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# Retain or Reduce? Delisting Decisions in Relation to Manufacturer-Retailer Relationships in Grocery Store Retailing

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## Abstract

Retail assortment optimisation plays a significant role in the success and competitive advantage of retailing, contributing to companies' market differentiation, compatibility, and profitability. This study applies transaction cost theory, related opportunism, and bounded reliability as theoretical frameworks. The aim is to analyse assortment optimisation, especially selection-reduction decisions, in relation to the manufacturer-retailer relationship in grocery store retailing. Primary quantitative research in the form of a personal survey method about the delisting decisions of 215 grocery retail executives was implemented and analysed by applying partial least squares variance-based structural equation modelling (PLS-SEM). Results show that the reason for selection reduction is often the bounded reliability of manufacturers, as this may lead to excessively high supplier prices and logistical problems. These factors result in low retail margins, justifying assortment-reduction-related decisions. However, manufacturers believe that a lack of marketing support has no impact on low retail margins and, thus, also on assortment reduction decisions.

## Keywords

retailing, assortment optimisation, assortment reduction, manufacturer-retailer relationships, delisting, bounded reliability, opportunism

## 1 Introduction

Sustaining the competitiveness of retail is increasingly important under conditions of fierce market competition. Standing out from the competition is a constant challenge for traders, even though many well-known strategies for success exist. These include enhancing efficiency, providing a higher level of service, and niche strategies. In addition, differentiation is probably one of the most fundamental means of obtaining a competitive advantage (Śmigielska and Oczkowska, 2017; Yrjölä et al., 2020). Differentiation may involve global long-term strategic goals that cover all activities. However, short-term tactical approaches often include selection-centred decisions.

This paper analyses listing decisions related to grocery store retailing. Managing selection can affect company success while influencing corporate competencies and procedures, enhancing profitability and efficiency, and changing logistics and merchandising costs (da Veiga et al., 2014; Kelemen-Erdős, 2018; Viswanathan et al., 2021). Assortment-related decisions may influence demand, competiti-

veness, and power relations in the supply chain (Kelemen-Erdős, 2018). Thus, selection management may impact commercial relationships considerably.

Power relations determine manufacturer-retailer relationships from a supply chain perspective, potentially influencing assortment. The present study analyses selection optimisation from the retailers' point of view. The latter can evolve and support food-retailing decision-making processes. Understanding the reasons for assortment reduction may enhance competitive advantage and increase the efficiency of grocery retailers. A further target of the paper is highlighting the reasons for assortment reduction related to the vulnerable manufacturer-retailer relationship.

While the effects of selection reduction are analysed mainly in secondary sources (Bauer et al., 2012; Gázquez-Abad et al., 2021), this paper highlights assortment reduction decisions from the retailer's point of view and primarily focuses on the bounded reliability and the opportunism of manufacturers in relation to the manufacturer-retailer

relationship. In addition, it explores the reasons for delisting and, thus, problems leading to assortment reduction, whereby the role of bounded reliability in the supply chain is addressed. This has not been investigated related to assortment reduction in previous academic and empirical sources.

The first part of this paper defines the theoretical framework that can explain opportunistic business behaviour, the theory of transaction costs, and based on this, features of bounded reliability. Then assortment reduction and its context within the manufacturer-retailer relationship is analysed. After this, the empirical research is presented, which involved a personal survey method that addressed the delisting decisions of retailers analysed with PLS-SEM. Finally, the paper suggests the theoretical and practical implications of and for assortment reduction.

## 2 Literature review and hypotheses development
### 2.1 Opportunism and bounded reliability
According to transaction cost theory, the efficiency of a business depends on the opportunistic nature of the involved actors' relationships. This may include non-open behaviour and even the deliberate misleading of the other entity (Williamson, 1975). The uncertainty of the market environment, the bounded rationality of actors, and opportunism are associated with multiple *ex ante* and *ex post* transaction costs (Jaško et al., 2015; Williamson, 1975). *Ex ante* costs are connected to creating a business, such as market and data analysis and developing contacts, while *ex post* costs are determined by costs that occur after transactions, such as performance and monitoring (Tilooby, 2018). Trust can significantly reduce *ex post* costs by improving efficiency in the supply chain (Piricz et al., 2013; Setyaningsih et al., 2020). However, the lack of it results in opportunistic behaviour and increases the risk of transactions and the effort needed to fulfil them (Collier and Sarkis, 2021; Grover and Malhotra, 2003; Kwon et al., 2005).

Transactional cost theory was further developed, leading to the concept of bounded reliability that describes the phenomena more deeply. Apart from opportunism, *ex post* changes in circumstances, preferences, and engagement can cause inconsistent behaviour, thus bounded reliability (Verbeke and Greidanus, 2009). However, opportunism and bounded reliability negatively affect business-to-business relationships, which may even result in the termination of relationships (Verbeke et al., 2021). This may involve assortment reduction.

In applying the theoretical frameworks of opportunistic behaviour and bounded reliability to manufacturers, this study focuses on assortment reduction decisions related to the vulnerable manufacturer-retailer relationship.

### 2.2 Manufacturer-retailer relationships related to assortment reduction
Assortment delisting in food retailing has received some attention, mainly related to areas such as the profitability of retail strategies and store space effectiveness (Flamand et al., 2018; Natan, 2021) and retail prices (Herrmann and Fedoseeva, 2020). However, it has also been applied to consumer behaviour like consumer perceptions and brand and store switching (Bauer et al., 2012; Beneke et al., 2013; Gázquez-Abad et al., 2021; Piris, 2013; Sloot and Verhoef, 2008).

An inefficient manufacturer-retailer relationship can lead to item delisting. From the retailer's point of view, a poor relationship between the manufacturer and the retailer may be rooted in the reputation (Li et al., 2020) and unreliability of the manufacturer (Dhahri et al., 2022), which can create conflicts and lead to the delisting of items (Sloot and Verhoef, 2008; Van der Maelen et al., 2017). The retailer's bargaining power may be reflected in delisting threats; in such cases, the retailer aims to improve contracting conditions and may impose slotting allowances (Bunte et al., 2011).

Trust plays an essential role in the manufacturer and retailer relationship (Tahirov and Glock, 2022) and is influenced by the reputation of the manufacturer. The latter also affects customer perceptions (Li et al., 2020). However, customers are less engaged with low-equity brands; thus, the assortment reduction of brands associated with poor brand equity influences manufacturers significantly (Gázquez-Abad, 2021; Sloot and Verhoef, 2008, 2011; Zhang and Krishna, 2007). The underperformance of a stock-keeping unit may be a reason for delisting (Hense and Hübner, 2022; Ostermeier et al., 2021; Sloot and Verhoef, 2008). Delisting may also occur because a retailer wishes to increase the efficiency of space management, affecting aspects such as product placement (Hense and Hübner, 2022; Zhang and Krishna, 2007).

Conflicts between manufacturers and retailers may be due to information-management issues, mainly related to a lack of information flow, information asymmetry, and the low intensity of social contact (Ailawadi et al., 2010; Davies, 1994). Conflict can also arise because a retailer abuses its dominant position by taking measures against a manufacturer, such as imposing slotting fees and sanctions (Breugelmans et al., 2018; Florez-Acosta and Herrera-Araujo, 2020).

An unfavourable manufacturer-retailer relationship may lead to conflict delisting. This occurs when a relationship breaks down, and the retailer stops selling and removes a product from the supply, leading to product unavailability and losses for both parties (Sloot et al., 2006; Sloot and Verhoef, 2008; Van der Maelen et al., 2017). In the case of product substitution, conflict delisting typically affects the manufacturer. However, Van der Maelen et al. (2017) show that conflict delisting negatively impacts the manufacturer, retailer, and customer. They point out that manufacturers may be concerned about conflict delisting because this attracts media attention; moreover, customers may be negatively affected by the lack of availability and substitution, perhaps because of emotional attachment.

### 2.3 Delisting due to retailers' margins in relation to the manufacturer-retailer relationship

Power retailers with market dominance that have price and cost advantages often use these to negotiate better supplier terms and conditions (Alibeiki et al., 2020). Supplier price is a key factor in retailers' competitiveness and determines price margin and profitability. Retailers use their bargaining power to negotiate the best prices from suppliers to achieve the highest possible retailer margin, potentially threatening suppliers with delisting (Bunte et al., 2011), even if the manufacturer must increase their prices because of the rising cost of raw materials (Sloot and Verhoef, 2011). The high prices of suppliers or price increases may result in retailers' delisting decisions (Davies, 1994). This phenomenon is formulated in Hypothesis 1 (H1).

However, companies that operate with long-term relationships work with lower margins than those with a lower level of engagement (Kalwani and Narayandas, 1995). For example, a manufacturer may make a gesture to a retailer, such as reducing prices, because it accepts the retailer's category management strategy, positively impacting their relationship (Basuroy et al., 2001).

Power manufacturers, often due to bounded reliability, may also apply price pressure on retailers to reduce their margins. In the absence of agreement, price negotiations can lead to delisting (Ru et al., 2015; Van der Maelen et al., 2017).

Scholars agree (Davies, 1994; Dukes et al., 2006; Hense and Hübner, 2022; Nilsson and Høst, 1987; Sloot et al., 2006; Sloot and Verhoef, 2008) that low turnover, sales, and profitability notably influence item-delisting decisions. The latter also occurs when retail profit margins are low (Davies, 1994; Dukes et al., 2006). This is reflected in H4. (The hypotheses are numbered according to the theoretical model depicted in Fig. 1.)

**Hypothesis 1 (H1): The bounded reliability of the manufacturer increases the likelihood of excessively high supplier prices.**

**Hypothesis 4 (H4): Excessively high supplier prices make a significant contribution to low retail margins.**

### 2.4 The effects of logistics problems on delisting

The bounded reliability of the manufacturer may cause logistics-related and availability problems in the supply chain (Hota et al., 2022). This can increase transportation costs (Dhahri et al., 2022) and make assortment planning unpredictable. Moreover, product unavailability can negatively affect store image due to temporary out-of-stock situations. These factors may lead to product delisting (H2).

High logistical and inventory costs (transport, warehousing, material handling – e.g., stock replenishment and associated human resource costs) also often lead to delisting (DeHoratius and Ton, 2015; Dukes et al., 2006). In addition, these increased costs can reduce profit margins, as indicated in H5.

**Hypothesis 2 (H2): The bounded reliability of the manufacturer increases the likelihood of logistics problems.**

**Hypothesis 5 (H5): Logistics problems make a significant contribution to low retail margins.**

### 2.5 The role of a lack of marketing support in delisting decisions

Marketing support influences the success of product sales. If a producer does not provide marketing support for products that enter the market, the latter will struggle to cross the threshold of visibility, requiring more effort from the retailer. Nilsson and Høst (1987) found a correlation between the lack of an introductory marketing campaign and delisting. The main reason for assortment reduction due to the lack of ongoing marketing support is the reduction in profitability (Nilsson and Høst, 1987; Skytte and Blunch, 2005), but it may also be due to a damaged relationship between manufacturer and retailer (Mantrala and Kamran-Disfani, 2018). This may be explained by the bounded reliability of the manufacturer (H3).

Manufacturers can decrease the adverse effects of delisting, such as brand erosion and brand switching, on market performance and customers by offering marketing support (Li et al., 2022), in the absence of which margins are reduced (H6).

**Hypothesis 3 (H3): The bounded reliability of the manufacturer increases the likelihood of the lack of its marketing support.**

**Hypothesis 6 (H6): A lack of marketing support increases the likelihood of low retail margins.**

According to the literature, the consequences of delisting are controversial; they include a negative impact on sales in the short term but a positive one in the long run (Sloot et al., 2006). However, other empirical research shows that assortment reduction negatively affects the retailer, regardless of the reason (Hebblethwaite et al., 2017; Van der Maelen et al., 2017). Assortment optimisation decisions must therefore be handled with care.

## 3 Materials and methods
### 3.1 Sample
The main aim of the study was to examine assortment reduction in the context of the manufacturer-retailer relationship in the retail food market.

The research applied a combination of purposive and snowball sampling methods to examine the opinions of representatives of top retailers that account for 90% of the grocery retail market turnover (calculated according to Trade Magazin (2022) and HCSO (2022)). They were intended to make up about 30% of the sample. Target respondents were selected and asked to suggest further respondents (Parker et al., 2020). Thus, representatives of the leading types of retailers were identified and contacted. This enabled us to contact top food retailers, a category 30.7% of the sample respondents belong to.

The personal survey method was implemented using interviewers on the territory of Hungary. The research was conducted with experts in executive positions, including owners, store managers, and assistant managers, who are involved in strategic decision-making. This contributed to enhancing the relevance and thus validity of the sample.

The sample size for the empirical research was 224 food retailers. However, after screening respondents and questionnaires, 215 valid questionnaires were retained in the sample. Data were collected from November 2019 to June 2022.

The sample distribution is shown in Table 1. The gender distribution was 64.2% female and 35.8% male. The average age was slightly more than 43 years (Median = 45; Mode = 23; Standard deviation (St. dev.) = 12.8; Min = 21; Max = 77). On average, respondents had over 15 years of experience in retailing (Median = 11; Mode = 10; St. dev. = 11.7; Min = 1; Max = 55). However, ten respondents had over 40 years of experience. At the time of responding, the respondents had worked for the respective retail units for 8.7 years on average.

**Table 1** Sample characteristics ($N$ = 215); Source: Authors' elaboration

| | Frequency (person) | Frequency distribution |
|---|---|---|
| Gender | | |
| Male | 77 | 35.8% |
| Female | 138 | 64.2% |
| Age (year) | | |
| 20–29 | 46 | 21.4% |
| 30–39 | 30 | 14.0% |
| 40–49 | 68 | 31.6% |
| 50–59 | 50 | 23.2% |
| 60+ | 21 | 9.8% |
| Education | | |
| Primary and secondary school | 136 | 63.2% |
| Vocational training | 41 | 19.1% |
| Undergraduate/graduate | 38 | 17.7% |
| Position | | |
| Owner | 71 | 33.0% |
| Store manager | 59 | 27.5% |
| Assistant store manager, shift supervisor | 85 | 39.5% |
| Store statistics | | |
| International chain member | 55 | 25.6% |
| National chain member | 37 | 17.2% |
| Independent grocery | 123 | 57.2% |
| Store type | | |
| Hyper- and supermarkets | 37 | 17.2% |
| Discounts | 29 | 13.5% |
| Speciality stores and drugstores | 57 | 26.5% |
| Convenience and limited assortment stores | 92 | 42.8% |

Representatives of international (25.6%) and Hungarian (17.2%) retail chains and independent grocery units (57.2%) were asked about their selection delisting decisions. According to store type, super- and hypermarkets (17.2%), together with discount stores (14.3%), accounted for more than a third of the sample.

Considering the sample characteristics and the sampling method, the research is limited. However, the sample size is appropriate to represent Hungarian grocery retailing, as a considerable target population was included. Furthermore, the characteristics of the respondents are relevant to the research, thereby enhancing the validity of the research.

## 3.2 Methods

Data was analysed by applying partial least squares variance-based structural equation modelling (PLS-SEM) using ADANCO 2.3.1 software.

PLS-SEM is widely applied in supply chain research (e.g., Manzoor et al., 2022; Sales-Vivó et al., 2021). PLS is a linear path model that utilises an outer measurement model that refers to the relationship between latent constructs and observed indicators and an inner structural model which relates to the links between the theoretical constructs (Henseler et al., 2016).

PLS-SEM enables flexible modelling, even when using relatively small sample sizes (Hair et al., 2019). This research applies the reflective model as it supposes that the latent variables indicate changes in the indicators (Hanafiah, 2020). The hypothetical model depicts the analysed constructs regarding assortment reduction (Fig. 1). Opportunism is incorporated into the model, as opportunistic behaviour is a part of the bounded reliability of the manufacturer.

## 4 Results

The proposed model of the factors leading to assortment reduction was evaluated using measurement criteria defined by Hair et al. (2019). Table 2 shows that all the criteria for PLS-SEM suggested by Hair et al. (2019) were fulfilled. The model's goodness of fit is appropriate when applying the standardized root mean squared residual, i.e., SRMR = 0.068, which is less than the threshold of 0.08. The reflective measurement model meets the required criteria: convergent validity (AVE [average of variance extracted] is more than 0.5 for all constructs) and the assumption of discriminant validity (heterotrait-monotrait, HTMT less than 0.85 for all constructs) is satisfied.
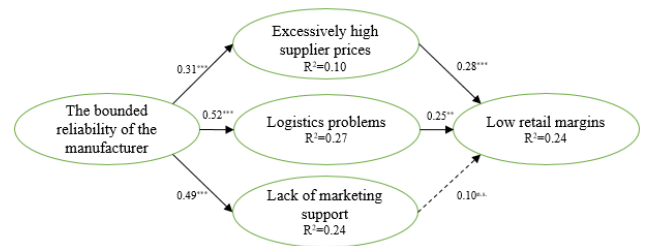
The constructs and the measured coefficients of assortment reduction related to the hypotheses are depicted in Fig. 2. The measures of the variables that compose the constructs are included in Appendix A.
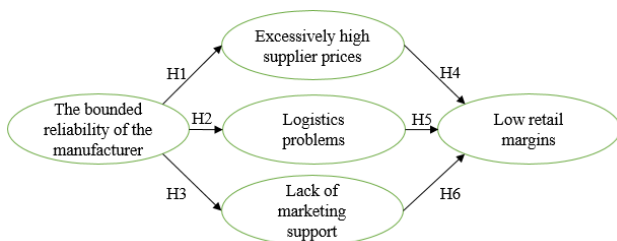


**Fig. 1** Hypothetical model of factors leading to delisting; Source: Authors' elaboration

**Table 2** PLS-SEM evaluation criteria; Source: Authors' elaboration

|  | Evaluation criteria | Current study |
|---|---|---|
| Goodness of model fit | | |
| SRMR | SRMR < 0.080 | SRMR = 0.068 |
| Reflective measurement models | | |
| Reflective indicator loadings | ≥0.708 | ≥0.786 (see Appendix A) |
| Internal consistency reliability (Dijkstra-Henseler's rho) | $\rho_A > 0.70$ | $\rho_A > 0.79$ (see Appendix A) |
| Convergent validity (AVE) | AVE ≥ 0.50 | AVE ≥ 0.64 |
| Discriminant validity (HTMT) | HTMT < 0.85 | HTMT < 0.51 |
| Structural model | | |
| Collinearity (VIF) | VIF < 3 | VIF < 3 |
| Direct effect | Path coefficients | Path coefficients (see Fig. 2) |



**Fig. 2** Measurement model of constructs leading to delisting; All coefficients are standardised (***p < 0.001; **p < 0.01; *p < 0.05; n.s. = not significant); Source: Authors' elaboration

The construct of 'The bounded reliability of the manufacturer' has a positive impact on the constructs of 'Excessively high supplier prices' (ß = 0.31, t = 3.66, p < 0.001), 'Logistics problems' (ß = 0.52, t = 6.67, p < 0.001), and 'The lack of marketing support' (ß = 0.52, t = 6.67, p < 0.001), leading to the acceptance of hypotheses H1, H2, and H3 (Table 3). Thus, the bounded reliability of a manufacturer increases the likelihood of excessively high supplier prices, logistics problems, and the lack of its marketing support.

The 'Excessively high supplier prices' and 'Logistics problems' constructs have a positive impact on the construct of 'Low retail margins', meaning that excessively high supplier prices and logistics problems significantly contribute to the low margins of the retailer. Thus, hypotheses H4 and H5 can be accepted. However, a lack of marketing support does not increase the likelihood of low retail margins, leading to the rejection of H6.

## 5 Discussion

Opportunistic behaviour and bounded reliability significantly reduce the effectiveness of cooperation by introducing

**Table 3** Direct effects in the model; Source: Authors' elaboration

| Effect | Coefficient | t-value | p-value | Hypothesis |
|---|---|---|---|---|
| The bounded reliability of the manufacturer → Excessively high supplier prices (H1) | 0.3078 | 3.6607 | 0.0001 | Supported |
| The bounded reliability of the manufacturer → Logistics problems (H2) | 0.5172 | 6.6742 | 0.0000 | Supported |
| The bounded reliability of the manufacturer → Lack of marketing support (H3) | 0.4909 | 7.5325 | 0.0000 | Supported |
| Excessively high supplier prices → Low retail margins (H4) | 0.2823 | 2.9576 | 0.0016 | Supported |
| Logistics problems → Low retail margins (H5) | 0.2543 | 2.5778 | 0.0050 | Supported |
| Lack of marketing support → Low retail margins (H6) | 0.1031 | 1.3125 | 0.0948 | Declined |

anomalies into the relationship (Piricz et al., 2013; Verbeke et al., 2021; Williamson, 1975). In the retail context, this means that the unreliable behaviour of a manufacturer may reduce the retailer's margin.

The bounded reliability of the manufacturer is part of opportunistic behaviour, which can lead to unjustified increases in supplier prices, logistics-related problems, and lack of marketing support, which may lead to selection delisting.

Although suppliers' high prices do not always indicate opportunistic behaviour (they may occur for reasons of guaranteeing quality or as a means of positioning), an unreasonably high price is more likely to be an opportunistic one and suggests that a manufacturer could be abusing its position.

In the model of delisting factors, two typically opportunistic behaviours that may result in bounded reliability are identified: excessively high supplier prices and logistics problems, which reduce retailers' margins; however, another behaviour, inadequate marketing support, does not necessarily have a negative effect. This may be because retailers can compensate for the lack of the former (e.g., through appropriate product placement or sales promotions).

However, the phenomenon has only been investigated from the retailer's point of view. A simultaneous survey of the same factors from the supplier side was not the subject of this research but represents an avenue for further investigation.

# 6 Conclusions

The research examines a relatively less well-researched area, namely, the selection strategies and delisting decisions associated with fast-moving consumer goods, using a bounded reliability framework. We analyse the reasons for selection reduction, which have practical implications.

Listing decisions affect every market actor in the supply chain, from the customer through the retailer to the merchandiser (if any) and the freight forwarder to the manufacturer/producer; however, the loss to the latter is likely to be greatest.

With assortment optimisation, the retailer pursues its interests primarily, which may give rise to manufacturer-retailer conflict; however, this may damage the relationship, indicating the interdependence of the actors. Kelemen-Erdős (2018) points out that significant efficiency gains are related to corporate processes such as human resource optimisation, reducing logistics-related costs, process management, and marketing communication. Her study also reveals that efficiency alone does not lead to success (despite the success of hypermarkets). This suggests that assortment rationalisation should be approached from the customer perspective, thus, in terms of perceived assortment complexity (how a customer judges the width and depth of the selection (Kahn et al., 2013)). Taking an assortment's perceived complexity into consideration, it is less likely that product delisting will lead to losses due to a lack of product availability due to product substitution.

Pre-screening SKUs with ABC analysis and GMROI (Gross Margin Return on Inventory) before making assortment decisions (Coronado-Hernandez et al., 2020) is one means of moderating the adverse effects of selection reduction. Segmenting the core SKUs of a retailer using ABC analysis can rationalise selection, as this model helps categorise an assortment according to its contribution to profit. In addition, Coronado-Hernandez et al. (2020) suggest applying GMROI because it determines which product groups have a more unfavourable inventory turnover. However, a complex approach is required to consider the needs of targeted customer segments and eliminate a decline in customer loyalty.

The research found that opportunism and bounded reliability (in particular, opportunistic behaviour and a low level of engagement of the manufacturer) notably increase item delisting. However, manufacturers can avoid the delisting of their brands by increasing their reliability. Reliability can be based on reputation, predictable service provision, and improved market relations with retailers. It is worth investing in such relationships because they may lead to retailers' engagement and a company's long-term success.

While Verbeke and Greidanus (2009) applied a bounded reliability theory framework to examine multinational enterprises, this study did not differentiate between international and national companies, nor did the study take into account changed preferences of the manufacturer. These factors may limit the results.

Technology road mapping may also reduce the negative impacts of a vulnerable manufacturer-retailer relationship, as the former can help assess an assortment through supporting technology while keeping pace with market developments (Pataki et al., 2010).

Manufacturers should charge reasonable prices in relation to the perceptions of value of the customer. It is worth asking manufacturers to justify their reasons for increasing the prices they charge. Manufacturers should also pay attention to timely production and the reliable delivery of goods in terms of time and quality, which may reduce the likelihood of items being delisted.

Rindfleisch (2020) draws attention to the fact that transactional theory has existed for almost a century and should be adjusted to incorporate current challenges. Consequently, due to increasing digitalisation (such as smart manufacturing), opportunism in transactions may decrease in the future. For example, smart manufacturing now involves information management (including using data from the Internet of Things (IoT) and big data), smart devices, artificial intelligence, and cyber-physical systems that contribute to better corporate results and management of processes (Iványi and Bíró-Szigeti, 2019; Wang et al., 2018; Weber and Schütte, 2019). In addition, tracking and tracing systems, such as Radio-Frequency Identification (RFID) and the blockchain, which securely records transactions, can contribute to overcoming some of the challenges of store retailing (Rindfleisch, 2020; Shahbazi and Byun, 2021).

However, human nature cannot be overcome in personal transactions, which becomes an even more relevant factor in bricks-and-mortar store retailing. For this reason, the phenomenon of opportunism and bounded reliability may continue to be witnessed even more in offline supply chain management. The impacts of opportunism on online sales can be examined in further research. In addition, opportunism can also be approached from the retailers' perspective (see Maglaras et al., 2012).

The effects of assortment reduction due to the bounded reliability of suppliers on customer satisfaction and market competition may also be of interest in further research.

The assortment reduction (delisting decisions) of retailers may significantly impact the entire supply chain as interconnections and interdependence are extensive. However, this affects – to a varying extent – the competitiveness and success of market players. It therefore follows that delisting decisions should be made judiciously.

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## Appendix A

**Table A1** Measures of the variables composing the constructs; Source: Authors' elaboration

| Construct (rho) | Indicator | Mean | Variance | Loadings |
|---|---|---|---|---|
| Low retail margins ($\rho_A = 0.90$) | Gross margin too low | 3.51 | 3.67 | 0.866 |
| | Net margin too low | 3.33 | 3.52 | 0.935 |
| Logistics problems ($\rho_A = 0.79$) | Transport problems | 3.02 | 4.67 | 0.748 |
| | Stock-keeping-unit transport difficulties | 2.75 | 4.35 | 0.851 |
| Excessively high supplier prices ($\rho_A = 0.87$) | Supplier price is too high | 4.13 | 4.90 | 0.867 |
| | Supplier price increase too high | 4.01 | 4.85 | 0.884 |
| Lack of marketing support ($\rho_A = 0.90$) | Lack of an introductory advertising campaign | 3.01 | 4.05 | 0.827 |
| | Lack of ongoing marketing support | 3.09 | 4.01 | 0.961 |
| The bounded reliability of the manufacturer ($\rho_A = 0.88$) | Low reputation of the manufacturer | 2.60 | 3.91 | 0.786 |
| | Reliability of the manufacturer | 2.74 | 4.12 | 0.824 |
| | Lack of engagement with the manufacturer | 2.64 | 3.74 | 0.896 |