How Does the Covid-19 Pandemic Affect Consumer Returns: An Exploratory Study

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HOW DOES THE COVID-19 PANDEMIC AFFECT CONSUMER RETURNS: AN EXPLORATORY STUDY

Abstract:

In recent years, significant sales shifted from stationary retail to e-commerce. This trend is further accelerated by the Covid-19 pandemic, which has placed major constraints on brick-and-mortar retailers. Yet, there is still one critical aspect that threatens the success of the business model: consumer returns. Against this background, this paper conducts a systematic literature review to provide an overview about the extent of consumer returns. However, the published return rates vary widely and are mostly based on the data of a single e-tailer. Therefore, this study conducts an exploratory survey to capture product category-specific return rates and to explore the influences of Covid-19 on consumer return behavior. Theoretically, this research adds knowledge about the reverse part of the e-commerce business model and the effects of the current pandemic. Managerially, the collected data can be used for benchmarking purposes and can help to improve the e-tailers' returns management.

Keywords: Consumer Returns, E-Commerce, Covid-19.

Track: Retailing & Omni-Channel Management

1. Introduction

In the past years, e-commerce experienced enormous growth rates. Recent research shows that this trend is further accelerated by the current Covid-19 pandemic. Faced with government regulations and restrictions, consumers have no alternatives but to shop online. Initial studies suggest that these experiences will lead to a lasting change in the consumer decision journey in favor of e-commerce (e.g., Kulkarni & Barge, 2020; Galhotra & Dewan, 2020). Despite this promising outlook, the e-commerce business model faces several challenges. Among them are consumer returns. To create trust and to encourage consumers to order despite the higher perceived uncertainty, companies are granting liberal return policies, which in turn lead to more returns than in traditional brick-and-mortar retailing (e.g., Giménez & Lourenço, 2008, Xia & Zhang, 2010). While plenty of research is available about e-commerce in general, comparatively little is known about the extent of consumer returns, particularly regarding the current effects of the Covid-19 pandemic. However, such data are necessary for many reasons. For instance, to better prepare pricing decisions or determining the profitability of the e-commerce business model.

Against this background, this exploratory study aims to contribute to the following overarching research question: *What is the extent of consumer returns in e-commerce and how does the Covid-19 pandemic affect it?* To answer this question, this study uses a systematic literature review and conducts an online survey among German business-to-consumer (B2C) e-commerce firms.

2. Systematic Literature Review

Unlike other more general literature reviews (e.g., Abdulla, Ketzenberg, & Abbey, 2019), this work specifically focuses on publications that provide insights concerning the extent of consumer returns, which is operationalized through the observed return rates. Methodologically, the review follows the guidelines of Denyer and Tranfield (2009) who structure the research process in five steps: (1) question formulation; (2) locating studies; (3) study selection and evaluation; (4) analysis and synthesis; and (5) reporting and using the results. The first step refers to the research question, which is already derived in the introduction. The second step involves selecting the databases and defining the search terms. In that respect, five scientific databases were selected, namely Business Source Ultimate (BS), Science Direct (SD), JSTOR (JS), Web of Science (WS), and EconBiz (EB). To identify many potentially relevant publications, very general search terms were used, combining ‘product returns’, ‘consumer returns’, or ‘customer returns’ with ‘rate*’. This

resulted in 2,291 search hits (see Table 1). In the third step, duplicates and studies that referred to 'stock returns' were removed, leaving 244 publications. Thereafter, titles, abstracts, and keywords were scanned to identify potentially relevant peer-reviewed studies that were read in full length. During this step, publications that only addressed brick-and-mortar retailing were excluded. In addition, the references of each of the 18 relevant articles were searched for further publications of interest. In total, the search led to 22 relevant publications in November 2020.

Search term	**BS**	**SD**	**JS**	**WS**	**EB**
('product returns' OR 'consumer returns' OR 'customer returns') + 'rate*'	242	1475	403	119	52
Combined results without duplicates & without 'stock return'			244		
Relevant hits + backward search = final selection			18 + 4 = 22		

Table 1. Initial Search and Final Selection

Concerning the fourth step, it is important to note that retailers can determine their return rates in different ways as noted in Asdecker, Karl, and Sucky: (1) the shipment-related return rate, which is referred to as alpha (α), (2) the item-related return rate, which is referred to as beta (β), and (3) the revenue-related return rate, which is referred to as gamma (γ). The α-return rate divides the number of returned shipments by the number of outbound shipments, whereas the β-return rate sets the number of returned items in relation to the number of shipped items. The γ-return rate divides the value of returned items by the value of ordered items. Table 2 summarizes the relevant publications, which report a wide range of values.

Category	**Sources**
Cross-sectional rates	Rogers and Tibben-Lembke (2001): 6% [n.s.], Hong and Pavlou (2014): 13 % [n.s.], Abbey, Ketzenberg, and Metters (2018): 16 % [γ], Araújo, Matsuoka, Ung, Massote, and Sampaio (2018): 3–4 % [γ], Wang and Ansell (2020): 4–40.6 % [n.s.]
Fashion	Rogers, Lambert, Croxton, and García-Dastugue (2002): <40 % [n.s.], Mollenkopf, Rabinovich, Laseter, and Boyer (2007): 20–30 % [n.s.], Petersen and Kumar (2010): 16 % [n.s.], Rao, Rabinovich, and Raju (2014): 15 % [β], Bernon, Cullen, and Gorst (2016): 8.1–38.2 % [γ], Asdecker et al. (2017): 63.3 % [α] / 52.1 [β], Vilar-Zanon, Vilar, and Heras (2017): 25 % [n.s.], Walsh and Möhring (2017): 20 % [α], Asdecker and Karl (2018): 59.8 % [α], Difrancesco, Huchzermeier, and Schröder (2018): 40 % [n.s.], Sahoo, Dellarocas, and Srinivasan (2018): 15–22 % [n.s.], Shang, McKie, Ferguson, and Galbreth (2020): 7 % [n.s.]
Entertain-ment	Mollenkopf et al. (2007): 5–20 % [n.s.], Griffis, Rao, Goldsby, and Niranjan (2012): 2–11 % [n.s.], Minnema, Bijmolt, Gensler, and Wiesel (2016): 8.3 % [n.s.], Bernon et al. (2016): 6.4–10.3 % [γ]
Leisure	Mollenkopf et al. (2007): 5–20 % [n.s.], Cui, Rajagopalan, and Ward (2020): 5–14 % [n.s.], Hofmann, Gwinner, Fuchs, and Winkelmann (2020): 7.7 % [α] / 5.1 % [β]
Interior	Rabinovich, Sinha, and Laseter (2011): 2 % [n.s.], Bernon et al. (2016): 5.0–12.7 % [γ], Minnema et al. (2016): 10 % [n.s.], Sahoo et al. (2018): 7 % [n.s.]
Others	Daily needs: Mollenkopf et al. (2007): <5 % [n.s.]

Legend: [α] = Shipment-based return rate; [β] = Item-based return rate; [γ] = Revenue-based return rate; [n.s.] = Return rate not specified

Table 2. Return Rates Reported in the Literature

The greatest consensus is that the fashion segment has the highest return rates. Moreover, only eight of the 22 studies (36 %) clearly define how the reported return rate was calculated, leaving room for speculation. A current study on the effects of the Covid-19 pandemic could

not be found. Given this high degree of uncertainty, we conclude that a separate empirical study is needed to address this knowledge gap. For that purpose, this research draws on Germany, which is the largest national market within the European Union (EU). Globally, Germany ranks sixth with a turnover of $81.85 billion in 2019, following China ($1,934.78 billion), the United States ($586.92 billion), the United Kingdom ($141.93 billion), Japan ($115.40 billion), and South Korea ($103.48 billion) (Lipsman, 2019). Consumers in Germany have the right to revoke a purchase on the Internet within 14 days after delivery without providing reasons. In principle, consumers bear the direct costs of returning the goods to the retailer, unless the retailer voluntarily waives this right or the retailer fails to inform the customer about the return costs during the order. Despite the legal possibility, in practice, almost all major vendors refrain from doing so, which is why consumers have generally developed an expectation of customer-friendly policies and make frequent use of it. The following paragraph further describes the used methodology.

3. Methodology

For data collection, this research uses an online questionnaire. Unlike the paper-based counterpart, online surveys allow for a variable survey design and the integration of dynamic elements. Beyond that, the targeted participants that work in e-commerce most likely prefer the Internet as communication medium. The questionnaire can be structured in three parts.

Followed by a virtual cover letter, the first part queries essential characteristics of the respondents and asks for the respective product category with the largest share of sales. The purpose of this part is (1) to ensure that only professionals from e-commerce or multi-/omni-channel retailers participate and (2) to be able to refer to a specific product category in later questions. In the second part, changes in the outbound shipment quantities and the α-/β-return rate before and after the beginning of the Covid-19 pandemic in March 2020 are surveyed. The final third part asks for potential causes and other observed changes in the return behavior. Before the field phase, the survey was pretested by five experts with either an academic or an industry background. Based on their remarks, several minor changes were made concerning the wording of the questions. Sample acquisition was supported by the three leading German e-Commerce Associations (BEVH e.V., BVOH e.V., Händlerbund Management AG) who drew attention to the study via dedicated e-mail to their members, newsletters, or other communication channels such as XING or LinkedIn. The data collection took place between September and October 2020. During this period, 215 respondents started the survey of which 103 (48 %) e-commerce or multi-channel-merchants completed it without

showing an unusual response behavior. The sample reflects the diversity of German e-commerce in terms of the most relevant product group clusters and company size (see Table 3). The total e-commerce revenue that the participants realized in Germany in 2019 amounts to 12.1 billion €, which accounts for 16.6 % of total German e-commerce sales (BEVH, 2019).

Product cluster	Fashion (n=28, 27.2 %), leisure (n=23, 22.3 %), entertainment (n=13, 12.6 %), interior (n=12, 11.7 %), others (n=27, 22.3 %)
E-commerce revenue	Small companies with revenue < 10 mio. € (n=64, 62.1 %), medium-sized companies with revenue 10–100 mio. € (n=21, 20.4 %), large companies with revenue > 100 mio. € (n=18, 17.5 %)
Type of e-tailer	Pure e-tailer (n=63, 61.2 %), multi-/omni-channel retailer (n=40, 38.8 %)

Table 3. Sample Characteristics

4. Results

Concerning the presentation of the results, this study refers to the most important product clusters (‘entertainment’, ‘fashion’, ‘interior’, ‘leisure’, ‘others’), which are also used by the BEVH to categorize the German e-commerce market (BEVH, 2019). The first survey question referred to the relative changes in the number of outbound shipments. It shows an increase across all product categories, with the clusters ‘leisure’, ‘entertainment’ and ‘interior’ benefitting the most (see Table 4).

Product cluster	**Entertainment (n=13)**	**Fashion (n=28)**	**Interior (n=12)**	**Leisure (n=23)**	**Others (n=27)**
Number of outbound shipments	+20.13 %	+13.76 %	+19.10 %	+22.56 %	+10.07 %
Items per shipment	+0.28 %	-6.37 %	+2.84 %	-0.84 %	-3.78 %

Table 4. Average Percentage Changes in Outbound E-commerce Logistics (n=103)

This observation for the German e-commerce market resembles those that have been reported in other markets. These assessments are shared by several study participants in a field for open comments, as aptly summarized by the following statement: “*As bitter as it is, Corona was a stroke of luck for my [...] company.*” Since the study only considers the period from March to August with a lockdown of stationary retail from mid-March to early May, the figures for the entire year are very likely higher, because the strong Christmas business with a further lockdown of stationary retail in Germany is not taken into account. The next questions referred to the return rates. After calculating the means (Ø), standard deviations (SD) and confidence intervals (CI) of the two surveyed periods (P1: March–August 2019; P2: March–August 2020), the values are compared using t-tests to identify changes. Calculations were performed in SPSS 26. In case of significant differences ($\alpha<.05$), the fields in Table 5 are shaded in gray.

Product cluster	α-return rate Sample-ID: Ø, SD, 95 %-CI	β-return rate Sample-ID: Ø, SD, 95 %-CI
Entertainment (n=13)	P1: 6.55 %, 2.75, 4.89 to 8.22 P2: 6.63 %, 1.40, 5.78 to 7.48	P1: 6.07 %, 2.87, 4.33 to 7.80 P2: 6.12 %, 1.19, 5.40 to 6.84
Fashion (n=28)	P1: 47.50 %, 13.96, 42.09 to 52.91 P2: 41.18 %, 11.66, 36.66 to 45.71	P1: 28.00 %, 10.05, 24.10 to 31.89 P2: 23.53 %, 9.83, 19.72 to 27.34
Interior (n=12)	P1: 7.48 %, 1.76, 6.36 to 8.60 P2: 5.56 %, 1.72, 4.46 to 6.65	P1: 7.30 %, 1.40, 6.41 to 8.20 P2: 5.48 %, 1.52, 4.52 to 6.45
Leisure (n=23)	P1: 14.11 %, 8.48, 10.44 to 17.78 P2: 13.73 %, 7.45, 10.51 to 16.95	P1: 11.74 %, 4.99, 9.59 to 13.90 P2: 11.50 %, 5.31, 9.20 to 13.79
Others (n=27)	P1: 3.88 %, 2.61, 2.85 to 4.91 P2: 3.77 %, 2.97, 2.60 to 4.95	P1: 3.77 %, 2.66, 2.71 to 4.82 P2: 3.68 %, 3.07, 2.47 to 4.89

Table 5. Average Return Rates Before (P1) and After (P2) the Beginning of the Covid-19 pandemic (n=103)

The analysis shows the differences between the two kinds of return rates as well as the large variations among the respective product clusters. Concerning the effect of the Covid-19 pandemic, it shows that both returns rates were significantly lower in the 'fashion' (α: $t(27)=-10.739$, $p<.000$; β: $t(27)=-15.844$, $p<.000$) and 'interior' (α: $t(11)=-12.488$, $p<.000$; β: $t(11)=-8.554$, $p<.000$) product cluster. Therefore, in these clusters, e-tailers did not only benefit from more orders but also from lower return rates. The combination of these two effects acts as a lever on the profitability of the e-commerce business model (Asdecker, 2015). Participants who indicated a reduction in either the α- or β-return rate were asked for possible reasons. On the one hand, predefined categories on a Likert scale ranging from 1–5 (1=not relevant, 5=very relevant) were queried (see Table 6).

Potential reasons	Mean value
During the pandemic, customers placed less selection orders.	+3.16
During the pandemic, our company attracted new customers with lower return rates than existing customers.	+3.09
During the pandemic, customers informed themselves more thoroughly about the items they ordered.	+3.06
During the pandemic, customers increasingly ordered product assortments with lower return rates.	+2.88
During the pandemic, our company reduced promotional activities that previously encouraged impulse purchases.	+1.59

Table 6. Provided Reasons by Companies that Reported a Reduction in the Return Rate (n=32)

The assessments made provide evidence that customers changed their ordering behavior during the Covid-19 pandemic. Orders were placed more in line with actual requirements. In addition, e-commerce appears to have won over customer groups with a more moderate return behavior who previously shopped mainly in brick-and-mortar stores. On the other hand, additional reasons could be given by means of a free text field. Several study participants noted that they benefited from an internationalization, which the following statement summarizes: "*The customer segment has changed completely and therefore the return rate has halved. In 2019, I had 80 % German customers. Since the pandemic, it is only 40 % German customers, which means the demand in Italy, France, and Spain has increased*

dramatically. [...] Only in Germany are returns considered a legitimate behavior [...]. In all other EU countries, it is considered inappropriate." In addition, several retailers suggest that customers shied away from going to the post office for fear of catching the disease: "*[...] They returned less because they didn't want to go to the post office to return the package. They preferred to keep the goods.*" Other counteracting factors may have prevented even lower return rates. These include longer delivery times due to capacity problems at logistics service providers: "*[…] At the same time, there was a noticeable increase in returns for orders with longer delivery times, especially at the beginning of the pandemic. DHL did not meet the SLAs in some cases.*" Furthermore, some respondents observed opportunistic ordering behavior: "*Multiple orders from different companies. Only the goods that were delivered the fastest […] were kept.*"

The final survey section dealt with further changes in the return behavior as observed by e-tailers. The collected data indicates (1) that the proportion of returns sent back in the last third of the return period has increased, (2) that the proportion of returns with obvious signs of use has increased and (3) that the proportion of returns that can only be disposed of due to their condition has slightly increased (see Table 7).

	Decreased	**No change**	**Increased**
Share of returns sent back in the last third of the return period	3 % (n=3)	71 % (n=73)	26 % (n=27)
Share of returns with obvious signs of use	2 % (n=2)	74 % (n=76)	24 % (n=25)
Share of returns that was disposed due to their condition	4 % (n=4)	79 % (n=81)	17 % (n=18)

Table 7. Evaluation of Other Relevant Return Behaviors

Consequently, during the first months of the Covid-19 pandemic customers return later and use the ordered items more intensively before ultimately deciding whether to keep the ordered items, which – from an economic perspective – may offset some of the e-tailers' benefits from lower return rates.

5. Summary and Conclusion

This paper conducts a systematic literature review and an exploratory survey. The literature review summarizes the available descriptive statistics on return rates published in peer-reviewed papers to date and demonstrates the relevance of consumer returns to interested scholars. It also shows the need to clearly define the calculation method of the return rate in future studies to avoid comparing apples with oranges. The wide range of published values justifies an exploratory survey, which takes into account current influences from the Covid-19 pandemic. It shows that e-commerce in Germany is massively benefiting from the pandemic. In addition to double-digit growth rates, e-tailers with fashion and interior product

assortments are also benefiting from significantly lower return rates. The study also identifies reasons for this change in behavior and points to further changes in the timing and the condition of returns. Thus, this study contributes to an emerging strand of literature analyzing the impact of the Covid-19 pandemic. While there are already several studies on the forward distribution process (e.g., Kulkarni & Barge, 2020; Galhotra & Dewan, 2020), this is the first to focus on the often neglected reverse part of the business model. Accordingly, it appears that the current Covid-19 pandemic not only affects where and what consumers purchase but also how they return. Managerially, e-tailers should consider those changes in their returns management processes. Besides, the collected data can be used for benchmarking purposes.

One limitation of this research is that it only considers German e-tailers. As the remarks of the study respondents point out, Germany is a country with comparatively high return rates. Other regions could therefore experience different changes. Furthermore, the big question is whether the observed changes are merely a temporary phenomenon. Further studies will be needed to investigate whether the observed and described changes in the consumers' decision journeys have long-term effects or not.

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