are attributed either to one's own bad luck or lack of competence or to poor product design or faulty production. When devices do not work in situations perceived as important, this can be associated with annoyance, frustration, and anger by the interviewees, as the following quote from a geriatric nurse illustrates:

> I never had mobile phone reception. And text messages and things like that arrived much too late … For example, I once didn't get a message that a patient had died. But I went there and got totally involved in the mourning scene, where all the relatives were there … And then, when I was sitting in the car again, completely dejected, the news came. And then I was also pretty fed up with it. (w, 34 years old)

Users describe that the device is replaced when the hassle becomes too much, as happened after the experience described above. The 'devices are unmanageable' narrative is often reported along with narratives about how repair efforts are not worthwhile.

The narrative 'repair isn't worth it' goes hand in hand with a complete devaluation of a device if it has malfunctioned or has a defect. The expression 'worth it' refers to a subjective, relative assessment that evaluates buying a new device as better than repairing the old one. The (presumed) monetary costs associated with a repair, the (possible) amount of work involved, the perceived risk of failure, and the expected short time remaining in which the device can still be used are cited as hurdles to a possible repair. Bad experiences of unsuccessful repair attempts are regularly associated with negative feelings such as anger and frustration among users, even after a longer period. Such experiences are used as a reference for not attempting a repair the next time a defect occurs. The narrative can also be disconnected from the user's own experience, as observed with users who state that repairs would never be worthwhile, even though they have never attempted to carry them out themselves or have someone else do so.

Often, in the narratives, a repair is not considered because a new device is described as more attractive. In this combination with the 'new is appealing' narrative, the perceived benefits (features, design) of a new generation of electronic devices are emphasised to justify the purchase of a new device. This narrative may also favour the replacement of functioning electronic devices, as well as disfavour the maintenance of devices perceived as obsolete. The interviewees report that 'new' is communicated to them as attractive at various touchpoints. For them, this includes marketing as well as interactions with other users and social media, such as unboxing videos in which users document how they unpack and try out new electronic devices. Narratives that implicitly accelerate the devaluation of used devices are frequently linked to ambivalent narratives.

6.4.2 Ambivalent narratives

The function of narratives to provide meaning and orientation can also be combined with an ambivalent inherent devaluation of electronic devices, depending on the contexts in which the narratives are used. The three ambivalent narratives – 'not without my device', 'high-quality devices are more durable than cheap ones', and 'manufacturers intentionally manipulate the lifespan of electronic devices' – are described below. Table 6.3 compares their characteristics.

Table 6.3: Characteristics of ambivalent narratives.

	'Not without my device'	**'High-quality devices are more durable than cheap ones'**	**'Manufacturers intentionally manipulate the lifespan of devices'**
Subject of narrative	Devices are indispensable for everyday life	Electronic devices differ in terms of quality and service life	Manufacturers intentionally build breaking points into devices to increase sales
Valuation of device	Valuing the device due to dependency In case of non-usability, potentially complete devaluation	Identify quality (brand, price, country of origin, service) as a differentiating factor for the relative valuation of devices	Suddenly devalue device if broken, but value it if repaired (repair as empowerment and rebellion)
Practices favoured or disfavoured by narrative	Favour caring practices – high intensity of use leads to heavy wear Favour regular new purchases and immediate replacement in case of defects	Favour purchase and repair of medium-and high-quality devices Disfavour purchase and repair of low-quality devices	Disfavour a willingness to buy expensive devices as well as a willingness to make repairs ('everything is rigged') Favour an avoidance of specific brands Favour a commitment to repair

In many stories about everyday product use, users portray electronic devices as indispensable for everyday life. These are grouped together here in the narrative 'not without my device'. Examples of indispensability include temporal comparisons in which life in the past is contrasted with the demands of life today, or descriptions of efforts that users make to be able to use a device (e.g. driving straight home when the mobile phone is forgotten). In this respect, practices that promote durability (e.g. spending more money on quality, using products carefully, repairing defects) appear meaningful. However, narratives revealing a significant dependence on devices are often associated with above-average product use, as a comparison of diaries documenting the intensity of electronic device use reveals. In terms of practices,

more intensive product use increases the risk of damage (e.g. from dropping mobile phones). When combined with the narrative 'electronic devices are unmanageable', unexpected malfunctioning can cause annoyance, although the device is nevertheless highly valued; this can lead to ambivalent feelings, as the following quote illustrates:

> Love–hate. The hate is because this thing might send notifications at night, when I don't want it to notify me at all. Some bing sound is activated at night, and you're wide awake and can't sleep for another four hours … but if you forget it at home, that's actually the term for love, if you miss something, then there must be a love there. So, if you forget it at home, it's already a drama. (m, 51 years old)

The 'high-quality devices are more durable than cheap ones' narrative includes stories about how investing in a medium- or higher-quality device is financially worthwhile in the long term compared with low-priced electronic devices, as a longer service life can be expected. The main characteristics for valuing quality are the brand image, country of origin, service, and price. People refer to their experiences and reports from their social environment as evidence of quality. The narrative can thus favour a willingness to accept a higher purchase price and disfavour buying cheap devices. If the device is described as high quality, this also favours a willingness to repair the device instead of replacing it. However, in the interviews, this narrative is often used as a justification for not caring for or repairing cheap devices. The narrative 'repair is not worth it' often frames efforts to ensure durability as useless, because they would not pay off. In this case, the period of time for which a product is used is seen as a question of whether users are capable of selecting and paying for high-quality devices. A temporal comparison is typically made, especially from people in the sample who were socialised in the former German Democratic Republic. In this comparison, 'in the past', devices were produced more robustly and in ways that made them easier to repair compared with devices produced today. Some interviewees expressed the maxim of staying 'in mid-point' of the range of options when buying a device, to neither spend too much money nor buy a low-quality product. In some cases, the expected product service life is derived directly from the purchase price, thus reducing the quality issue to price. Others, however, associate premature product failures as planned obsolescence.

The narrative 'manufacturers intentionally manipulate the lifespan of electronic devices' (publicly discussed as planned obsolescence) describes the belief that users are deceived and pressured to buy new products by manufacturers intentionally building defects into the design of products to shorten their lifespan. As evidence for this manipulation, people rarely refer to their own experience and only sometimes to experiences of friends; mostly, they note that it is a plausible and rational strategy for manufacturers to increase sales. According to the majority of interviewees, only some designers ('the bad guys' versus 'the good guys') would intentionally build in breaking points in selected product groups. In such cases, the narrative may involve avoiding specific brands, especially if people have had bad experiences with these brands before. If planned obsolescence is framed as a common strategy, it does not seem to matter to some interviewees which electronic devices they choose, since they expect to be manipulated anyway; accordingly, additional costs for more expensive devices would not be worthwhile. During the interviews, however, these interviewees also distinguish between quality criteria such as brands. When combined with the narrative 'new is appealing', they conclude that long periods of use for devices with short innovation cycles are not necessarily advantageous because more innovative devices make older versions obsolete. From this perspective, planned obsolescence is not a problem since devices are not intended to be used for long periods of time. More tech-savvy users point out that lifespan would be more subtly manipulated by making repairs more difficult through lack of standardisation and compatibility, cases that are glued shut, and the non-availability of spare parts. Interviewees can only speculate whether premature failures are intentional or due to a lack of competence in design: 'About planned obsolescence … well, I had a bit of a suspicion, you have to be relatively stupid to do something like that accidentally' (m, 45 years old). In some cases, premature product failures motivated users to repair the devices. If the repair succeeds, this can be accompanied by a sense of self-empowerment and can enhance the device as it acts as evidence of one's skill and autonomy. Overall, the orientation-giving function of the narrative for using electronic devices is low, since there is great uncertainty about whether planned obsolescence exists and how widespread this strategy is. In contrast, people's own experiences and recommendations from their social networks are more important.

6.4.3 Appreciative narratives

In the interviews, many stories were shared that are related to a slowed down devaluation of electronic devices. They may also be accompanied by an appreciation of devices in use or a devaluation of new devices. The stories are about sufficiency, sustainability, faithful devices as life companions, and mutual support for technical problems. A brief description of the narratives is juxtaposed in Table 6.4.

Table 6.4: Characteristics of appreciative narratives.

	'I don't need this'	**'I'm not part of this throwaway society'**	**'My device is my companion'**	**'I have someone to help me'**
Subject of narrative	A (newer) device is not needed because the device used meets the needs of the user	The level of consumption is too high and the environment is harmed by the waste produced Sufficiency makes the user happy	Devices are attributed a nostalgic value because they are linked to biographical events	Support is given by people from the local community and social network in selecting a product, providing tips on use and helping identify problems
Valuation of device	Value old devices and devalue new devices			Slow down the devaluation of used devices
Practices favoured or disfavoured by narrative	Favour all life-extending practices and disfavour all life-shortening practices			Favour compensating for a lack of user competence by a competent environment throughout all phases of use

The narrative 'I don't need this' comprises everyday stories in which users describe that they do not need a newer, more modern, or more innovative product version or device category. It is not about unhappily doing without something but describes the absence of desire to own something else. It acts as a counternarrative to the 'the new is appealing' narrative and is often voiced by users to distance themselves from the consumption of devices they consider unnecessary. In some narratives, the quality of the devices owned is compared with more recent versions and valued as equal. Stories in which older devices are valued address not only repairs but also updates, hacked operating systems, and modifications to technical devices. In some stories, not only the electronic device itself is criticised, but also the intensity with which it is used. Predominantly, people aged 60 and older criticise (perceived) increasing mobile phone use as disruptive to social interaction.

The narrative 'I don't need this' is frequently combined with stories about people throwing away too much. The narrative 'I'm not part of this throwaway society' includes narratives about overconsumption in Western societies. Excessive resource use and ecological damage are morally condemned. Industry is blamed for fuelling mass consumption through marketing, fashion, and oversupply, and people are blamed for allowing themselves to be persuaded that they require more.

Typically, mountains of junk, which are familiar from the media, are described pictorially. In this narrative, narrators distance themselves from people who always want to have the latest thing and exchange their functioning devices for new devices. A reluctance to throw away working devices is found in almost all such interviews. In this context, electronic devices are considered valuable and too good to throw away, as the following quote shows:

> I would like to see more consciousness [in using things], what kind of brainpower goes into some things … With good things, where some people have put a lot of effort into [them]. (m, 45 years old)

This narrative is primarily a criticism of the actions of others; rarely is it connected with the narrative 'manufacturers intentionally manipulate the lifespan of electronic devices' or related to a lack of quality. Premature breakdowns and bogus innovations are criticised not only as consumer deception, but also as an unnecessary waste of resources. The narrative is regularly combined with stories about how people have owned certain durable devices for a particularly long time.

The narrative 'my device is my companion' comprises stories in which certain old electronic devices are linked to biographical events. One example of this is the quotation at the start of the chapter about the washing machine lasting a lifetime. New phases in life – such as beginning your apprenticeship, renting your first flat, or going abroad – may necessitate acquiring new devices. In retrospect, a nostalgic value is then attributed to the devices. Limitations both in usability and in the range of functions are often accepted, as the appreciation that the device 'still works' prevails.

These three narratives are associated with a slowing devaluation of electronic devices and positively emphasise their durability, their ease of use and repairability, and their timeless design. When these narratives are used, a high level of tolerance is typically shown for devices with partial defects; devices with quirks continue to be used instead of being replaced immediately. They support life-extending and overall resource-conserving practices in the context of device use, such as second-hand purchasing, product maintenance, and repair. These narratives also disfavour the desire to replace electronic devices if their basic functions still work or can be repaired.

A fourth narrative, which is associated with slower devaluation, addresses help and mutual support from other people. Nearly every interviewee reported either receiving regular advice on devices in their social circles or providing support to other people, particularly with issues concerning product selection, diagnosis related to malfunctioning, and repair. The narrative 'I have someone to help me' is about how skills are available in one's own community or social network, how one's own skills and abilities continue to develop through learning from one another, and how used appliances are passed on to others. In the interviews, adult children were more likely to pass on information and entertainment electronics to their parents, while parents were more likely to give household appliances to their adolescent children, primarily when they moved out. It is interesting to note that it is not only family members and friends who offer help and advice; there are also extensive support networks.

6.5 Discussion

This study combined practice theories, narratology, and the sociology of valuation to analytically focus on two features of narratives about the use of electronic devices: first, that they distil experiences of human–device interactions; and second, that they thereby also shape users' future engagement with de-

vices. We have reconstructed value assignments to devices as a significant mediating entity between doings and sayings. These value assignments might be conscious to the users, but they do not have to be, since interactions with devices are often routine and thus are predominantly organised through practical consciousness (Giddens 1984). Instead of referring to individuals' fixed norms, values, and attitudes and thus reproducing the discrepancy between attitudes and behaviour (El Haffar et al. 2020; Evans and Cooper 2010) that is frequently found in research, we analysed the function of narratives in networks of practices and thus emphasised their situational dependence. Narratives are anchored in material arrangements, but they are combined and adapted depending on the context (Neumann 2002): 'In reality, individuals, and technologies exist in a "sea of stories" – in the midst of texts, histories, norms, and the constraints and capacities of infrastructures and technologies' (Harmon and Mazmanian 2013: 1059). In this chapter, we examined the functions that frequently occurring narratives about everyday use of electronic devices exert within practice patterns in using those devices. In classifying ten narratives into three groups, a distinction was made between accelerated, decelerated, and ambivalent devaluations of devices currently in use.

Depreciative narratives frame devices as unmanageable in use and consider more modern devices as more attractive in comparison. The effort and expense of repair are not considered worthwhile under the circumstances, so product replacement seems more sensible. Appreciative narratives associated with the decelerated devaluation of the device in use address sufficiency as well as an often moral view of the throwaway society and frame devices as loyal and reliable life companions. They often address mutual help with technical problems and how used electronic devices are passed on in communities. These differences are important in relation to expected product lifetimes, which are shaped by experience (Cooper 2004; Hennies and Stamminger 2016; Knight et al. 2013). The expected lifetime, in turn, shapes user practices: if a longer lifetime is expected, users are more willing to pay higher prices for devices (Ihemezie et al. 2018; Jacobs and Hörisch 2021) and to invest money and effort in repairing them (Okada 2001). With a shorter expected remaining lifetime, electronic devices are replaced more quickly because they are thought to have already amortised their cost (Berge et al. 2020; Nes and Cramer 2006; Okada 2001).

The interviews suggest that negative experiences are remembered more intensely than positive ones, and that premature failures are therefore more mentally present than devices that have functioned flawlessly for decades.

This is in line with Baumeister et al.'s analysis that 'bad is stronger than good' (Baumeister et al. 2001), according to which negative feelings or fears motivate action more strongly than positive feelings and hopes. They state that the overall impression remains negative when there is an equal number of events rated as good and as bad. Therefore, it takes several positive experiences to compensate for a single negative one. In this analysis, the approach often used in sustainability communication – presenting premature product failures as a strategy of manufacturers (planned obsolescence) – appears problematic, even if this approach receives attention due to its emotional appeal. Instead, a narrative framing devices as valuable might be more useful in strategic communications to support durability-enhancing practices. Practice theorist Spaargaren also advocates a 'positive view' on sustainable consumption (Spaargaren 2011: 820). Instead of portraying electronic devices as overly complex and as ticking time bombs, devices could be framed as faithful companions or intelligible machines, thus reinforcing lifespan-favouring practices, as some NGOs are already doing (Persson and Klintman 2022). Positive visions of a future circular society – for example, with ecological, social, and economic benefits, but also an increased joy in life – could also help make sufficiency practices appear meaningful.

In addition to appreciative and depreciative narratives, a third type, ambivalent narratives, was identified. These need to be considered in a more nuanced way: depending on the context, they can be associated with both accelerated and decelerated devaluation. The 'not without my device' narrative can both support lifespan-extending practices (such as choosing high-end devices and care practices) and encourage premature product replacement to prevent potential functional failure. Such ambivalent relationships have also been described as characteristic of technology use more broadly. One example is Mazmanian and colleagues' (Mazmanian et al. 2013) description of the autonomy paradox, in which technology on the one hand supports the perception of personal autonomy, as users can use technical devices to transcend temporal and spatial boundaries. On the other hand, constant accessibility makes it almost impossible to preserve self-determination. The narrative 'high-quality devices are more durable than cheap ones' can be invoked both to not repair devices because of their inferior quality and to justify the purchase of high-quality devices. Although studies prove that more expensive devices generally last longer than less expensive devices, devices are often used for shorter periods than

expected (Hennies and Stamminger 2016).[4] However, the expected lifespan is not transparent for the consumer. Results of this study show that the narrative 'manufacturers intentionally manipulate the lifespan of electronic devices' is used to legitimise the choice of inexpensive appliances and of not repairing appliances, as suggested by Wieser et al. (2015b). On the other hand, it has been shown that the narrative can also favour repairs if they are understood as an act of rebellion against immoral product policies. Furthermore, according to Ackermann (2018), the fact that manufacturers make repairs more difficult can be a motivation for users to repair electronic devices. Various studies indicate that repairing devices can evoke positive emotions and stimulate product loyalty (Ackermann et al. 2018; Desmet 2012; Page 2014; Scott and Weaver 2014; Wieser and Tröger 2018). Overall, the present study found few connections between beliefs about planned obsolescence and accompanying actions, which may also be due to uncertainties about whether manufacturers are tampering with electronic devices. Experiences and personal advice from the community and social networks are considered to have a greater orienting function. Because this narrative has a strong potential to arouse anger, it is often used by NGOs as a mobilisation strategy. The results of the study suggest that it may be more appropriate for NGOs to value rather than devalue electronic devices in communications in order to support desired user practices.

However, from the perspective of consumer-focused sustainability communications (Fischer et al. 2021), to which this study set out to contribute, the narratives about the everyday use of electronic devices identified in our research can be viewed from several perspectives, three of which are briefly highlighted here: an interpretive-reconstructive, a critical, and an interventionist perspective. From the interpretive-reconstructive perspective, the narratives can be interpreted as manifestations of overarching discourses on achieving sustainable consumption, as exemplified by the distinctions between status quo, reform, and transformative-oriented understandings of sustainability (Hopwood et al. 2005); the juxtaposition of strong and weak conceptions of sustainable consumption (Hobson 2013); and strategies of efficiency, sufficiency, and consistency (Huber 2000). For example, the narratives 'new is appealing' and 'I'm not part of this throwaway society' can be interpreted as poles of tension between technologically oriented approaches to ecological modernisation and approaches such as degrowth. Against this background, what is intriguing about the narratives is that they show connections to various ideo-

4 'Schon kaputt? Geräteverschleiß', Stiftung Warentest press release, September 2013.

logical positions in sustainability discourses, which can also be strategically utilised for sustainability communications.

From a critical perspective, the narratives about the everyday use of electronic devices could be examined in terms of their underlying power relations. In such a perspective, questions about the social validity of knowledge, agency, and attribution of responsibility (responsibilisation processes) would come to the fore (Fuchs and Di Giulio 2016; Giesler and Veresiu 2014; Leipold and Winkel 2017). In these perspectives, narratives provide a lens to understand how sustainability concerns are framed in terms of what the problem is and what are its causes, as well as which solutions are to be preferred (Luederitz et al. 2017). In contrast to the interpretative perspective, the emphasis here is on how actors strategically shape collective understandings of and preferences for desirable transition pathways. The findings show that narratives of transitions into 'durable economies' can take different positions in terms of how they attribute responsibility and agency to users, producers, and state actors when it comes to electronic device use. In the mobility sector, for example, such aggregated, collectivised 'grand narratives' revolve around notions of consuming less (low mobility societies), consuming differently by sharing (collective transport 2.0), or producing differently (electric mobility) (Holden et al. 2020). The narratives identified in this study contain similar building blocks in relation to durable economies in their focus on extending usage and delaying new purchases (consuming less), maintaining and repairing (consuming differently), or holding producers responsible for designing for durability (producing differently).

Finally, from an interventionist perspective, one can ask how narratives can be used to promote longer product lifetimes. Studies suggest that, at least in specific circumstances, narrative argumentation structures have a greater persuasive power than facts alone. For example, Hamby et al. (2015) conclude that product valuations in narrative form have a stronger influence on purchase intention than argumentative structures. In terms of strategic communication, the results of this study offer starting points for counteracting narratives that promote accelerated devaluation processes. Depending on how the narrative is positioned – for example, user competence in the narrative 'electronic devices are unmanageable' versus attractiveness in the narrative 'new is appealing' – various tried-and-tested approaches to sustainability communication seem suitable: for example, messages targeting cognitive-analytical, affective-experiential, or social-normative dimensions (see Linden 2017).

The study presented in this chapter suggests that it could be fruitful to focus on how value is assigned to electronic devices in narratives. Narra-

tives that assign high value to devices may also support product longevity. There should be a focus on narratives about how investing in high-quality devices pays off, devices are durable, care practices and protecting devices are worthwhile, repairs are successful, help can be found in the community and social networks, and sustainability is an important principle for action to support resource-conserving device consumption. In addition, stories about positive experiences with sufficiency and collaborative consumption might help strengthen people's willingness to share, borrow, and exchange used electronic devices and their interest in doing so. It would be interesting to first investigate the effect of narratives on consumption in an experimental study designed to answer the question of how narratives affect actual product use and durability. Further research could go deeper and also ask what role narratives about the everyday use of electronic devices play in (behaviour-changing) learning processes or in (behaviour-stabilising) justification processes, and how problematic narratives can be reinterpreted in terms of sustainability (reframing; see Weder 2021) to support durability-enhancing practices.

References

Ackermann, L. (2018) Design for Product Care: Enhancing Consumers' Repair and Maintenance Activities. The Design Journal 21(4), 543–51. https://doi.org/10.1080/14606925.2018.1469331

Ackermann, L., Mugge, R., and Schoormans, J. (2018) Consumers' Perspective on Product Care: An Exploratory Study of Motivators, Ability Factors, and Triggers. *Journal of Cleaner Production* 183, 380–91. https://doi.org/10.1016/j.jclepro.2018.02.099

Arnould, E. J. (2014) Rudiments of a Value Praxeology. *Marketing Theory* 14(1), 129–33. https://doi.org/10.1177/1470593113500384

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., and Vohs, K. D. (2001) Bad Is Stronger than Good. *Review of General Psychology* 5(4), 323–70. https://doi.org/10.1037/1089-2680.5.4.323

Berge, R. van den, Magnier, L., and Mugge, R. (2020) Too Good To Go? Consumers' Replacement Behaviour and Potential Strategies for Stimulating Product Retention. *Current Opinion in Psychology* 39, 66–71. https://doi.org/10.1016/j.copsyc.2020.07.014

Bødker, M., Gimpel, G., and Hedman, J. (2014) Time-Out/Time-In: The Dynamics of Everyday Experiential Computing EEP. *Information Systems Journal* 24(2), 143–66. https://doi.org/10.1111/isj.12002

Breuer, F., Muckel, P., and Dieris, B. (2018) *Reflexive Grounded Theory: Eine Einführung für die Forschungspraxis*. Springer. https://doi.org/10.1007/978-3-658-15421-9

Bruner, J. S. (1986) *Actual Minds, Possible Worlds*. Harvard University Press.

Bryant, A. and Charmaz, K. (eds) (2011) *The SAGE Handbook of Grounded Theory*. Sage.

Bueger, C. (2014) Narrative Praxiographie. Klandestine Praktiken und das 'Grand Narrativ' Somalischer Piraterie. In F. Gadinger, S. Jarzebski, and T. Yildiz (eds), *Politische Narrative*. Springer Fachmedien Wiesbaden, 202–23.

Cooper, T. (2004) Inadequate Life? Evidence of Consumer Attitudes to Product Obsolescence. *Journal of Consumer Policy* 27(4), 421–49. https://doi.org/10.1007/s10603-004-2284-6

Desmet, P. M. A. (2012) Faces of Product Pleasure: 25 Positive Emotions in Human–Product Interactions. *International Journal of Design* 6, 1–29.

Dewey, J. (1939) *Theory of Valuation*. *International Encyclopedia of Unified Science. Vol. 2, No. 4*. University of Chicago Press.

Echegaray, F. (2015) Consumers' Reactions to Product Obsolescence in Emerging Markets: The Case of Brazil. *Journal of Cleaner Production* 134, 191–203. http://dx.doi.org/10.1016/j.jclepro.2015.08.119

El Haffar, G., Durif, F., and Dubé, L. (2020) Towards Closing the Attitude–Intention–Behavior Gap in Green Consumption: A Narrative Review of the Literature and an Overview of Future Research Directions. *Journal of Cleaner Production*, 275, 122556. https://doi.org/10.1016/j.jclepro.2020.122556

Encino-Muñoz, A. G., Sumner, M., Sinha, P., and Carnie, B. (2021) Towards a Taxonomy of Divestment: The Lifespan of Products as a Process. In *PLATE Product Lifetimes*.

Evans, D. M. (2019) What Is Consumption, Where Has It Been Going, and Does It Still Matter? *Sociological Review* 67(3), 499–517. https://doi.org/10.1177/0038026118764028

Evans, S. and Cooper, T. (2010) Consumer Influences on Product Life-Spans. In T. Cooper (ed.), *Longer Lasting Products: Alternatives to the Throwaway Society*. Gower Publishing, 319–50.

Fischer, D., Reinermann, J.-L., Guillen Mandujano, G., DesRoches, C. T., Diddi, S., and Vergragt, P. J. (2021) Sustainable Consumption Communi-

cation: A Review of an Emerging Field of Research. *Journal of Cleaner Production* 300, 126880. https://doi.org/10.1016/j.jclepro.2021.126880

Fuchs, D. and Di Giulio, A. (2016) Consumption Corridors and Social Justice: Exploring the Limits. In S. Lorek and E. Vadovics (eds), *SCORAI-Europe*. Budapest.

Giddens, A. (1984) *The Constitution of Society: Outline of the Theory of Structuration*. University of California Press.

Giesler, M. and Veresiu, E. (2014) Creating the Responsible Consumer: Moralistic Governance Regimes and Consumer Subjectivity. *Journal of Consumer Research* 41(3), 840–57. https://doi.org/10.1086/677842

Haker, H. (2010) Narrative Ethik. *Zeitschrift Für Didaktik der Philosophie und Ethik* 32(2). www.academia.edu/7232720/2010_Narrative_Ethik

Hamby, A., Daniloski, K., and Brinberg, D. (2015) How Consumer Reviews Persuade through Narratives. *Journal of Business Research* 68(6), 1242–50. https://doi.org/10.1016/j.jbusres.2014.11.004

Harmon, E. and Mazmanian, M. (2013) Stories of the Smartphone in Everyday Discourse. In W. E. Mackay, S. Brewster, and S. Bødker (eds), *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 1051–60. https://doi.org/10.1145/2470654.2466134

Henfridsson, O. and Lindgren, R. (2005) Multi-Contextuality in Ubiquitous Computing: Investigating the Car Case through Action Research. *Information and Organization* 15(2), 95–124. https://doi.org/10.1016/j.infoandorg.2005.02.009

Hennies, L. and Stamminger, R. (2016) An Empirical Survey on the Obsolescence of Appliances in German Households. *Resources, Conservation and Recycling* 112, 73–82. https://doi.org/10.1016/j.resconrec.2016.04.013

Hipp, T. and Jaeger-Erben, M. (2021) 'Doing Value': wie Praktiken der Bedeutungszuweisung die Nutzungsdauer von Geräten beeinflussen. In M. Jonas, S. Nessel, and N. Tröger (eds), *Reparieren, Selbermachen und Kreislaufwirtschaften: Alternative Praktiken für nachhaltigen Konsum*. Springer.

Hobson, K. (2013) 'Weak' or 'Strong' Sustainable Consumption? Efficiency, Degrowth, and the 10 Year Framework of Programmes. *Environment and Planning C: Government and Policy* 31(6), 1082–98. https://doi.org/10.1068/c12279

Holden, E., Banister, D., Gössling, S., Gilpin, G., and Linnerud, K. (2020) Grand Narratives for Sustainable Mobility: A Conceptual Review. *Energy Research and Social Science* 65, 101454. https://doi.org/10.1016/j.erss.2020.101454

Hopwood, B., Mellor, M., and O'Brien, G. (2005) Sustainable Development: Mapping Different Approaches. *Sustainable Development* 13(1), 38–52. https://doi.org/10.1002/sd.244

Huber, J. (2000) Towards Industrial Ecology: Sustainable Development as a Concept of Ecological Modernization. *Journal of Environmental Policy and Planning* 2(4), 269–85. https://doi.org/10.1080/714038561

Hui, A., Schatzki, T. R., and Shove, E. (eds) (2017) *The Nexus of Practices: Connections, Constellations and Practitioners*. Routledge.

Ihemezie, E. J., Ukwuaba, I. C., and Nnaji, A. P. (2018) Impact of 'Green' Product Label Standards on Consumer Behaviour: A Systematic Review Analysis. *International Journal of Academic Research in Business and Social Sciences* 8(9). https://doi.org/10.6007/IJARBSS/v8-i9/4647

Jacobs, K. and Hörisch, J. (2021) The Importance of Product Lifetime Labelling for Purchase Decisions: Strategic Implications for Corporate Sustainability Based on a Conjoint Analysis in Germany. *Business Strategy and the Environment*, Art. 2954. https://doi.org/10.1002/bse.2954

Jaeger-Erben, M., Winzer, J., Marwede, M., and Proske, M. (2016) Obsoleszenz als Herausforderung für Nachhaltigkeit. Ursachen und Alternativen für Kurzlebigkeit in der 'Wegwerfgesellschaft'. In *Im Brennpunkt Ressourcenwende: Transformation zu einer ressourcenleichten Gesellschaft*. Metropolis Verlag, 91–122.

Knight, T., King, G., Herren, S., and Cox, J. (2013) *Electrical and Electronic Product Design: Product Lifetime*. https://docplayer.net/21207357-Gb-report-electrical-and-electronic-product-design-product-lifetime.html

Leipold, S. and Winkel, G. (2017) Discursive Agency: (Re-)Conceptualizing Actors and Practices in the Analysis of Discursive Policymaking. *Policy Studies Journal* 45(3), 510–34. https://doi.org/10.1111/psj.12172

Linden, S. van der (2017) Towards a New Model for Communicating Climate Change. In S. A. Cohen, J. E. S. Higham, P. Peeters, and S. Gössling (eds), *Understanding and Governing Sustainable Tourism Mobility: Psychological and Behavioural Approaches*. Routledge, 243–75.

Luederitz, C., Abson, D. J., Audet, R., and Lang, D. J. (2017) Many Pathways toward Sustainability: Not Conflict but Co-Learning between Transition Narratives. *Sustainability Science* 12(3), 393–407. https://doi.org/10.1007/s11625-016-0414-0

Mazmanian, M., Orlikowski, W. J., and Yates, J. (2013) The Autonomy Paradox: The Implications of Mobile Email EEP for Knowledge Professionals. *Organization Science* 24(5), 1337–57. https://doi.org/10.1287/orsc.1120.0806

Mey, G. and Mruck, K. (eds) (2011) *Grounded Theory Reader*. Springer Fachmedien.

Middleton, C., Scheepers, R., and Tuunainen, V. K. (2014) When Mobile Is the Norm: Researching Mobile Information Systems and Mobility as Post-Adoption Phenomena. *European Journal of Information Systems* 23(5), 503–12. https://doi.org/10.1057/ejis.2014.21

Nes, N. v. and Cramer, J. (2006) Product Lifetime Optimization: A Challenging Strategy towards More Sustainable Consumption Patterns. *Journal of Cleaner Production* 14(15–16), 1307–18. https://doi.org/10.1016/j.jclepro.2005.04.006

Neumann, I. B. (2002) Returning Practice to the Linguistic Turn: The Case of Diplomacy. *Millennium: Journal of International Studies* 31(3), 627–51. https://doi.org/10.1177/03058298020310031201

Okada, E. M. (2001) Trade-Ins, Mental Accounting, and Product Replacement Decisions. *Journal of Consumer Research* 27(4), 433–46. https://doi.org/10.1086/319619

Ortega Alvarado, I., Pettersen, I. N., and Berker, T. (2020) Alternative Consumption: A Circular Economy beyond the Circular Business Model. In N. Nissen and M. Jaeger-Erben (eds), *PLATE Product Lifetimes and the Environment 2019*. TU Berlin University Press.

Page, T. (2014) Product Attachment and Replacement: Implications for Sustainable Design. *Sustainable Design* 2(3), 265–82.

Persson, O. and Klintman, M. (2022) Framing Sufficiency: Strategies of Environmental Non-Governmental Organisations towards Reduced Material Consumption. *Journal of Consumer Culture* 22(2), 515–33. https://doi.org/10.1177/1469540521990857

Rahmanian, E. (2021) Consumption Narratives: Contributions, Methods, Findings and Agenda for Future Research. *Spanish Journal of Marketing*. https://doi.org/10.1108/SJME-10-2020-0179

Reckwitz, A. (2003) Grundelemente einer Theorie sozialer Praktiken/Basic Elements of a Theory of Social Practices. *Zeitschrift für Soziologie* 32(4), 282–301. https://doi.org/10.1515/zfsoz-2003-0401

Richardson, B. (2000) Recent Concepts of Narrative and the Narratives of Narrative Theory. *Style* 34(2), 168–75.

Richardson, L. (1990) Narrative and Sociology. *Journal of Contemporary Ethnography* 19(1), 116–35. https://doi.org/10.1177/089124190019001006

Ricoeur, P. (1984) *Time and Narrative. Volume 1*. University of Chicago Press.

Rivera, M. and Nanz, P. (2018) Erzählend handeln, Handeln erzählen: Fragen an Narrative nachhaltiger Entwicklung. In K. Heidel and B. Bertelmann (eds), *Leben im Anthropozän: Christliche Perspektiven für eine Kultur der Nachhaltigkeit*. oekom Verlag, 137–48.

Schatzki, T. R. (2000) Practice Mind-ed Orders. In T. R. Schatzki, K. Knorr-Cetina, and E. von Savigny (eds), *The Practice Turn in Contemporary Theory*. Routledge, 50–63.

Schatzki, T. R. (2017) Sayings, Texts and Discursive Formations. In A. Hui, T. R. Schatzki, and E. Shove (eds), *The Nexus of Practices: Connections, Constellations and Practitioners*. Routledge, 126–40.

Schubert, C. (2017) Green Nudges: Do They Work? Are They Ethical? *Ecological Economics* 132, 329–42. https://doi.org/10.1016/j.ecolecon.2016.11.009

Scott, K. A. and Weaver, S. T. (2014) To Repair or Not to Repair: What Is the Motivation? *Journal of Research for Consumers* 26.

Spaargaren, G. (2011) Theories of Practices: Agency, Technology, and Culture. Exploring the Relevance of Practice Theories for the Governance of Sustainable Consumption Practices in the New World-Order. *Global Environmental Change* 21(3), 813–22. https://doi.org/10.1016/j.gloenvcha.2011.03.010

Strauss, A. L. and Corbin, J. M. (1996) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Sage.

Tracy, S. J. (2010) Qualitative Quality: Eight 'Big-Tent' Criteria for Excellent Qualitative Research. *Qualitative Inquiry* 16(10), 837–51. https://doi.org/10.1177/1077800410383121

Wagenaar, H. (2011) *Meaning in Action: Interpretation and Dialogue in Policy Analysis*. Sharpe.

Warde, A. (2005) Consumption and theories of practice. *Journal of Consumer Culture* 5(2), 131–153.

Weder, F. (2021) Strategic Problematization of Sustainability Reframing Dissent in Strategic Communication for Transformation. *Public Relations Inquiry*. https://doi.org/10.1177/2046147X211026857

Wieser, H. and Tröger, N. (2018) Exploring the Inner Loops of the Circular Economy: Replacement, Repair, and Reuse of Mobile Phones in Austria. *Journal of Cleaner Production* 172, 3042–55. https://doi.org/10.1016/j.jclepro.2017.11.106

Wieser, H., Tröger, N., and Hübner, R. (2015a) The Consumers' Desired and Expected Product Lifetimes. In T. Cooper, N. Braithwaite, M. Moreno, and G. Salvia (eds), *Product Lifetimes and the Environment.* Nottingham Trent University.

Wieser, H., Tröger, N., and Hübner, R. (2015b) *Die Nutzungsdauer und Obsoleszenz von Gebrauchsgütern im Zeitalter der Beschleunigung: Eine empirische Untersuchung in österreichischen Haushalten*. http://emedien.arbeiterkammer.at/viewer/resolver?urn=urn:nbn:at:at-akw:g-490923