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## Impact of Online Shopping Frequency on Overconsumption in European Households: Regional Analysis with a Focus on Poland

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**Abstract:**

**Purpose:** The purpose of the article is to examine the impact of the frequency of online shopping on the reasons for getting rid of functional items from households.

**Design/methodology/approach:** Consumer culture provides people with new consumption patterns and attractive incentives that stimulate them to constantly acquire new goods and services. The attitude of consumerism leads to a situation in which the more a consumer possesses, the greater the desire to possess. Consumerism explains the pro-consumption attitude of members of highly developed societies, but it also permeates developing countries.

**Findings:** The article is based on secondary data and the results of the authors' own research, conducted on a representative sample of adult Poles. Based on the results of the survey, it can be observed that an increase in the frequency of online shopping results in an increase in the consumption of products and a greater need to get rid of functional items from households.

**Practical implications:** It should not be forgotten that consumerism causes many negative effects on the environment. First of all, consumerism is the cause of waste of natural resources. At the same time, it should be emphasized that the activities of individuals and households have significant environmental consequences in the aggregate.

**Originality/Value:** Based on the results of this article, significant improvements in the environment can result from a change in their behavior.

**Keywords:** Consumerism, online shopping, product disposal.

**JEL codes:**

**Paper Type:** Research article.

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## **1. Introduction**

Consumerism means over-consumption by the individual, and individual, social and environmental costs do not count in its pursuit. Such consumption satisfies the consumer's secondary needs, which can include desires for prestige, power, influence, higher social position and dominance. Consumerism is especially increased by producers, who profit from the constant increase in demand for new products.

Consumerism also benefits states, which benefit from increasing taxes on consumer goods and services. There are noticeable widespread marketing efforts to encourage consumers to buy more, such as sales promotions (buy 3 for the price of 2, get the second package free, second piece 50% offshake a piece 50% off) or advertisements for new and better products. Also, installment sales make these products accessible to the less affluent part of society as well.

The drivers of hyperconsumption are the widespread culture of consumption - noticeable in advertising, social media and traditional media. As S. Miles recognized - consumerism is a way to live a comfortable and hassle-free life (Miles, 1998). Consumer culture provides people with new consumption patterns and attractive incentives that stimulate them to constantly acquire new goods and services.

The attitude of consumerism leads to a situation in which the more a consumer possesses, the greater the desire to possess. This attitude is reinforced by changing fashion and the promotion of constantly new trends. This is especially true in the clothing, decorative items, toys, but also in the electronics or furniture industries. Consumer culture creates needs as unlimited and, at the same time, causes a constant feeling of insatiability in consumers. Although consumerism offers ways to satisfy these needs, new needs are constantly being created (Bylok, 2016).

Bauman's thesis is that life in a consumer society consists of constant acquisition, consumption, use, disposal, in order to start all over again the next day (Bauman, 2005). It should not be forgotten that consumerism causes many negative effects on the environment. First of all, consumerism is the cause of waste of natural resources. It can be posited that lifestyles based on consumerism result in excessive shopping and the need to get rid of functional products from households. If a consumer gets rid of an efficient good during use, it still has a certain value and utility, which is wasted if the product is discarded early.

In addition, the amount of waste that has to be disposed of properly is increasing. Brewer and Stern (2005), highlight that the activities of individuals and households have significant environmental consequences in the aggregate, for this reason, significant improvements in the environment can result from a change in their behavior. The purpose of the article is to examine the impact of the frequency of online shopping on the reasons for getting rid of functional items from households.

It was hypothesised that the higher frequency of purchases necessitates the disposal of functional products from households. The article is based on secondary data on the trend of online shopping in Europe and the results of the authors' own research, conducted on a representative sample of adult Poles

## **2. The Problem of Overconsumption (Consumerism) and its Consequences**

One of the driving forces behind the country's economic development is individual consumption; it enables companies to grow and hire employees. It is noticeable that people base their identity on consumer goods, and increasingly group identity is also built around consumption. It is in the area of consumption that people enter into and maintain relationships with each other and assess their standard of living through the possession of certain socially recognised consumer goods (Bylok, 2016).

In modern society, freedom of lifestyle, one's own identity and the way one consumes are fundamental rights of the individual. Consumerism is based on individualism expressed by creating your own identity on the basis of the consumer goods you own. Modern man is free to choose consumer goods and associated consumption patterns, and material possessions are becoming a determinant of life success (Bartholomew, 1988). As Firat and Venkatesh (1994) note, global cosmopolitanism has emerged, noticeable in homogenised fashion, entertainment and food. Consumers are acquiring knowledge, skills and behavioral patterns specific to the global culture of consumption.

Cultural patterns and consumer behavior are no longer assigned to a specific territory and cultural circle, but are the product of a global culture (First and Venkatesh, 1994). Bockock (1993) rightly notes that consumerism is based on an ideology showing that the meaning of a person's life is primarily on buying things and living through experiences, associated with consumer goods. The ideology of consumerism results in the construction of a value system in which consumption is the overriding value (Bockock, 1993). As Featherstone (1991) points out, people are increasingly abandoning cultural experiences in favor of experiencing simple pleasures and opportunities for adventure.

Consumption provides such experiences – just look at the activities of modern shopping malls, which are geared toward creating emotions, sensations and aesthetic experiences for entire families (Featherstone, 1991). Sklair (2010), meanwhile, links consumerism to capitalist globalization, which aims to convince people that happiness is best achieved through consumption and possession of goods. It is based on promoting a hedonistic orientation to pleasure and an orientation to individuality (Sklair, 2010). Thus, the ideology of consumerism explains the pro-consumerist attitude of members of highly developed societies, but it also permeates developing countries. Occurring in conjunction with global culture, it is becoming one of the most important drivers of change in social life (Bylok, 2015).

The closed-loop economy (circular economy, CLE), which has been promoted in European documents for more than a dozen years, is based on the assumption of prosperity, which is achieved while respecting the environment and the needs of future generations. For this reason, the decoupling of economic growth from consumed non-renewable resources is assumed (Goddin *et al.*, 2019). Achieving the goals of the circular economy requires, first and foremost, changes in consumption patterns, increasing the efficiency of waste segregation, recycling rates and product reuse (European Commission 2020).

It can be observed that globally, the municipal waste generated is steadily increasing, and in this waste stream there are many efficient products that have been discarded because they have been replaced by new, better products. Since Poland joined the European Union in 2004, the amount of waste produced per capita in the country has increased by almost 34% – from 256 to 342 kg. The observed increase in waste production is due to economic development and the increase in the wealth of society and the adoption of Western consumption patterns. On the other hand, the average amount of waste produced by a Pole is still as much as 47% lower than the EU average of 502 kg in 2019.

These values are projected to level off, resulting in a significant increase in the amount of waste requiring disposal (Tarka, 2021). It can be noted that among the countries inflating EU statistics are countries with high living standards, such as: Denmark (781 kg per capita) or Germany (633 kg), and tourist destinations such as Cyprus (637 kg). In Europe, more than 700 kg of waste per capita is also generated by Norwegians and Swedes (Hryb, Ceglarz, 2021, p. 14). A key issue in waste management is to determine the correct hierarchy of ways to deal with waste.

EU documents assume that a five-stage hierarchy should be used: 1. waste generation prevention, 2. preparation for reuse, 3. recycling, 4. other recovery processes and 5. disposal (European Commission, 2020). As can be seen from the above hierarchy, it is consumers who play a significant role in implementing the circular economy. To prevent the generation of waste, consumers must be persuaded to change their behavior in favor of more responsible solutions. The main outcomes of responsible consumer behavior are: reducing consumption by using fewer things, using products more intensively, or reducing consumption by using products longer (Cramer, 2015; Jähren *et al.*, 2020; Swirk. 2022).

### **3. Trends in Online Shopping**

Civilization transformations in the 21st century involve changes in various spheres of life (social, economic, political, cultural and others). The modern economy is undergoing major changes, especially regarding modern technologies which determine the development of a digital economy (Drab-Kurowska and Budziewicz-Guźlecka, 2021). Among the factors influencing the changes taking place are the COVID-19 pandemic (in Poland as of March 2020) and now (as of February 24,

2022) Russia's aggression against Ukraine. The COVID-19 pandemic should be viewed as a global phenomenon that has generated numerous changes, including those of a revolutionary nature.

It should be noted that the market changes were influenced by temporary restrictions on border traffic and other restrictions in the sphere of transport and communications, which caused a decrease in the mobility of people, as well as restrictions on direct trade, restrictions on tourism and leisure, such as a periodic ban on hotel and catering services, sports, culture, entertainment, and a ban on the use of these offerings by service recipients. The observed market changes relate to both demand and supply, with demand-side changes including changes in consumer attitudes and behavior, while examples of supply-side changes include transpositions of business models.

When examining the socio-economic impact of the pandemic, it is important to note the changes that have taken place (and are still taking place) in consumer trends and the parallel transformation in business models. Important is the rising prominence of electronic commerce (e-commerce) and its various forms (e.g., B2C – *Business-to-Customers*, B2B – *Business-to-Business*, B2G – *Business-to-Government*, C2B – *Customers-to-Business*, C2C – *Customers-to-Customers*, B2A – *Business-to-Administration*, C2A – *Customers-to-Administration*, G2C – *Government-to-Citizens*, C2G – *Citizens-to-Government*).

This was a result of the need to maintain social distance, reducing direct contact between people and placing restrictions on traditional trade. At the same time, it has been a contributor to an increase in the frequency of online purchases. It is worth adding that the original reason for the growth of e-commerce was not so much the pandemic and the restrictions introduced, but mainly the fact that the Internet has become more widespread, the pressure of time (the ability to complete a purchase more quickly due to the lack of the need to travel to and return from the store, the lack of the need to devote time to selecting a particular commodity, etc.).

In addition to the discussed, essentially long-term changes in consumer trends, attention should be paid to other aspects, including short-term ones, such as limited or no rationality in customer behavior, e.g. excessive, unreasonable purchases of specific goods (e.g. soap, disinfectants, toilet paper, dry goods such as flour, rice, pasta, groats), resulting in temporary shortages of these items at retail outlets. (Brojak-Trzaskowska *et al.*, 2022).

In light of the above, it is worth quoting the results of a survey conducted by Santander Consumer Bank, which confirms that the digital and mobile revolution is accompanied by changes in consumer attitudes and behavior, as well as changes in their online activity. The survey was conducted by the Institute for Market and Social Research on a representative sample of adult Poles (n = 1002). Among the specific data illustrating this situation, the following results should be pointed out:

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- 80% of Poles shop online, with as many as 35% saying they do so at least several times a month;
  - 53% of respondents have never used the offerings of foreign online stores;
  - 41% of respondents use smartphones when shopping online;
  - almost every second respondent buys clothing online, every third respondent decides to buy footwear, and every fourth respondent purchases electronic equipment, while the least frequent object of electronic purchase is jewelry (2% of the surveyed collective) and photographic equipment and watches (only 1%), which is largely due to the fact that these are not necessities;
  - the main criterion for deciding to buy from a particular online store is price (54%), while trust in a particular store (13%) and short delivery time (10%) are less important;
  - in the structure of sources of information on e-shopping offers used by surveyed consumers, the main role is played by advertising on the Internet (26%), in social media (19%), in newsletters and online stores (15%) and on websites (11%) (Poles on e-shopping...).

In addition, it should be noted that 47% of respondents have returned goods online, 51% have used installment credit, while 57% prefer to pick up ordered goods at a parcel machine. It is worth mentioning that the activity of e-consumers differs depending on the place of residence, i.e. residents of small cities (up to 50,000 residents) are most likely to buy online, with as many as 85% declaring this way of shopping. With regard to large cities (more than 250,000 residents), the figure studied was 81%, while among rural residents the share was 78%. Residents of medium-sized cities (50,000 to 250,000 residents) are relatively less likely to use such purchases, although the share is still high at 77%.

Considering the structure of the benefits of online shopping, it was found that the primary importance from the perspective of respondents is the ability to shop at a convenient time (32%) and to save time (24%), which directly indicates that the time criterion is important to more than half of e-consumers. Among other benefits, we can mention the possibility of comparing specific offers, including prices (16%), a wide range of products (15%), relatively short lead times (8%), as well as the opportunity to learn in detail about the properties (features) of the purchased good (4%). Completing the analysis of the positive and negative aspects associated with e-shopping, the risks should also be mentioned.

According to more than half of the consumers surveyed (55%), the primary inconvenience is the inability to see the goods in detail. Of far less importance is the risk of non-delivery (8%), as well as the difficulty of returning goods and the excessive cost of delivery (7% each), and the inability to return purchased goods for free and the need to wait for delivery (6% each). The results of the cited report allow us to conclude that the modern consumer is most often an experienced selective customer who values security and convenience (e.g., thanks to the possibility of

using modern forms of payment), who saves time and money (e.g., thanks to free order returns) (*Poles on e-shopping*).

The analysis so far is worth supplementing with data on global online sales. According to statistical projections, global e-commerce sales will reach more than USD 5 trillion in 2022 (a period considered post-pandemic in most countries), which is expected to account for more than 20% of total retail sales. It is estimated that by 2025 the volume studied will exceed USD 7 trillion, despite an assumed slowdown in the growth rate of this form of sales (9.2%). This will account for nearly 24% of global retail sales.

Accordingly, in 2024, e-commerce sales will be worth nearly USD 7 trillion (in 2023 - just over USD 6 trillion), accounting for 23.6% of total sales (in 2023, the share will be 21.5%).

In contrast, the growth rate of online sales will be 10% in 2024, and 11% in 2023. In addition, it is estimated that Polish e-commerce will also show an upward trend, i.e., its value will double by 2026 compared to 2020, reaching PLN 162 billion gross. (Cramer-Flood, 2022). For comparison, one can cite the results of another study, which also forecasts an increase in the value of global e-commerce and its share of total retail sales, i.e., from 15% in 2019 to 27% in 2026, when it will reach USD 5.4 trillion.

This means that the estimates for the second study are more conservative than the first forecast (*Here's Why...*). We can't forget about the phenomenon of digital exclusion concerning regions or countries, which will also significantly affect the ability of consumers to make online purchases (Budziewicz-Guźlecka and Drab-Kurowska 2020).

In addition to data on the global e-commerce market, data pertaining to Europe should also be included. They show that e-commerce revenues are on a clear upward trend from 2017 to 2022, i.e., they have increased from about USD 406 billion in 2017 to USD 827 billion in 2022. At the same time, revenues are estimated to exceed USD 1.2 trillion by 2025. (*Retail e-commerce...*). It should be clearly emphasized that nowadays the phenomenon of digitization has become widespread, both in business practice and in society, in various dimensions of socio-economic life - from education and health care, to culture, media and the typically economic dimension.

The pandemic has shifted a significant portion of transactions (including those related to commodity trading) from the physical plane to the online plane. The cited data clearly indicate that the e-market will develop steadily in the long term. It is worth mentioning that the projected growth trend in e-commerce sales applies to different levels of the economy, i.e. microeconomic, economy-wide (macroeconomic), as well as transnational (international and global).

#### 4. Methodology and Test Results

The amount of waste generated and the possibilities for further processing depend on the conduct of consumers. Therefore, it is worth investigating whether the higher frequency of purchases affects the reasons for getting rid of functional products from households, thus verifying the hypothesis posed at the beginning of the article. The survey was conducted in January 2020 using the CAWI method on a representative sample of  $n=1012$  adult Polish residents aged 18 to 60. The sample was controlled in terms of socio-demographic variables: gender, age, size of place of residence.

Random-quota sampling related to the specificity of research with the use of the CAWI method applied to on-line surveying. On the basis of data obtained from Statistics Poland (GUS), the demographic structure of people aged 25-60 and over in Poland was determined. Using the formula for the necessary sample size, assuming the previously specified level of significance and the maximum acceptable estimation error, the target sample size was set at 1067 respondents.

Taking into account the earlier information about the structure of the surveyed population, the preferred number of questionnaires that should be addressed to a specific group of respondents was specified. This allowed, in a certain way, to control the research sample due to its structure. Thus, the initial assumed size of the research sample was 1067 respondents, and with this size in mind, the computer-assisted CAWI interview was conducted. As a result of subsequent, detailed verification of the information obtained, 1012 questionnaires were finally left for further analysis, which - with the initially assumed 95% confidence level - increased the estimation error to  $d=3\%$ , which still provides a high level of subject representativeness for the general population under study.

In order to increase the accuracy of quantitative data analysis, the occurrence of the level of statistical significance of the relationship between variables was examined. For this purpose chi square test were used. A detailed categorization of all responses was made taking into account the specificity of the original associations of the respondents expressed in their original transcripts.

Table 1 presents the characteristics of the respondents based on the information contained in the particulars.

**Table 1.** Respondents' socio-demographic characteristics (N=1012)

	Total (%)
<b>Gender</b>	
Female	53.6%
Male	46.4%
<b>Age</b>	
18-34 years	32,8%
35-44 years	30,3%
45-54 years	24,4%



With over 55 years 12,5%

**Place of residence**

Countryside 33,2%

City up to 100,000 inhabitants 34,9%

City with 100,000 to 500,000 19,3%

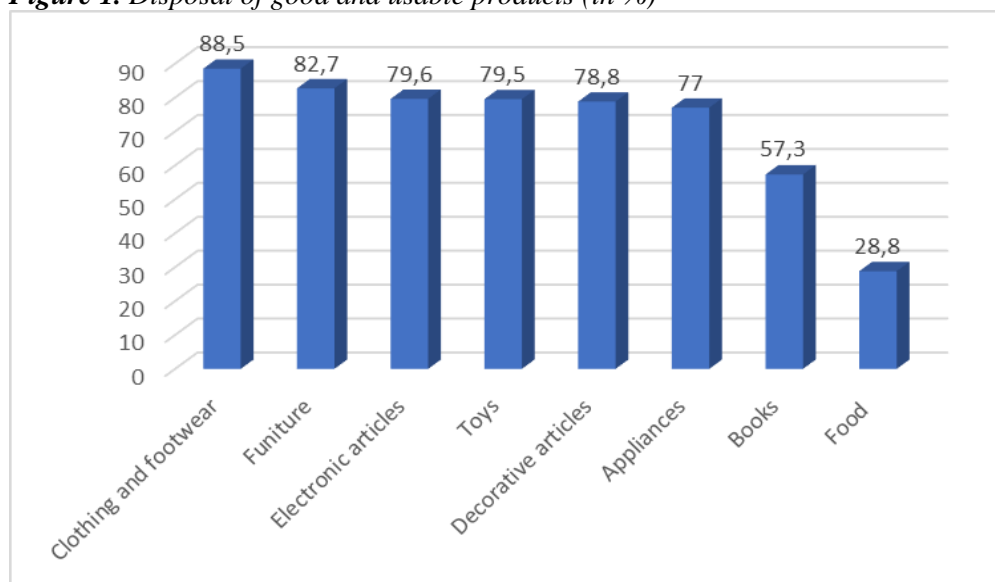
City with over 500,000 inhabitants 12,6%

**Source:** Own study based on the results of the study.

The aim of the study was to identify the scale of the phenomenon of disposing of functional items from households and to learn the reasons for such phenomenon. Eight categories of products (both durable and non-durable), which are used in households and comprise the majority of their consumption of material products, were examined. The study excluded products that cannot be safely and hygienically transferred for use by others - such as medicines, cosmetics, hygienic articles, household chemicals. In the questions analyzed, the results do not sum up to 100% due to the option of choosing more than one answer.

Analysis of the results should begin with examining the scale of the problem, i.e. the scale of the phenomenon of disposal of good and usable products by the respondents. Figure 1 presents the declarations of respondents concerning the products they get rid of despite their further usefulness.

**Figure 1.** Disposal of good and usable products (in %)



**Source:** Author's own research, N=1012.

Analyzing the obtained results, one can see that most of the analyzed products are related to the problem of getting rid of them from households, despite their further efficiency. It concerns food to the smallest extent, but the level close to 30% is also

significant on a national scale. Undoubtedly, most households make decisions about getting rid of operational items many times a year. Table 2 summarizes the main reasons for getting rid of operable products by product category surveyed.

*Table 2. Reasons for respondents to get rid of good and usable products.*

Product type:	Reasons for getting rid of products:					I don't get rid of:
	fashion shift	traces of use	purchase of better products	resale possibility	lack of space	
food	3.2%	7.2%	16.1%	8.1%	7.1%	71.2%
clothing, footwear	32.5%	39.8%	36.5%	26.6%	23.7%	11.5%
books	5.2%	9.7%	13.2%	28.2%	24.1%	42.7%
electronics	0.0%	19.0%	53.1%	27.1%	9.6%	20.4%
furniture	20.1%	30.7%	41.7%	25.5%	18.1%	17.3%
decorative items	29.5%	22.3%	29.7%	19.5%	20.3%	21.2%
household appliances	5.8%	20.9%	51.6%	22.8%	10.3%	23.0%
toys	8.1%	18.5%	22.0%	29.9%	39.1%	20.5%

*Note:* \*data do not add up to 100% because respondents could indicate more than 1 answer.

*Source:* Own study, n=1012.

Tables 3-10 summarize analyses of the reasons for getting rid of operable products from households according to the frequency of online purchases.

*Table 3. Respondents' reasons for getting rid of good and wholesome food vs. frequency of their online purchases.*

Reasons for getting rid of food:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	4.3%	1.1%	$\chi^2=7.34240$ , df=1, p=0.006735
traces of use	7.1%	7.3%	$\chi^2=0.014001$ , df=1, p=0.905810
purchase of better products	16.6%	15.3%	$\chi^2=0.292816$ , df=1, p=0.588422
resale possibility	9.6%	5.4%	$\chi^2=5.47150$ , df=1, p=0.019329
lack of space	8.5%	4.5%	$\chi^2=5.54732$ , df=1, p=0.018509
I don't get rid of	69.1%	74.9%	$\chi^2=3.65544$ , df=1, p=0.055886

*Source:* Own study, n=1012.

Chi-square tests conducted showed three statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate a shift in fashion, the possibility of resale and lack of space.

**Table 4.** Respondents' reasons for getting rid of good and wearable clothes and shoes vs. frequency of their online purchases.

Reasons for getting rid of clothes, footwear:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	37.2%	23.7%	$\chi^2=19.1336$ , df=1, p=0.000012
traces of use	41.3%	37.0%	$\chi^2=1.80223$ , df=1, p=0.179443
purchase of better products	37.5%	34.5%	$\chi^2=0.939253$ , df=1, p=0.332470
resale possibility	29.8%	20.6%	$\chi^2=9.90846$ , df=1, p=0.001645
lack of space	23.1%	24.9%	$\chi^2=0.393408$ , df=1, p=0.530514
I don't get rid of	9.1%	15.8%	$\chi^2=10.1831$ , df=1, p=0.001417

Source: Own study, n=1012.

Chi-square tests conducted showed two statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate changing fashions and significantly less likely to indicate not getting rid of such products.

**Table 5.** Respondents' reasons for getting rid of good and wearable books vs. frequency of their online purchases.

Reasons for getting rid of books:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	7.3%	1.4%	$\chi^2=16.0481$ , df=1, p=0.000062
traces of use	11.2%	6.8%	$\chi^2=5.25025$ , df=1, p=0.021944
purchase of better products	14.6%	10.7%	$\chi^2=2.97786$ , df=1, p=0.084411
resale possibility	29.8%	25.1%	$\chi^2=2.45577$ , df=1, p=0.117094
lack of space	25.1%	22.3%	$\chi^2=0.957970$ , df=1,

			p=0.327699
I don't get rid of	39.4%	48.9%	$\chi^2=8.50567$ , df=1, p=0.003540

Source: Own study, n=1012.

Chi-square tests conducted showed three statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate changing fashions and traces of use, and significantly less likely to indicate not disposing of such products.

**Table 6.** Respondents' reasons for getting rid of good and usable electronics vs. frequency of their online purchases.

Reasons for getting rid of electronics:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	0.0%	0.0%	-
traces of use	20.2%	16.7%	$\chi^2=1.88277$ , df=1, p=0.170020
purchase of better products	56.2%	47.2%	$\chi^2=7.57882$ , df=1, p=0.005906
resale possibility	29.6%	22.3%	$\chi^2=6.24441$ , df=1, p=0.012459
lack of space	8.4%	11.9%	$\chi^2=3.26420$ , df=1, p=0.070807
I don't get rid of	17.2%	26.3%	$\chi^2=11.7515$ , df=1, p=0.000608

Source: Own study, n=1012.

Chi-square tests conducted showed three statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate the purchase of better products and the possibility of resale, and significantly less likely to indicate not disposing of such products

**Table 7.** Respondents' reasons for getting rid of good and usable furniture vs. frequency of their online purchases.

Reasons for getting rid of furniture:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	23.6%	13.6%	$\chi^2=14.3449$ , df=1, p=0.000152

traces of use	32.2%	28.0%	$\chi^2=1.95555$ , df=1, p=0.161990
purchase of better products	43.6%	38.1%	$\chi^2=2.84467$ , df=1, p=0.091677
resale possibility	28.4%	20.1%	$\chi^2=8.47497$ , df=1, p=0.003601
lack of space	19.8%	15.0%	$\chi^2=3.55782$ , df=1, p=0.059266
I don't get rid of	12.8%	25.7%	$\chi^2=26.9483$ , df=1, p=0.000000

*Source: Own study, n=1012.*

Chi-square tests conducted showed three statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate changing fashions and the possibility of resale, and significantly less likely to indicate not disposing of such products

*Table 8. Respondents' reasons for getting rid of good and usable decorative items vs. frequency of their online purchases.*

Reasons for getting rid of decorative items:	Percentage of indications:		Statistical significance:
	online shopping at least several times a month [n=658]	online shopping less than a few times a month [n=354]	
fashion shift	33.9%	21.2%	$\chi^2=17.8807$ , df=1, p=0.000024
traces of use	23.6%	20.1%	$\chi^2=1.62536$ , df=1, p=0.202346
purchase of better products	29.9%	29.4%	$\chi^2=0.034626$ , df=1, p=0.852382
resale possibility	20.8%	16.9%	$\chi^2=2.20063$ , df=1, p=0.137954
lack of space	20.1%	20.6%	$\chi^2=0.044793$ , df=1, p=0.832385
I don't get rid of	19.6%	24.0%	$\chi^2=2.68020$ , df=1, p=0.101603

*Source: Own study, n=1012.*

Chi-square tests conducted showed one statistically significant relationship ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate a shift in fashion.

*Table 9. Respondents' reasons for getting rid of good and usable household appliances vs. frequency of their online purchases.*

Reasons for getting rid of household appliances:	Percentage of indications:		Statistical significance:
	online shopping at least several times	online shopping less than a few	

	<b>a month [n=658]</b>	<b>times a month [n=354]</b>	
fashion shift	8.2%	1.4%	$\chi^2=19.3530$ , <b>df=1</b> , <b>p=0.000011</b>
traces of use	21.0%	20.6%	$\chi^2=0.017201$ , df=1, p=0.895656
purchase of better products	53.3%	48.3%	$\chi^2=2.33951$ , df=1, p=0.126129
resale possibility	24.6%	19.5%	$\chi^2=3.43663$ , df=1, p=0.063765
lack of space	10.3%	10.2%	$\chi^2=0.006784$ , df=1, p=0.934356
I don't get rid of	19.6%	29.4%	$\chi^2=12.4060$ , <b>df=1</b> , <b>p=0.000428</b>

Source: Own study, n=1012.

Chi-square tests conducted showed two statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate changing fashions and significantly less likely to indicate not getting rid of such products.

*Table 10. Respondents' reasons for getting rid of good and usable toys vs. frequency of their online purchases.*

<b>Reasons for getting rid of toys:</b>	<b>Percentage of indications:</b>		<b>Statistical significance:</b>
	<b>online shopping at least several times a month [n=658]</b>	<b>online shopping less than a few times a month [n=354]</b>	
fashion shift	9.4%	5.6%	$\chi^2=4.39982$ , <b>df=1</b> , <b>p=0.035943</b>
traces of use	19.6%	16.4%	$\chi^2=1.58493$ , df=1, p=0.208052
purchase of better products	23.9%	18.6%	$\chi^2=3.64521$ , df=1, p=0.056231
resale possibility	31.8%	26.6%	$\chi^2=2.97763$ , df=1, p=0.084423
lack of space	40.9%	35.9%	$\chi^2=2.42143$ , df=1, p=0.119685
I don't get rid of	17.8%	25.4%	$\chi^2=8.26271$ , <b>df=1</b> , <b>p=0.004047</b>

Source: Own study, n=1012.

Chi-square tests conducted showed two statistically significant relationships ( $p < 0.05$ ) between the variables. Those who shop online at least a few times a month were significantly more likely to indicate changing fashions and significantly less likely to indicate not getting rid of such products.

## 5. Summary and Conclusions

Table 11 summarizes the statistically significant differences in the reasons for getting rid of functional products resulting from the frequency of online purchases.

*Table 11. Differences in how younger and older respondents get rid of good and useable products.*

	<b>Frequent online shopping (more than a few times a month)</b>	<b>Rare online shopping (less than a few times a month)</b>
<b>Food</b>	Fashion shift Resale possibility Lack of space	-
<b>Clothing and footwear</b>	Fashion shift	I don't get rid of
<b>Books</b>	Fashion shift Traces of use	I don't get rid of
<b>Electronics</b>	Purchase of better products Resale possibility	I don't get rid of
<b>Furniture</b>	Fashion shift Resale possibility	I don't get rid of
<b>Decorative items</b>	Fashion shift	-
<b>Household appliances</b>	Fashion shift	I don't get rid of
<b>Toys</b>	Fashion shift	I don't get rid of

*Source: Own elaboration based on the results of the survey.*

For 7 of the 8 product groups studied, more frequent online shoppers choose to get rid of functional products due to a shift in fashion. People who buy online less frequently for the 6 product groups studied are far more likely to say they do not get rid of functional items from their households. Based on the results of the survey, it can be observed that an increase in the frequency of online shopping results in a greater need to get rid of functional items from households.

In future studies, it would be advisable to deepen the analysis and investigate what consumers do with such functional items and the scale of irresponsible discarding from households. The study confirms the hypothesis that the higher frequency of online shopping necessitates getting rid of functional products from households.

We can consider to what extent European consumers are aware of the environmental impact of their behavior and whether they recognize the importance of this problem. The results of the study show that 94 percent of EU residents say environmental protection is important to them.

Also, 68% of Europeans surveyed are aware that their consumption habits negatively affect the environment. The respondents cite climate change (53%), air pollution (46%) and increasing garbage (46%) as the main environmental problems. The

respondents expect that more action should be taken to protect the environment, and that responsibility should be spread among large companies and industry, national and EU governments, and citizens themselves. Those who took part in the survey believed that the most effective ways to solve environmental problems were to change consumption habits (33%) and change production and trade patterns (31%) (European Commission – *Attitudes...*, 2020).

Although online shopping is on an upward trend, the closed-loop economy that has been promoted in Europe for a good few years, and the encouragement of the population to reduce waste by changing lifestyles, may reduce excessive, unwarranted purchases in favor of, for example, trinkets, giving old things new life. In addition, there is already a "fashion" for selling second-hand clothing and household goods online.

This, in part, justifies the replacement of fully functional appliances with other, more modern ones. Online sales of spare parts, which allow old appliances to regain their efficiency, are also growing in importance. However, these issues require in-depth research in conjunction with the problem of excessive shopping and consumption.

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