

# How consumer shopping habits affect willingness to embrace sustainable fashion

Annarita Colasante<sup>a</sup>, Idiano D'Adamo<sup>b</sup>, Paolo Rosa<sup>c</sup> and Piergiuseppe Morone<sup>a</sup>

<sup>a</sup>Department of Law and Economics, University of Rome Unitelma Sapienza, Rome, Italy; <sup>b</sup>University of Rome La Sapienza, Rome, Italy;

<sup>c</sup>Polytechnic University of Milan, Milan, Italy

## ABSTRACT

Sustainability represents the greatest economic challenge of the current century, speaking to the need to move from a profit orientation that disregards social and environmental costs to one that properly considers such dimensions (i.e. the circular economy). The clothing industry has a strong negative impact on the environment and, for this reason, a quick transition from 'fast' to 'circular' fashion is needed. The present work aimed at analysing how consumer habits determine willingness to embrace circular fashion, with a special focus on the second-hand (i.e. re-use) market. Based on questionnaire data, consumers were classified into fast or slow fashion groups. The results revealed that fast fashion consumers mainly focused on price and had a lower propensity to purchase second-hand garments. Hence, interventions to increase consumer awareness of the environmental impact of fast fashion are needed.

## KEYWORDS

Sustainability; second-hand; fast fashion; fashion industry

## JEL CLASSIFICATION

C81; L67; F18

## 1. Introduction

The textile and clothing sector contribute significantly to the European economy, generating a turnover of 166 billion euros and employing more than 1.7 million people (European Commission 2022). However, as the sector makes extensive use of raw materials, water and energy, it generates a strong negative impact on the environment (Piippo, Niinimäki, and Aakko 2022). Previous research on consumer behaviour has highlighted that individuals tend to own more clothes than they actually need (Zhou et al. 2021). 'Fast fashion', offering multiple collections per year, amplifies consumers' propensity to purchase clothes compulsively, leading to increased waste and greenhouse gas emissions (Cesarina Mason, Pauluzzo, and Muhammad Umar 2022). Indeed, data clearly identify the garment industry as a main pollutant.

Sustainable Development Goal (SDG) 12 calls for a focus on the role of production models within manufacturing systems requiring circular solutions (Kumar et al. 2023; Papamichael et al. 2023). Thus, there is an increasing need to investigate 'circular fashion' – an emerging concept promoting second-

hand markets, bio-based and recycled clothing production, and fair working conditions (D'Adamo et al. 2022; Shrivastava et al. 2021). In this framework, consumer attitudes play a crucial role. Given the significant environmental impact of the fashion industry, the promotion of sustainable shopping habits is critical.

To this extent, the present work aimed at analysing the factors that shape consumer preferences for second-hand clothing, to promote the growth of circular fashion. Second-hand markets allow consumers to (re-)use dismissed items that still have useful life. Hence, they contribute to the fulfilment of sustainable and circular fashion.

According to the literature (Zarley Watson and Yan 2013), there are at least two groups of consumers: those who expect and ask for constant change and, as a consequence, new products on a frequent basis; and those who demand high-quality products that meet specific needs. The former group represents the target for fast fashion, which is a model adopted by many prominent brands. In contrast, the latter group belongs to the new-born 'slow fashion' movement, with responsible and sustainable consumption at its

**CONTACT** Annarita Colasante  [annarita.colasante@unitelmasapienza.it](mailto:annarita.colasante@unitelmasapienza.it)  Department of Law and Economics, University of Rome Unitelma Sapienza, Piazza Sassari 4, Roma 00161, Italy

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core (Sellitto et al. 2022). Based on the results of a structured survey, the present work aimed at identifying the key variables that affect consumer willingness to purchase clothes from the second-hand market. The remainder of the paper is structured as follows: Section II describes the materials and methods, Section III presents the results and Section IV provides concluding remarks.

## II. Materials and methods

To collect data on shopping habits, we administered a structured survey to a sample of Italians ( $N = 401$ ), using Amazon Mechanical Turk (for a detailed description of the survey,<sup>1</sup> see Colasante and D'Adamo 2021). The survey focused on purchasing habits related to two main categories of clothing: bio-based and second-hand. The analysis carried out in Colasante and D'Adamo (2021) identified the emergence of what they defined as a 'sustainable bias', with consumers linking the idea of sustainable consumption mainly to bio-based items. Indeed, although the vast majority of the present sample (83%) reported a strong willingness to buy bio-based clothes, solely 50% of respondents had bought a garment (at least once) from the second-hand market. In the survey, the first set

of questions (Set A) aimed at gathering information about respondents' clothes consumption habits. A second set of questions (Set B) aimed at exploring the main characteristics that determined respondents' clothes purchasing decisions – Figure 1.

Figures 2–3 display the answer distributions for Set A and Set B, respectively.

## III. Main results

With regard to Set A, after excluding all respondents who chose the option 'sometimes', two groups of consumers emerged: compulsive buyers (choosing either 'often' or 'always') and reflective buyers (choosing either 'never' or 'rarely'). Compulsive buyers represent the target of fast fashion, whereas reflective buyers engage with slow fashion. A maximum likelihood factor analysis was deployed to combine items in Set B and endogenously classify consumers in the aforementioned groups. From the analysis, two factors emerged:

- Factor 1 assigned significant weight to the items 'fashion', 'known' and 'prestigious'. The higher the value of this factor, the higher the probability that respondents bought fashionable clothes from well-known brands.

Set	Method	Questions	Actions	Acronym
A	5-point scale ranging from <i>never</i> to <i>always</i>	Indicate the frequency with which respondents performed each of the following actions	i) Browsing clothing stores without making a purchase	No-buy shop
			ii) Browsing clothing retail websites without making a purchase	No-buy internet
			iii) Buying clothes that they ultimately do not wear	No wear
B	5-point scale ranging from <i>not important</i> to <i>very important</i>	Respondents were asked to rate the extent to which they prioritised each of the following factors in their decision to purchase a clothing item	i) It is from a well-known brand	Known
			ii) It is from a prestigious brand	Prestigious
			iii) It is inexpensive	Cheap
			iv) It is of good quality	Quality
			v) It is trendy	Fashion
			vi) It is something they need	Need

Figure 1. The description of Set a and Set B.

<sup>1</sup>Data collected through the questionnaire are available at the following URL: <https://zenodo.org/record/6537443>.

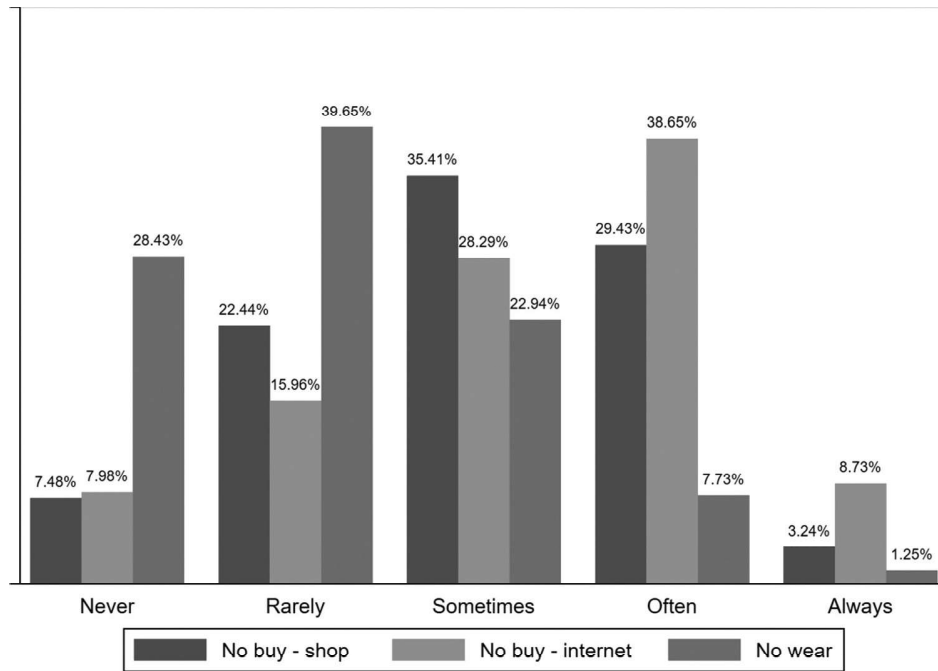


Figure 2. Distribution of answers to Set a.

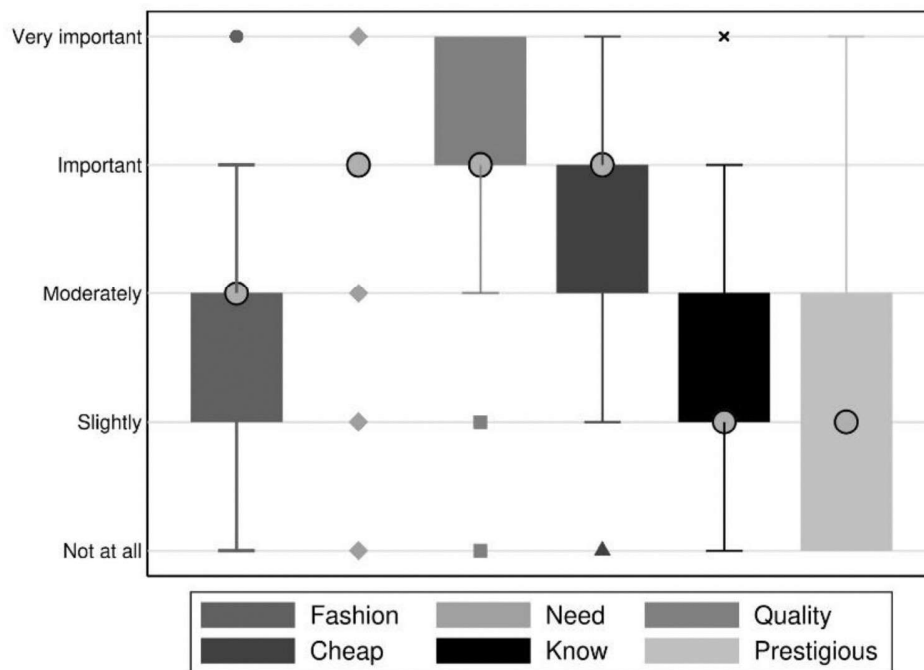
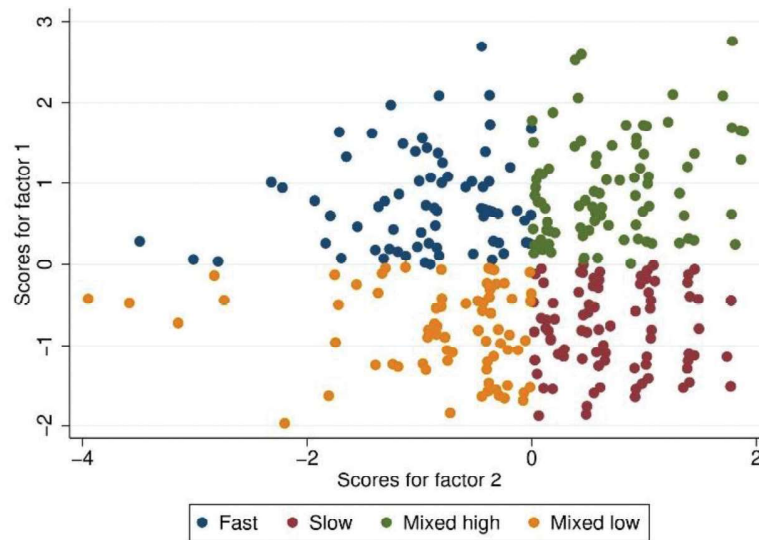


Figure 3. Distribution of answers to Set B. Average values: 2.61 for fashion, 3.96 for need, 4.04 for quality, 3.64 for cheap, 2.42 for known, and 2.23 for prestigious.

- Factor 2 assigned significant weight to the items 'cheap', 'quality' and 'need'. The higher the value of this factor, the greater the likelihood that respondents bought clothing

items they needed with a good quality-to-price ratio.

Figure 4 shows the scores for both factors.



**Figure 4.** Values for factors 1 and 2. Blue dots represent fast consumers, red dots represent slow consumers and green and yellow dots represent mixed consumers.

According to the identified factors, the sample was split into four main groups:

- (a) fast fashion, comprised of respondents who assigned significant weight to ‘brand’ and ‘fashion’;
- (b) slow fashion, comprised of respondents who mainly considered ‘quality’ and ‘value’;
- (c) mixed high, comprised of respondents who assigned high weight to all of the proposed factors; and
- (d) mixed low, comprised of respondents who assigned low weight to all of the proposed factors.

To understand whether consumption behaviour was associated with willingness to buy second-hand clothes, a probit regression was run in which the dependent variable was the probability to buy used garments (i.e. in response to the question ‘Have you ever bought second-hand clothes?’). The explicative variables included: the consumer group (i.e. fast, slow; the omitted group included both mixed categories), two measures of pro-environmental attitudes, shopping frequency in-store and online, variables from Set A and having ever bought something used. Socio-demographic variables (i.e. age, gender, income, number of people living in the house, education) were controlled for.

The regression analysis generated interesting results (Figure 5). First, the probability of buying second-hand clothes was significantly higher for respondents in the slow fashion group and significantly lower for those in the fast fashion group. We speculate that fast fashion consumers want to be fashionable and, in many cases, the garments sold in second-hand markets belong to previous collections. Second, respondents who claimed to shop more in physical stores were less willing to buy second-hand clothes. Sellito et al. (2022) found that shopping is considered an experience and, for this reason, individuals enjoy the act of browsing stores, even when they do not buy anything. Since second-hand products are mainly sold through web-based applications and marketplaces, this reduces the likelihood that mainly in-store shoppers will see and (eventually) buy second-hand garments. Third, respondents who claimed to have bought garments that they had never worn were more likely to purchase second-hand clothing items. A possible interpretation of this is that consumers may consider second-hand clothes lower quality, and the act of purchasing them may aim more at fulfilling the desire to purchase something and reflect less a real intention to wear them. Fourth, higher pro-environmental attitudes regarding clothes consumption increased the likelihood that respondents would purchase second-hand clothes. A potential explanation for this is that

	Coefficient	St. Error
Group slow	0.673*	0.269
Group fast	-0.511*	0.260
Pro-environmental attitudes (clothes)	0.146***	0.045
Pro-environmental attitudes	-0.038	0.031
In-store shopping	0.260	0.178
Internet shopping	0.151	0.174
No-buy shop	-0.206*	0.122
No-buy internet	0.050	0.103
No wear	0.337***	0.123
Ever bought second-hand item	2.531***	0.415
Age	-0.0002	0.011
Female	-0.722***	0.256
Income	-0.451***	0.107
N. of people living	0.131	0.104
Education	0.475***	0.184
Constant	-5.93***	1.20
N. observations	401	
Pseudo R2	0.354	
LR chi-squared	113.36***	

\*p-value<0.1, \*\* p-value<0.05, \*\*\* p-value<0.01

Figure 5. Probit regression results (dependent variable: 'ever bought second-hand clothes').

environmentally conscious buyers are better able to evaluate the significant positive impact on the environment generated by shopping on the second-hand market. Finally, respondents who were used to shopping on the second-hand market were more likely to buy used garments.

#### IV. Conclusions

Given that the spread of circular economy principles (e.g. re-use) is crucial for the achievement of the SDGs and, more generally, the transition away from the unsustainable linear paradigm (i.e. cradle-to-grave approach), the results of the present analysis provide points of interest. Although we cannot change individual preferences for fashion, we may promote second-hand clothes consumption through two actions. First, we could spread information (through advertising campaigns, school programmes, etc.) to increase consumer awareness of the significant impact of fast fashion on the environment. This could prompt pro-environmental behaviour, encouraging the consumption of used garments. Second, based on evidence that consumers prefer

the experience of in-store shopping, fast fashion retail chains could be incentivized to incorporate a second-hand section in their stores. In this scenario, in-store shoppers may be tempted to buy second-hand clothes, even if they lack a strong knowledge about the environmental impact of their choices.

The present results require further exploration due to the limitations of the research, which include the relatively small sample size and the potential for self-report bias. Further studies may involve field experiments considering second-hand clothing and assessing consumer perceptions of other sustainable (e.g. bio-based) clothing characteristics. In all cases, sustainability is the expression of a blue strategy that is calling the textile sector to reduce its environmental impact. Consumer research may be of significant help to policy makers and companies seeking to achieve this target.

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

## ORCID

Idiano D'Adamo  <http://orcid.org/0000-0003-1861-8813>  
 Paolo Rosa  <http://orcid.org/0000-0003-3957-707X>  
 Piergiuseppe Morone  <http://orcid.org/0000-0002-3240-7089>

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