



THE USE-TIME AND OBSOLESCENCE OF DURABLE GOODS IN THE AGE OF ACCELERATION.

An Empirical Investigation among Austrian Households.

DIE NUTZUNGSDAUER UND OBSOLESCENZ VON GEBRAUCHSGÜTERN
IM ZEITALTER DER BESCHLEUNIGUNG
Eine empirische Untersuchung in österreichischen Haushalten

Summary

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Download of the study (in German):

<http://wien.arbeiterkammer.at/service/studien/Konsument/Produktnutzungsdauer.html>

Abstract

The consumption and divestment of consumer goods is accelerating rapidly, placing enormous pressures on both the environment and individual consumers. Within this context, this study investigates the use-time and obsolescence of durable goods. The objective was to measure the use-time of durable goods and investigate the various reasons for premature replacements. In addition, we studied the consumers' satisfaction, desired and expected lifetime of durable goods. For this purpose, a questionnaire survey among 1,009 Austrian residents and 25 in-depth interviews were conducted between November 2014 and March 2015. Besides collecting data about the use-time of 21 durable goods (including clothes, consumer electronics, small and large household appliances and furniture), special emphasis was placed on the acquisition, usage and disposal of mobile phones. The results show a positive relationship between the use-time of durable goods and the consumers' age, educational level, and income. Whereas stoves and wardrobes (10.8 and 10.5 years) are used for the longest time periods, the shortest use-times are found for sandals (2.2 years), t-shirts (2.5 years), and mobile phones (2.7 years). However, consumers want durable goods to last considerably longer than they are used. More generally, this study contradicts the widespread belief that a throw-away mentality and planned obsolescence are the driving factors behind the acceleration of replacement rates. Instead, the decisive role of expectations among both consumers and producers is highlighted. Consequently, the acceleration of replacement rates is understood as the result of continuous adjustments of expectations to lower levels of product lifetimes and use-times. Finally, policy options for the extension of use-times are discussed.

Summary

This study investigates the use-time and obsolescence of durable goods. Specifically, the following research questions are addressed in this report:

- 1) How long are durable goods used? How do use-times differ by age, gender, educational level, income and household size?
- 2) Why are durable goods replaced at specific points in time?
- 3) Which influential factors can be identified throughout the consumption process?
- 4) How long do consumers want and expect durable goods to last? How satisfied are consumers with current product lifetimes?

These questions are addressed based on an extensive empirical investigation among Austrian households, which took place between November 2014 and March 2015. In a first step, we conducted a survey among 1,009 Austrian residents to collect data on the use-times of 21 durable goods (including clothes, consumer electronics, small and large household appliances, furniture) and the acquisition, usage, and disposal of mobile phones. In addition, respondents were asked to state their level of satisfaction with current product lifetimes and their preferences towards the durability of products. In a second step, we visited 25 households to conduct in-depth interviews ($\varnothing = 95$ minutes) and take pictures of various objects. The interviews inquired about the respondents' past experiences with mobile phones, household appliances and furniture.

The principal aim of this study was to go beyond the debate on "planned obsolescence" and durability, and instead focus on the use-times and consumption patterns. Therefore, the report includes an extensive discussion of the differences between a product's use-time and lifetime, the potential benefits of an extension of product use-times, and a review of literature on product obsolescence.

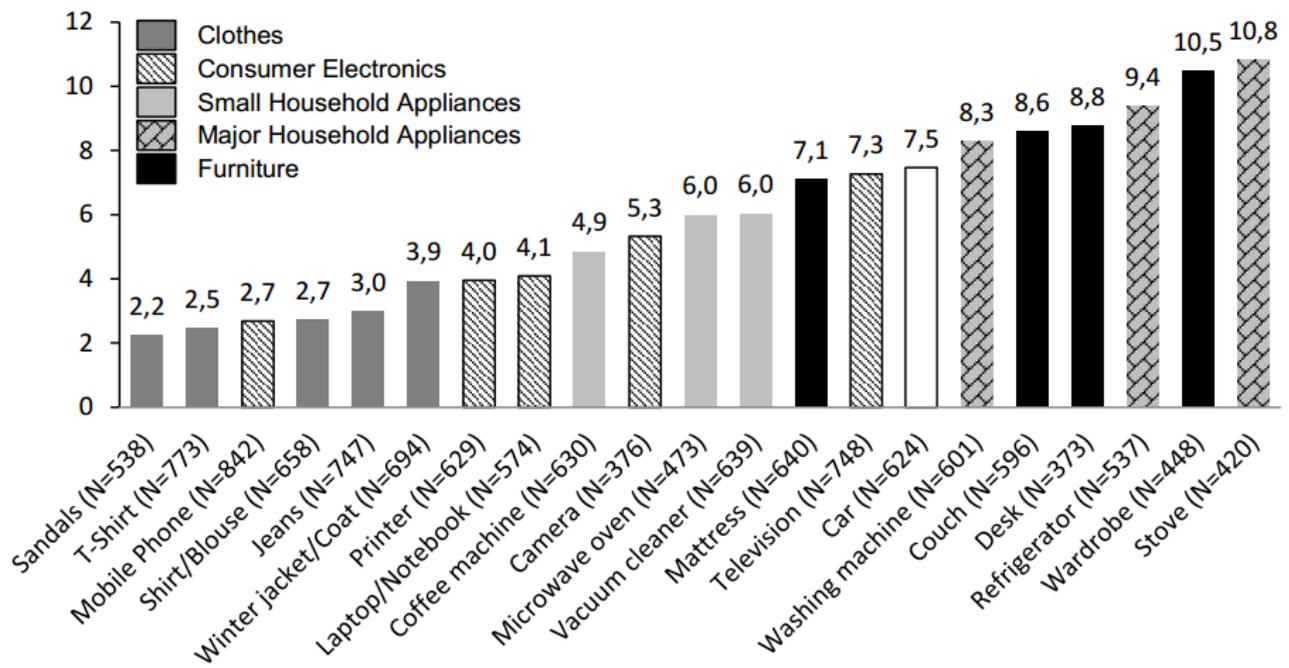
Potential environmental, social, and economic benefits of an extension of product use-times

- The literature review suggests that an extension of use-times would be largely beneficial to the environment. Generally, longer use-times are to be favoured over replacements. Exceptions are fridges/freezers and cars, where studies produced inconclusive results.
- Consumers could save money by using durable goods for longer time periods. Considering that short use-times affect low-income groups the most, an extension could lead to changes in the distribution of wealth. However, long use-times would also restrict the consumers' mobility and flexibility. The consequences for manufacturing firms would vary between different sectors of the economy. Durability provides an underestimated and unexploited marketing platform, especially in the premium segment.
- Opposing developments make it hard to predict the effect of an extension of use-times for overall employment. Most likely, jobs would shift from production and waste management to the service sector.

Use-times

- Use-times vary between 2.2 years for sandals and 10.8 years for stoves. The shortest use-times are observed for clothes, followed by consumer electronics, small household appliances, furniture, and large household appliances.

Average Use-times of Durable Goods¹



- The use-time is positively related to the respondents' age, household income, and educational level. Low-income groups are affected the most by short product lifetimes and are often afraid of taking the risks associated with buying high-priced products.

¹ Considering that the sample did not include people older than 65, the use-times of large household appliances and furniture may be longer in reality.

Lifetimes: Satisfaction, Desires and Expectations

- Opinions are divided over whether the durability of durable goods is satisfactory. Whereas about 45% of our respondents indicated to be (rather) satisfied with current product lifetimes, almost 30% indicate to be (rather) unsatisfied. Satisfaction with product lifetimes is negatively related to the respondents' age and educational level. The lowest level of satisfaction is expressed for consumer electronics.
- Consumers want products to last considerably longer than they are used. Depending on the product, the desired lifetime is 1.73 to 3.62 times higher than the use-time. As with use-times, the desired lifetimes are positively related to the respondents' age, income and educational level.
- Consumers generally assume products will last only for relatively short periods. This can be partially explained by the widespread concern among consumers that planned obsolescence is ubiquitous. These low expectations make high-priced quality products and second-hand products less attractive to consumers.
- Consumers' trust in premium brands and the lifespan of products is very low. 18 out of 25 people interviewed believe that planned obsolescence is a widespread phenomenon. This widespread scepticism is particularly alarming for manufacturers of high quality products.
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Acquisition Phase

- The willingness to buy second-hand products varies strongly between products. Only 10% of previous mobile phones were acquired second-hand. The willingness to accept second-hand products is critically dependent on the availability of certificates of guarantee.
- Staying up-to-date is important to a relatively small group of consumers only. The main motivations for staying up to date are the appeal of technological advancements and the desire for social inclusion. Advertisements and the high rates at which new products are launched, intensify the social pressure to be up to date and lead to constant devaluations of current possessions, ultimately rendering them obsolete.
- About 40% of our respondents considered their previous mobile phone to be out of date and one out of four respondents also felt out dated with their own mobile phone. Most interviewees (17 out of 25) consider themselves to be more out dated than they actually are. Again, advertisements and the high rates at which new products are launched, play an essential role by influencing this (mis)perception.
- Only 9% of our respondents listed durability as one of the three most important aspects related to mobile phones, while 7% mentioned robustness.

Usage Phase

- In the case of mobile phones, a high intensity of usage is associated with slightly lower use-times. Taking care of mobile phones and using a protective case do not lead to longer use-times.
- Decisions on whether to repair or replace a defective product critically depend on two factors: repair costs and the consumers' expectations regarding product lifetimes. Consumers with low expectations regarding product lifetimes are more likely to prefer replacements to repairs because the latter are not expected to pay off. In this context, the technicians' and salespersons' expectations regarding product lifetimes are important because their recommendations to customers are based on these expectations.
- The longest use-times can be observed for conventional mobile phones ($\bar{\mu}$ =3.76 years) and flip phones ($\bar{\mu}$ = 3.95 years). By comparison, smartphones are only used for 1.8 years. Similarly, there are large differences in use-times between mobile phones from different manufacturers: LG smartphones are used for 1.24 years on average, thus being used for a considerably shorter time period than smartphones from Samsung ($\bar{\mu}$ =1.76 years), Apple ($\bar{\mu}$ = 2.06 years), and Nokia ($\bar{\mu}$ =2.32 years).
- The main reasons for replacing the previous mobile phone were defects (31.4%), the desire for a better mobile phone (22.8%) and changes in the consumers' preferences and expectations (22%).

14.2% of previous mobile phones were replaced due to upgrades offered by service providers. The use-time of these phones was nine months shorter than the average use-time of all other mobile phones. The same effect can be observed for mobile phones that were replaced because a new product was launched: these mobile phones were used for one year and four months only.

- Frequent moving leads to considerably shorter use-times of large household appliances and furniture. This effect is particularly strong for couches, fridges and wardrobes, but the use-times of consumer electronics and small household appliances are also affected. Considering the growing importance of the people's mobility, these replacements will probably intensify in the future.

Disposal Phase

- Consumers generally prefer passing things on and try to make sure that still functioning devices are not discarded. This contradicts the widely held view that people have a „throw-away mentality“. 51.4% of previous mobile phones were kept, 17.2% donated and 12.2% given away as gifts. Only 3.3% directly entered the waste stream.

General Conclusions

This study contradicts the widespread belief that a throw-away mentality and planned obsolescence are the driving factors behind the acceleration of replacement rates. Instead, the decisive role of the consumers' expectations regarding product lifetimes and the producers' expectations regarding use-times is highlighted. Consequently, the acceleration of replacement rates is understood as the result of continuous adjustments of expectations to lower levels of product lifetimes and use-times. Hence, measures towards an extension of use-times must address the consumers' and producers' expectations in order to slow down or reverse this process.