

# Innovation Cloning

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# Innovation Cloning: The Introduction and Performance of Private Label Innovation Copycats<sup>☆</sup>

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## Abstract

A controversial trend in grocery is the practice by retailers to quickly copy innovative national brands (NBs) launched by manufacturers with their own private label (PL). In a sample of 1,100+ NB pioneers launched in The Netherlands between 2005 and 2009, 11.7% faced a PL copycat by at least one of the seven leading grocery retailers. These copycats obtained an impressive 5.8% category share at the retailer in the year after launch, thereby outperforming the NB pioneers they copy (2.1%) as well as non-copycat PLs launched in the same period (4.4%). Using a two-step selection model, we identify what motivates retailers to copy NB innovations, and what factors drive subsequent copycat performance, thereby taking into account retailers' innovation assortment decisions. As expected, retailers are more likely to copy successful NB innovations, and these copycats indeed perform well in their stores. However, retailers do not only take into account financial considerations. They are especially hesitant to copy heavily promoted NB innovations and those launched by manufacturers with a strong reputation. To enhance copycat performance, retailers should keep prices of the copycat sufficiently below those of the NB pioneer and limit its promotions. Apart from guiding retailers in their copycat decisions, also NB manufacturers can learn from this study how to discourage retailers from imitating their innovations.

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*Keywords:* National brand pioneer; Private label copycat; Innovation; Imitation; Retailing

## Introduction

To stay ahead of competition, retailers can offer an innovative assortment that reflects the latest developments in the industry. But developing and introducing a true pioneering innovation that is the *first* product in a given category to offer novel consumer benefits remains an expensive and risky business. Apart from the R&D and marketing costs involved, pioneers also face a high miss-to-hit ratio: between 35% and 45% of products brought to the market fail upon market launch (Cierpicki, Wright, and Sharp 2000). Retailers in particular are further discouraged to engage in own pioneer innovations due to their limited capacity and skills to invest in the broad and diverse set of categories they

offer, while the smaller volume generated by private-label (PL) offerings (due to retailer exclusivity) and their very competitive prices leave only small margins on PL innovations to recoup the R&D investments (Steiner 2004). To avoid this, retailers typically wait for national-brand (NB) manufacturers to develop new products and simply decide whether or not to add them to their assortment (Lamey et al. 2018).

But regardless of their adoption decision, retailers may also pursue an imitation strategy and introduce a PL product that contains the innovative feature pioneered by a NB. Kellogg's Special K line of breakfast cereals, for instance, is as famous for its continuous stream of flavor innovations as for its constant battle with retailers copying these new flavors (Culliney 2013). Such an innovation copycat strategy has gained popularity among retailers in the Consumer Packaged Goods (CPG) industry. In this industry, compared to other industries (e.g., the pharmaceutical industry), a low rate of patent and trademark registration is observed by pioneers. Hence, copying innovations (rather than developing them) is an attractive strategy given the lower development costs (because of reverse engineering) and

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more limited risk of product failure. But unlike manufacturers that copy their rivals' innovations to take part in their success, retailers are in a unique position and can also use these PLs strategically to influence NB manufacturers and pressure them into better trade conditions (Steiner 2004). A retailer's role as both a potential distributor of NBs and their innovations, while also offering PL copycats that directly compete with these offerings, makes this case particularly interesting to study.

In the literature, copycats are known as products that resemble visual aspects of mostly leading NBs (e.g., trademark, trade-dress, or theme copycats) (Aribarg et al. 2014; Miceli and Pieters 2010; van Horen and Pieters 2012). These studies are primarily concerned with 'trade dress' imitations and the potential harm to -or consumer appreciation of- the imitated brand. However, the present study deals with PL *innovation* copycats in the Dutch CPG industry. Such copycats are introduced by the retailer to mimic the innovative aspect of a NB pioneer, while visual resemblance is not required per se.<sup>1</sup> When a NB pioneer introduces novel consumer benefits over existing offerings in the category on one (or more) of its attributes (e.g., new formulation, new ingredient, new usage, new package design/type, . . .), a PL innovation copycat is defined as a product launched by the retailer that copies this innovative attribute of the NB pioneer introduced earlier on the market.

Even though retailers have a strong incentive to copy innovations, retailers cannot copy -or are not interested in copying- the abundance of innovations launched on the market each year. Instead, they only selectively copy innovations. Kumar and Steenkamp (2007), for instance, state that retailers most regularly imitate innovations that are 'hits'. However, in many instances, retailers decide to copy different NB innovations, suggesting that also other factors drive their imitation behavior. In this study, we aim to address three main research questions: (i) What factors drive or inhibit retailers to copy a certain NB pioneer? (i.e., identifying retailers' underlying motives to copy); (ii) How do these decisions affect subsequent PL copycat performance at the store, if a copy is introduced?; And (iii) how does a retailer's assortment decision with respect to the innovation pioneer change these relations?

To answer these questions, we collected data for 55 CPG categories on all NB innovation pioneers and their PL copycats introduced in the Netherlands between 2005 and 2009, and use a selection model to simultaneously model the retailer's decision to copy the NB innovation, and the subsequent performance of this PL copycat. Our study can guide retailers in their choice what NB innovations to imitate and how to manage them, while it can reduce retailers' risk of having to withdraw a copycat at a later stage.

## Retailer Motivations to Copy Innovations

Retailers' decision to introduce a PL innovation copycat differs markedly from the launch of an economy, standard, or premium PL tier. The roll-out of these classic PL product lines often encompasses a strategic portfolio decision that involves several categories at the same time (ter Braak, Geyskens, and Dekimpe 2014) while PL copycats target one specific NB in a category. Also, most PLs are introduced as products catering to the price-sensitive segment, but this may be less the case for *innovative* PL copycats where retailers intend to contribute to a distinct (innovative) category and store-quality image (ter Braak, Geyskens, and Dekimpe 2014). These copycats also do not offer anything unique in the category like premium PLs do. Since a PL copycat will incorporate the innovative feature that is pioneered by a NB, it is directly targeted to compete with the NB innovation it copies, and retailers are advised to position it closely to this NB with the same feature(s) (Choi and Coughlan 2006). While there may still be quality differences between both, there is a close match at the horizontal level, creating a fierce lower-priced competitor for the copied NB pioneer. Thus, manufacturers feel especially threatened by a PL copycat of their NB innovations, yet they remain hesitant to act against retailers on which they depend to distribute their offerings and access the consumer market (Collins-Dodd and Zaichkowsky 1999). This dual nature of the retailer-manufacturer relationship will be a key factor driving retailers' imitation decisions that will be taken into account in our analysis.

### Research Framework

Retailers obviously focus to a considerable extent on the expected economic gains of the PL copycat itself, and, as pointed out by industry experts, when developing new PL products, "*the decision will hinge on the market potential of the private label product in question*" (PlanetRetail 2013, p. 5). But retailers may also introduce innovation copycats (or refrain from doing so) for reasons *other* than their immediate financial rewards. We advance a research framework that includes both *economic* and *other* motives for retailers to introduce (or refrain from introducing) a PL innovation copycat. If considerations other than the direct economic or financial benefits of a PL imitation drive retailers' decisions to launch a PL copycat, the impact on subsequent copycat performance is not straightforward. Hence, we further evaluate the impact of these drivers on copycat performance at the retailer, once introduced. While these factors are expected to directly influence retailers' copycat incentive, their impact may not be independent of the retailer's assortment decision with respect to the original NB pioneer. These relations form the basis of our study and are presented in Fig. 1.

### Economic Motives

The likelihood of introducing a new PL depends on the expected outcome following this decision. Higher expected sales *value* (through higher *volumes*, higher *prices*, or both) increases the likelihood that a retailer will introduce an innovation copy-

<sup>1</sup> As such, we also differentiate PL innovation copycats from (illegal) counterfeits which impersonate a brand, and design piracy or 'knockoffs', a situation in which a firm creates a copy of another firm's design and appearance without its logo (Appel, Libai, and Muller 2013; Commuri 2009).

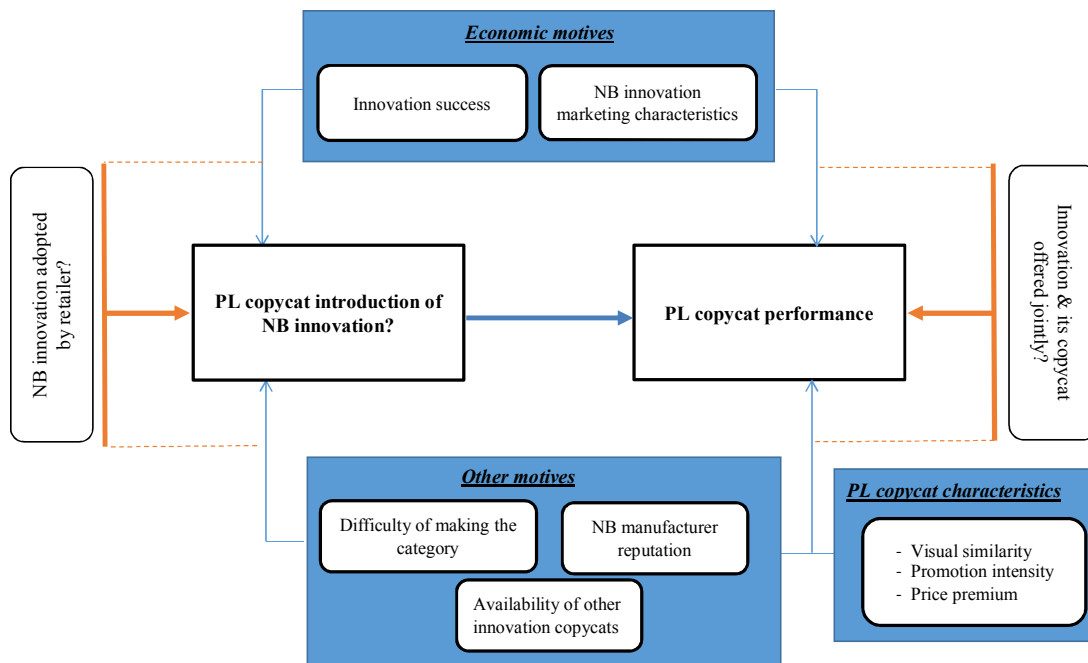


Fig. 1. Research framework.

cat through their demand pull effect. How well a PL innovation copycat will perform at the store is expected to be directly related to (i) the observed performance as well as (ii) the marketing characteristics of the original NB innovation it copies.

#### *Innovation success*

Imitating well-performing NB innovations is an efficient strategy to cope with high levels of uncertainty that market pioneers face (Katz and Shapiro 1985). The observed success of the NB innovation pioneer signals an intrinsic appeal of the innovative feature to consumers, and thus, also a higher expected sales performance for the potential PL variant. The copycat can free-ride on the success of the original NB innovation and may convince especially price-sensitive shoppers to purchase the PL offering instead.

#### *NB innovation marketing characteristics*

Consumers' preference for the NB innovation pioneer over a PL alternative is expected to be influenced by the marketing actions of the copied NB innovation. Four key marketing instruments (i.e., promotions, price, advertising, and innovation activity) have traditionally been used by NB manufacturers in their competition against retailers and their PLs (Lamey et al. 2012). Competing with a NB innovation that offers more frequent and deeper *price promotions* is tough for a retailer. Their PLs do not have a strong comparative price advantage in that case and the profit margins for a copycat will be more limited (Dhar and Hoch 1997). On the other hand, the larger the *NB innovation price premium*, the stronger the incentive for consumers to trade down to a PL variant (Kumar and Steenkamp 2007). The expected value of the PL innovation copycat will be higher not only due to its higher potential sales, but also due to the higher copycat price that can still be charged by the retailer (consider-

ing the NB innovation's price as the ceiling). Further, heavy *NB advertising* creates non-price reasons for buying a NB instead of a competing PL (Steenkamp and Geyskens 2014), which would curtail switching from the NB pioneer to a lower-priced PL copycat and limits expected copycat performance. NB advertising is able to stimulate trial purchases and alleviates concerns when consumers are uncertain about the new benefit and quality of an innovation. Finally, frequent *NB innovators* leave PLs in the unfortunate position of imitating "yesterday's favourite" (Lamey et al. 2012, p. 5). PL copycats positioned closely to the incumbent NB will suffer when a newer NB innovation is launched on the market quickly (Gielens 2012). Alternatively, boosting marketing actions (e.g., more promotions, more advertising) for the NB and its innovation may increase consumers' and retailers' attention to the innovative feature, and consequently, retailers may be more inclined to copy NB innovations with more intense marketing support.

#### *Other Motives*

We consider the factors: (i) the difficulty of making the category, (ii) the reputation of the innovating NB supplier, and (iii) the availability of other NB and PL copycats in the market (see Fig. 1) as more strategic rather than economic motives to introduce a PL innovation copycat (or not). These factors are less concerned with potential copycat demand and the direct financial gains of the >PL copycat itself. Instead, they focus on the ability of a PL innovation copycat to strengthen or weaken the position of a retailer in the market and take into account the sourcing opportunities available to the retailer to produce the copycat.

### *Difficulty of making the category*

We expect retailers to have a higher incentive to copy pioneers and keep up with the latest innovation trends when it is more difficult to create high-quality products in the category for several reasons. First, offering a PL innovation copycat in categories that are more difficult to develop could signal that the retailer's brand is at par with the latest developments and quality offered by leading NBs. Thus, PL innovations in such categories are strategically more important to signal the value of the retail brand, which may also transfer to other categories or even enhance the entire store image (Szymanowski and Gijbrecchts 2012). Also, in categories with larger quality differences between brands, traditional PLs may be less appealing to consumers, while a PL innovation copycat can reduce consumer risk of purchasing a lower-quality product if it resembles and is closely positioned against the NB pioneer (Steenkamp and Geyskens 2014). Finally, retailers have a bigger incentive to contract with a NB manufacturer instead of a dedicated PL supplier to produce their PLs when it is more difficult to offer high-quality products (ter Braak et al. 2013). These manufacturers offer PLs with the same quality standards as NBs and can easily incorporate the latest innovative feature into the PL variant, making PL innovation copycats more likely in this setting.

### *NB manufacturer reputation*

The introduction of an innovation copycat may backfire if it upsets a powerful supplier. The power or reputation of a manufacturer is directly related to the strength of its flagship brand(s) (as reflected in the Interbrand top 100 rating; see e.g., Madden, Fehle, and Fournier 2006). Retailers often acquire an important share of their revenues through the brands from powerful manufacturers and they are more dependent on them to source these must-stock items.<sup>2</sup> Such manufacturers have more resources to retaliate if a retailer upsets them by imitating their innovations, and they are in a better position to punish a retailer by worsening supply agreements or even suspending trade support (Kumar, Scheer, and Steenkamp 1995). This may discourage retailers to copy products from powerful manufacturers even if they expect considerable copycat performance, as it puts their relationship at stake with a supplier they very much rely on. On the supply side, the available resources make high-reputation manufacturers less dependent on strategies such as PL production to earn back their R&D investment, which would limit the supply opportunities for a retailer's PL copycat.

### *Availability of other innovation copycats*

Retailers who may be less knowledgeable about the market and lack the time and resources to learn about market preferences across many categories themselves, could have an incentive to simply rely on prevailing practices, and imitate NB innovations with more NB and/or PL copycats already in the market.

So-called "herding" behavior in which retailers imitate NB innovations with more established copycats is an efficient strategy to cope with uncertainty in the market (Katz and Shapiro 1985). More other offerings with the innovative feature also implies that more (NB and/or PL) sourcing opportunities arise to produce the product efficiently.

### *The Role of Retailer NB Innovation Adoption*

The incentive to copy NB innovations likely differs for retailers that offer(ed) the original NB innovation within their assortment versus not, although arguments exist in both directions. The adoption of the original NB pioneer could make retailers more inclined to copy since they are better informed about their shoppers' appreciation of the innovative feature and its benefits to the store. Hence, they face a lower risk when adding a PL variant to their assortment (Gielens and Steenkamp 2007). Alternatively, adoption of the NB pioneer could make the PL innovation redundant, as the original NB is able to satisfy these consumer needs. Hence, the retailer may be less inclined to add a close PL substitute in order to prevent assortment overlap (van Herpen and Pieters 2002). On the relational side, retailers with a dual role as both a customer and competitor may introduce a copycat as a means to grow their influence on the NB manufacturer and pressure them into better sourcing conditions related to e.g., wholesale prices or trade support (Gronik and Heese 2010), or they may be discouraged to copy out of fear it will put their established channel relations at stake (Van der Maelen, Breugelmans, and Cleeren 2017). In contrast, when retailers do not offer the NB pioneer, they are less dependent on the innovating NB manufacturers, and hence, negative relational consequences will not prevent them from copying those NB innovations.

Moreover, the extent to which the economic and other motives influence the retailers' copycat introduction decision is expected to be moderated by a retailer's decision to adopt the original NB innovation.

### **PL Copycat Performance Consequences**

When economic motives drive retailers' imitation decision, PL copycat performance is expected to be affected in the same way. In contrast, when it is driven by other considerations like its contribution to a more favorable (innovative) store image, the opportunity to differentiate their outlet from competing retailers, and/or its impact on the retailer-supplier relationship, it is not immediately clear if and how they contribute to subsequent copycat performance at the retailer. We leave this as an empirical issue in our study.

But once introduced, also the positioning and marketing actions of the innovation copycat are expected to influence its performance, and thus, are taken into account. A more blatant (*visually similar*) copycat positioning that closely matches the shape and/or color of the pioneer is more likely to transfer the positive associations related to the original NB to its copy (Miceli and Pieters 2010). Also, PL copycat performance is expected to increase when copycat *promotion intensity* is higher, and its

<sup>2</sup> Manufacturers often offer and manage a portfolio of brands, and may derive their power from only some of these brands. But even if the NB innovation in our sample is not introduced under the most powerful brand name, its manufacturer may still have substantial value to the retailer.

price relative to the original NB is lower. Finally, copycat performance likely differs depending on whether the NB pioneer is also available within the assortment or not. *Joint presence* could enhance copycat performance by the so-called attraction effect (Geyskens, Gielens, and Gijsbrechts 2010) or could limit performance due to increased in-store competition for the innovative feature. Again, the extent to which the motives influence copycat performance may be moderated by a retailer's decision to present both offerings jointly on the shelf.

### Research Setting and Data

The empirical setting is the grocery retail market in the Netherlands. All retailers with a (value) market share of 3% or more in 2009 were considered. Albert Heijn, a retailer by the domestic Ahold Group, has a clear dominant position in the Netherlands with a market share of 32.8% in 2009 that more than doubles the shares of the next-in-line, C1000 and Aldi, who hold a share of 11.7% and 8.3%, respectively. We further examine copycat behavior by the retailers Super de Boer (6.5%), Plus (6.0%), Lidl (5.4%) and Jumbo (4.9%). Together with Spain, the U.K., Germany, and France, the Dutch CPG market is a front-runner with regards to PL penetration, with an average PL share of 26% (De Jong 2011).

### Sample

The main data source for this study is household scanner panel data collected by GfK in the Netherlands. The data are available from January 2004 until December 2010 for a sample of 21 broad categories (corresponding to 55 subcategories) which are carried by each retailer included in our study. In these categories, innovations are introduced regularly, and they represent slow-moving as well as fast-moving categories (see Table 1).

First, an independent research assistant identified all innovation pioneers launched by NB manufacturers in the Dutch market in our categories. After that, the assistant scanned for each of the seven retail chains all PL introductions to determine if these new PLs are a copycat of one of the NB innovations identified in the previous step.

### Innovation identification

To identify NB innovation pioneers, all mother brands (e.g., "Gillette" is the mother brand of the subbrand "Gillette Fusion") with a category share across the key retailers over the years 2005–2006 exceeding 1% were selected. For this set of brands, all newly introduced stockkeeping units (SKUs) were identified between April 2005 and July 2009. A three-month initialization period was used before April 2005 to distinguish new SKU introductions from out-of-stocks. To qualify as an original or 'genuine' NB pioneer, the new SKU should offer novel consumer benefits (e.g., a new formulation, new ingredient, new flavor, new package design/type, . . .) in the category that are not already available or observed with *any* other product in that category in earlier years. In line with this definition, SKUs with non-novel attributes were excluded; that is attributes that

were already offered by other SKUs in that category.<sup>3</sup> To that extent, the detailed SKU product descriptions (as provided in the GfK panel data) for all SKUs sold in the category within the timeframe of our data were inspected case-by-case. Also, web searches were conducted for the product names and for the EAN (European Article Number) code to obtain additional product information for each SKU. In line with Gielens (2012), we also discarded pure SKU proliferation when it comes to new package sizes, temporary SKUs, and promotional items. We focus on innovation pioneers at the SKU level (e.g., both "Gillette Fusion Balsam" and "Gillette Fusion Hydra Care" were classified as separate NB innovations) as we observe that retailers do not necessarily copy all varieties of a subbrand. Only NB SKUs with different package sizes of the same innovation are aggregated to represent one entry in our dataset.

This procedure yielded 1,106 NB innovations introduced in the Dutch CPG market across the 55 categories. Since we examine copycat activity by each of the seven main Dutch retailers, this resulted in 7,742 observations (=1,106 × 7 retailers). Our sample includes a wide range of both very successful and unsuccessful NB pioneers, which is further evidenced by the fact that about 30% of the 1,106 innovations do not even obtain .10% national market share (mean NB innovation share in national category sales equals .83%; see Table 2).

### PL copycat identification

PL innovation copycats are all products introduced by a retailer that copy the innovative aspect(s) of a NB pioneer launched earlier in the market (as identified before). To identify such PL innovation copycats, the assortment at each of the seven chains was screened for new PL SKU additions during the same time span (April 2005 and July 2009). To assess whether the innovative feature(s) of the original NB innovation is copied by a PL in the same category, the detailed GfK product descriptions, again complemented with an online search for the EAN, of each new PL SKU were inspected. This similarity assessment was based on several criteria: formulation similarity (e.g., C1000 Tortilla Chips Cool American as a copycat of Doritos Cool American), resemblance in innovative ingredients (e.g., O'Lacy's full taste Thai Sweet Chili-Koriander Chips as a copycat of Lays Sensations Thai Sweet Chili), similarity in concept (e.g., the general idea of emphasizing the richness of the taste of the potato chips), and/or packaging similarity (e.g., the yogurt stand-up pouch "Breaker" introduced by Friesche Vlag, a dominant Dutch dairy brand). Using these criteria, we identified 213 PL innovation copycats (mostly belonging to the standard tier) across 55 categories that copied one of the 1,106 NB innovations introduced in the Dutch market.

<sup>3</sup> Data of 2004 is not only used to measure the covariates of PL copycats that enter the market in 2005, but also to verify that the innovative feature of the identified new offering is not already available in the category by a competing product before 2005. Still, we acknowledge that our dataset is left-censored which means that we cannot certify that the attribute was never offered before 2004.

Table 1  
Category coverage.

Product group	Category examples (n = 55)	# NB innovations	# PL innovation copycats
Beverages	Beer, bottled water, coffee	57	21
Food	Cereal, chips, yogurt	368	73
Household care	Laundry detergent, fabric conditioner	116	26
Personal care	Deodorant, shampoo, toothpaste	412	48
Petfood	Catfood, dogfood	153	45
Total		1,106	213

These 213 PL copycats correspond to 129 out of the 1,106 identified NB pioneers (11.7%). After checking for outliers, our final sample includes 7,733 observations to evaluate a retailer's PL copycat introduction decision, pertaining to 1,105 innovations and 210 PL innovation copycats for which the performance can be assessed.<sup>4</sup>

### Measures

#### PL copycat performance

PL copycat performance is measured as the sales of the PL innovation copycat relative to total retailer sales in the category during the first 12 months after its introduction (cf. Lamey et al. 2018). We use value rather than volume shares to take into account that copycat performance could be driven by higher sales volume, higher prices, or both of the copycat. A relative (percentage) measure is also comparable across categories expressed in different measurement units (gram, liters, . . .). On average, PL copycats obtained a 5.8% share in the category at the retailer (S.D. = 10.5%).

#### Drivers of copycat introduction/performance

The proposed drivers originate from a diverse set of sources, mostly the GfK panel data, but also supplemented with consumer survey data (to evaluate 'difficulty of making the category'), expert judgements ('copycat visual similarity' was coded by an independent research assistant who determined whether the copycat has a similar shape and/or color – next to copying the innovative aspect, using the available copycat product information), Interbrand data (to measure manufacturer reputation), and Nielsen advertising data.

#### Control variables

Finally, we control for other factors that have been found in the literature to stimulate retailers to introduce more PLs in general. In particular, retailers' inclination to proliferate their PL line has been found to be related to the category proliferation, the category value or size, and the PL share in the category at the retailer (ter Braak, Geyskens, and Dekimpe 2014). We fur-

ther account for other retailer differences by including a hard discounter dummy (for Aldi and Lidl) and a dummy for market leader Albert Heijn (with other traditional retailers as our baseline), and control for other unobserved differences across categories by including a food dummy (with non-food as the baseline). Finally, we account for the year of NB innovation launch by including year dummies. In the performance model, we include the time (in months) between the introduction of the original NB innovation and its copycat instead of the year dummies, as this can only be evaluated in case a retailer copies.

We grand-mean-center innovation success, the NB innovation marketing characteristics, difficulty of making the category, the number of available NB and PL innovation copycats, category value, and time since innovation launch, and mean-centered copycat promotions and price premium, PL strength and assortment proliferation at the retailer level, to facilitate interpretation (Cohen et al. 2003). In case of a PL copycat, all predictors were operationalized using data from the calendar year prior to its introduction to preclude that the introduction changes these factors, or, in case no retailer copycat is observed, in the year 2009 (see Table 2 for details on the timing). The copycat characteristics as well as copycat performance are measured during the year of the copycat introduction. Details on the operationalization of all variables, together with the data sources and summary statistics, are presented in Table 2.

### Model

Hamilton and Nickerson (2003) revealed that management's decisions on discrete strategies are often endogenous, and depend on, amongst others, their expected performance outcome. Hence, we use a selection model that accounts for the fact that a retailer's decision on whether or not to introduce a copycat and its subsequent performance at the retailer, if introduced, may not be independent. We estimate the following system of equations:

$$\begin{aligned}
 Pr(PLCC_{ibcr} = 1) = & \Lambda [\beta_0 + \beta_1 INNSUCC_{ibc} \\
 & + \beta_2 INNPROM_{ibc} + \beta_3 INNPREM_{ibc} + \beta_4 NBADV_{bc} \\
 & + \beta_5 NBINNOV_{bc} + \beta_6 CATDIFF_c + \beta_7 REPU_b \\
 & + \beta_8 PLCCOTH_{ibc} + \beta_9 NBCCOTH_{ibc} \\
 & + \beta_{10} INNADOPT_{ibcr} + \Delta X + \Phi Z \\
 & + \sum_{k=1}^4 \sigma_k COPULAS_{ibc}^k + u_{ibcr} ], \quad (1)
 \end{aligned}$$

<sup>4</sup> Seven of the 9 deleted observations from the original set of 7,742 observations correspond to one NB innovation outlier (with one corresponding copycat) and the remaining two to copycat outliers. These outliers are in the category miscellaneous pet food and they are based on extreme innovation or copycat price premium values that are more than 60 times larger than the mean of all remaining observations.

Table 2  
Variable operationalization and summary statistics (n = 7,733).

Construct	Operationalization	Data source	Unit	Timing	Mean	Min	Max
NB innovation success	(NB innovation sales volume/national subcategory sales volume) × 100	Panel data	%	12 months before PL copycat intro or 2009 <sup>a</sup>	.83%	0	39.4%
NB innovation marketing characteristics							
NB innovation promotion intensity	(NB innovation sales volume sold on a price promotion/NB innovation sales volume). A price promotion is identified when the price of the NB innovation is 5% or more below its median price level within the retailer (cf. Nijs, Srinivasan, and Pauwels 2007)	Panel data	%	1 year before PL copycat or 2009 <sup>b</sup>	.17	0	.75
NB innovation price premium	Ratio of the weighted average national non-promotional NB innovation price to the retailer's weighted average non-promotional standard PL price (in equivalent units) (cf. Deleersnyder et al. 2007)	Panel data	Ratio	1 year before PL copycat or 2009 <sup>b</sup>	2.91	.14	32.88
NB advertising	National advertising expenditures for a brand in a subcategory (in thousands of Euros) provided by Nielsen <sup>c</sup>	Nielsen data	€	1 year before PL copycat or 2009	€4,204	0	€21,087
NB innovation activity	Total number of innovations that a NB introduced in the subcategory (cf. ter Braak et al. 2013)	Panel data	Count	2005–2009	12	1	32
Difficulty of making the category	Survey measure based on +/-50 consumer respondents per category (cf. Steenkamp, van Heerde, and Geyskens 2014): - In the category XX, making good quality products is difficult (1 = strongly disagree, 5 = strongly agree)	Consumer survey	Scale	2003	2.47	2.18	2.90
NB manufacturer reputation	Does the manufacturer own a brand listed on Interbrand's list of top 100 brands?	Interbrand	0/1	1 year before PL copycat or 2009	46%	0	1
Availability of other innovation copycats							
Total PL copycats	#PL copycats of the innovation already available in the market (acquired through the PL copycat identification procedure)	Panel data	Count	year(s) before PL copycat entry <sup>d</sup>	.15	0	5
Total NB copycats	#NB copycats of the innovation already available in the market (acquired using the same procedure as for the PL copycat identification)	Panel data	Count	1 year before PL copycat or 2009	.18	0	5
Retailer innovation assortment							
NB innovation adoption	Does the retailer adopt the NB innovation in its assortment?	Panel data	0/1	2005–2009	60%	0	1
Joint assortment presence NB innovation and PL copycat <sup>e</sup>	Does the retailer offer the NB innovation and PL copycat jointly in its assortment? (n = 210)	Panel data	0/1	year of PL copycat introduction	64%	0	1
PL copycat characteristics							
Visual similarity <sup>e</sup>	Does the PL copycat have a similar package shape and/or color as the innovation? (n = 210)	Expert judgement	0/1	2014	38%	0	1



PL copycat promotion intensity <sup>e</sup>	(PL copycat sales volume sold on a price promotion at the retailer/total PL copycat sales volume at the retailer) A promotion is identified when the price of the PL copycat is 5% or more below its median price level within the retailer (cf. <a href="#">Nijs, Srinivasan, and Pauwels 2007</a> ) (n = 210)	Panel data	%	Year of PL copycat introduction	.12	0	.56
PL copycat price premium <sup>e</sup>	Ratio of the retailer's weighted average non-promotional PL copycat price to the weighted average national non-promotional NB innovation price (in equivalent units) (cf. <a href="#">Deleersnyder et al. 2007</a> ) (n = 210)	Panel data	Ratio	Year of PL copycat introduction	.84	.01	17.1
Control variables							
Assortment proliferation	# unique SKUs offered by the retailer in the subcategory	Panel data	Count	1 year before PL copycat or 2009	83	0	332
Category value	(Retailer subcategory value sales/total retailer value sales) × 100	Panel data	%	1 year before PL copycat or 2009	.5%	0	3.2%
PL strength	(Retailer PL subcategory sales volume/retailer subcategory sales volume)	Panel data	%	1 year before PL copycat or 2009	.46	0	1 <sup>f</sup>
Discounter	Dummy if retailer is hard discounter Aldi or Lidl	Panel data	0/1	n.a.	29%	0	1
Albert Heijn	Dummy if retailer is Albert Heijn (market leader)	Panel data	0/1	n.a.	14%	0	1
Food	Dummy to classify food (vs. non-food) categories	Panel data	0/1	n.a.	47%	0	1
Year 2005	Dummy if year of innovation launch is 2005		0/1	n.a.	35%	0	1
Year 2006	Dummy if year of innovation launch is 2006		0/1	n.a.	20%	0	1
Year 2007	Dummy if year of innovation launch is 2007 <sup>g</sup>		0/1	n.a.	21%	0	1
Time since innovation launch <sup>e</sup>	# months between NB innovation market launch and PL copycat launch by the retailer (n = 210)	Panel data	Count	n.a.	31	0	64

n.a. = not applicable.

<sup>a</sup> When a PL copycat was introduced within a year after innovation launch, we compute the variable based on only those months before the introduction. When no copycat was introduced, we use data from 2009. In case of an innovation delisting, we use data from the most recent 12 months before its delisting.

<sup>b</sup> When a PL copycat was introduced within a year after innovation launch, we compute the variable based on that same year. In the cases where we observe no innovation or PL activity in the assigned year (i.e., year before the PL copycat, year of the copycat, or 2009 in case of no copycat introduction), we use data from the most recent active year.

<sup>c</sup> For 3 out of the 55 categories (pertaining to 12 innovations), we lacked information on advertising spending. For these observations we imputed the grand mean.

<sup>d</sup> In case of no PL copycat introduction, we took the total number of copycats in our screening period 2005–2009.

<sup>e</sup> Variable only available for copied innovations (n = 210).

<sup>f</sup> Discounters have a 100% PL share in certain categories.

<sup>g</sup> For innovations launched in 2009, no copycat introduction was observed, which prevented the estimation of a separate parameter for that year. Following [Dekimpe et al. \(1998\)](#), we grouped two consecutive years (i.e., 2008 and 2009) together and use this as the baseline time-period.

$$\begin{aligned}
LN \left( \frac{PLCCPERF_{ibcr}}{1 - PLCCPERF_{ibcr}} \right) &= \beta'_0 + \beta'_1 INNSUCC_{ibc} \\
&+ \beta'_2 INNPROM_{ibc} + \beta'_3 INNPREM_{ibc} \\
&+ \beta'_4 NBADV_{bc} + \beta'_5 NBINNOV_{bc} + \beta'_6 CATDIFF_c \\
&+ \beta'_7 REPU_b + \beta'_8 PLCCOTH_{ibc} + \beta'_9 NBCCOTH_{ibc} \\
&+ \beta'_{10} INNJOINT_{ibcr} + \gamma_1 PLCCSIM_{ibcr} \\
&+ \gamma_2 PLCCPROM_{ibcr} + \gamma_3 PLCCPREM_{ibcr} \\
&+ \Delta' X' + \Phi' Z' + \sum_{k=1}^6 \sigma'_k COPULAS^k_{ibcr} \\
&+ \lambda IMR_{ibcr} + u'_{ibcr}. \tag{2}
\end{aligned}$$

Eq. (1) takes the form of a probit model, where  $Pr(PLCC_{ibcr} = 1)$  presents the probability that retailer  $r$  introduces a PL copycat of NB innovation  $i$  from brand  $b$  in category  $c$ , and the binary variable PLCC takes the value 1 if a copycat is introduced and 0 otherwise. It is linked to the predictors based on the probit link function  $\Lambda$ , and is estimated on the full sample of all 7,733 observations. It relates the decision by the retailer to introduce a PL copycat (PLCC) to the various drivers: NB innovation success (INNSUCC), the four NB innovation marketing characteristics, namely innovation promotion intensity (INNPROM), price premium of the NB innovation (INNPREM), NB advertising (NBADV), and NB innovation activity (NBINNOV), the difficulty of making the category (CATDIFF), NB manufacturer reputation (REPU), the other PL (PLCCOTH) and NB copycats (NBCCOTH) of the NB innovation offered in the market, and NB innovation adoption by the retailer (INNADOPT). The vector  $X$  includes the control variables with  $\Delta$  the corresponding vector of coefficients, and the vector  $Z$  contains the relevant interactions with INNADOPT, with  $\Phi$  the corresponding vector of coefficients. The INNADOPT variable and its corresponding interactions uniquely feature in the copycat decision equation, but not in the performance equation. These exclusion restrictions, while not absolutely necessary, are useful for identification purposes (Johnston and Dinardo 1997, p. 450). When the unique variables in Eq. (1) are added to Eq. (2), our substantive results remain. Moreover, these variables are insignificant in this model, providing empirical support for their exclusion. Finally, COPULAS refers to the copula-based variables to control for endogeneity in the marketing mix activities (see below).

In Eq. (2), the dependent variable  $LN \left( \frac{PLCCPERF_{ibcr}}{1 - PLCCPERF_{ibcr}} \right)$  captures the performance of the PL innovation copycat from innovation  $i$  of brand  $b$  in category  $c$  at retailer  $r$ . Since PL copycat performance (PLCCPERF) is quantified in terms of a copycat's category (value) share, it can only take on values in the range between 0 and 1. To account for this range constraint, we use the logistic transformation of the PL copycat's market share as the dependent variable (cf. Ailawadi, Pauwels, and Steenkamp 2008). Eq. (2) is estimated on a subsample of the original dataset with only those 210 observations where the retailer decided to

introduce an innovation copycat. We add the same set of predictors to the performance model, and further add the three PL copycat characteristics: copycat visual similarity to the NB pioneer (PLCCSIM), copycat promotion intensity (PLCCPROM), and the price premium of the copycat relative to the NB pioneer (PLCCPREM). When the PL copycat is introduced, we can evaluate whether the NB innovation is jointly present with its copycat on the shelf (INNJOINT) rather than including mere NB innovation adoption by the retailer. Again, a (modified) set of controls is added through the vector  $X'$ ,  $Z'$  contains the relevant interactions with INNJOINT, and COPULAS represents the endogeneity correction terms.

The traditional two-step estimation technique proposed by Heckman (1979) is used, where the inverse mills ratio (IMR), derived from the copycat introduction equation, is added as a predictor in the subsequent copycat performance equation. We further take into account two issues in estimating the model. First, NB manufacturers that introduce an innovation may already take into account potential copycat entry when fixing their marketing actions for the NB innovation, while retailers may also have a priori expectations about PL copycat performance and act accordingly. As a result, the proposed NB innovation and PL copycat characteristics may not be exogenously determined. To account for potential endogeneity concerns, we adopt the instrument-free Gaussian copulas approach of Park and Gupta (2012) and add copula-based control variables linked to the four NB innovation marketing activities in both Eqs. (1) and (2), and two additional copulas terms for the two PL copycat marketing activities<sup>5</sup> to Eq. (2), operationalized as:

$$COPULAS^k = \Phi^{-1} (H(\text{variable}_k)), \tag{3}$$

where  $\Phi^{-1}$  is the inverse of the cumulative normal distribution function, and  $H(\cdot)$  the empirical distribution of the respective variable  $k$ . For identification, it is necessary that each variable is non-normally distributed (Park and Gupta 2012). This was confirmed for all four (six) variables in the selection (performance) equation (all  $p$ 's < .10). It turns out that, except for advertising, the other three NB innovation marketing characteristics are endogenous to the PL copycat introduction decision ( $p < .10$ ), and one PL copycat characteristic (copycat price premium) turns out endogenous to PL copycat performance ( $p < .10$ ).

<sup>5</sup> To test for endogeneity of the binary variables visual similarity (yes/no) and joint assortment presence (yes/no) in the copycat performance Eq. (2), we use a 2SLS regression (cf. Leenheer et al. 2007). As instrumental variables, we use the percentage of visually similar copycats, or the percentage innovations jointly present in the same product group (food, beverages, personal care, or household care) but at other retailers. These instruments pass the Angrist-Pischke test and are sufficiently strong ( $p$ -values of the F test < .10). The Hausman test shows that we cannot reject the null hypothesis that visual similarity or joint assortment presence is exogenous ( $p$ 's > .10). To test for endogeneity of retailer NB adoption (yes/no) in the copycat introduction Eq. (1), we use a bivariate probit model (cf. ter Braak et al. 2013). We include the percentage of adopted NB innovations in other product groups by the same retailer as a unique variable in the first-stage to identify the model. As  $\rho$  (the correlation between the errors of both equations) is insignificant ( $p > .10$ ) we conclude that NB innovation adoption is exogenous as well.

Second, innovations and their copycats across categories of the same brand can be correlated, which may also be the case for innovations of different brands but within the same category. To account for this, we use robust clustered error-term estimation (cf. Mizik and Jacobson, 2009). Specifically, we adopt the extension to two-way clustering of Cameron, Gelbach, and Miller (2011).

To test whether a retailer's innovation assortment decisions change the impact of the other drivers, we add interactions between the predictors and the NB innovation adoption variable (INNADOPT) to Eq. (1), and with the joint presence variable (INNJOINT) to Eq. (2). Given the limited number of observations in the copycat performance equation ( $n = 210$ ), we build the model by successively adding interactions per block of variables and only retain those that are significant ( $p < .20$ ) (see van Heerde et al. 2013 for a similar practice). We first augment both equations with the interactions related to the economic drivers. Next, the interactions with the other drivers are added. Finally, interactions with the copycat characteristics are added to the performance Eq. (2).

## Results

### Descriptive Insights

#### Retailer innovation strategies in the Dutch CPG market

Table 3 confirms that traditional retailers accept most NB pioneers, whereas only few get access to hard discounters Aldi and Lidl. At the same time, both discounters and traditional retailers engage in innovation imitations. Overall, only a small portion of all NB pioneers in our sample is copied by one of the seven retailers (11.7%, i.e., 129/1,106), with market leader Albert Heijn as the biggest 'copycatter' in the Dutch market which copies almost 5% of all NB pioneers, compared to an average of 2.7% across all retailers (see Table 3). Most innovations (82 of 129) were copied by only one of 7 retailers while none of them were copied by all retailers (3 NB innovations were copied by a maximum of 5 retailers). Out of the 1,106 pioneers with intrinsic new benefits, 13% were augmented with extrinsic benefits, while 21% also provided new usage benefits (classification based on manual coding for the presence of these benefits (yes/no) by an independent research assistant, cf. Gielens 2012). Interestingly, innovations that also provided extrinsic benefits face relatively more copycats compared to those with intrinsic benefits only or a combination with usage benefits.

On average, PL copycats are launched 2.5 years after the NB pioneer entered the market, but 13% are even launched within the same year. The copycat practice also increased and speeded up over time. In 2006, 227 NB pioneers entered the Dutch market compared to 39 PL copycat introductions that year, resulting in a PL copycat-NB innovation ratio of 17.2%. A comparable ratio of 17% was observed in 2007, but in 2008, it increased to 27.2%, and during the first half of 2009, this ratio was 42.3%. Moreover, the average time gap for the first PL copycat to enter the market decreased from 21 months in 2005–2006, to 14 months in 2007, and to just 6 months in 2008. Both the percentage and speed to introduce PL copycats is quite comparable across retailers.

Finally, for a significant part of the PL copycats (25%), retailers never adopted the original NB pioneer. Here, compared to traditional retailers, hard discounters rarely offer the NB innovation and their PL copycat jointly in their assortment ( $\chi^2(1) = 114.70, p < .01$ ).

#### Is a PL innovation copycat rewarding for the retailer?

The mean PL copycat share achieved within the category at the retailer is considerable (see Table 4): its value (volume) share in the first year is 5.8% (6.1%). As a first comparison, the NB pioneers that retailers adopted during our data period perform worse in each of the seven retailers and obtained, on average, only 2.1% category value share (1.7% in volume) in the first year at the retailer (see Table 4, column 3). Furthermore, the 213 PL copycats outperformed non-copycat PL introductions during our screening period (that were not identified as innovation copycats of the 1,106 NB pioneers;  $n = 1,635$ ). These obtained an average PL value share of 4.4%. Not surprisingly, at the majority of the retailers, copycat performance is slightly worse when compared to retailers' well-established and mature mainstream PLs ( $n = 727$ ) that were permanently available throughout the full period (performance measured in 2005), except at retailers Albert Heijn and Super de Boer where PL innovation copycats still performed better. Against these benchmarks, introducing a PL innovation copycat turns out an interesting alternative to introducing a regular (non-copycat) PL and a rewarding strategy when compared to the adoption of the original NB pioneer, especially when taking into account that retailers obtain higher percentage margins on their PLs than on NBs (Ailawadi and Harlam 2004).

Ideally, PL innovation copycats are able to grow a retailer's category sales. However, no support for this could be found in this study. Retailers' category sales growth does not differ significantly between the pre-launch and launch year, neither in volume (paired  $t$ -value = .74,  $p = .46$ ), nor in value sales (paired  $t$ -value = .79;  $p = .43$ ).<sup>6</sup> Still, we do find that PL category share at the retailer is significantly higher in the year of a copycat entry compared to the year before, in value share (paired  $t$ -value = 3.41,  $p < .01$ ) and marginally significantly higher in volume share (paired  $t$ -value = 1.47,  $p = .14$ ). Combined, these results suggest that a PL innovation copycat is able to steal share from incumbent NBs (among which the NB pioneer, if also present in the assortment), although many other factors may drive these category dynamics at the retailer.

#### Model Results

None of the VIF statistics exceeded the recommended cut-off-value of 10 in the copycat introduction model (Cohen et al. 2003), while in the PL performance model only two VIF statistics marginally exceeded this cut-off value,<sup>7</sup> suggesting that

<sup>6</sup> Note that we exclude copycats introduced in 2005 ( $n = 56$ ) in this analysis, since we cannot evaluate growth in the year prior to copycat launch (category sales 2004/category sales 2003) given our data range (2004–2010).

<sup>7</sup> These VIF values of 12.45 and 12.10 belong to the variables Innovation Success and its interaction (Joint Assortment Presence\*Innovation Success). If

Table 3  
NB innovation & PL copycat adoption and timing.

	# NB innovations adopted (%)	# PL innovation copycats (% <sup>a</sup> )	# copied NB innovations available at copycat launch? (%)	Average # months to copycat introduction <sup>b</sup>
Albert Heijn	986 (89%)	55 (5.0%)	49 (89%)	27
Aldi	130 (12%)	20 (1.8%)	3 (15%)	28
C1000	873 (79%)	34 (3.1%)	29 (85%)	37
Jumbo	923 (83%)	25 (2.3%)	20 (80%)	32
Lidl	116 (10%)	41 (3.7%)	2 (5%)	29
Plus	781 (71%)	14 (1.3%)	10 (71%)	37
Super de Boer	840 (76%)	24 (2.2%)	23 (96%)	28
Total	1,106	213	136	–
Average	664 (60%)	30 (2.7%)	19 (63%)	31

<sup>a</sup> Percentage of PL innovation copycats introduced by the retailer to the total number of NB innovations that could potentially be copied ( $n = 1,106$ ).

<sup>b</sup> Calculated for each PL innovation copycat as the time (in months) between the introduction date of this PL copycat and the *market* introduction date of the copied NB pioneer. The reported number is the average across all copycats this retailer offers (see column 3).

Table 4  
Benchmarks of copycat performance.<sup>a</sup>

	Copycat performance	NB innovation performance	Non-copycat new PL performance	Permanent PL performance
Albert Heijn	3.8%	2.0%	2.0%	3.7%
Aldi	14.0%	1.2%	11.2%	30.3%
C1000	3.7%	2.3%	3.0%	7.0%
Jumbo	3.3%	2.0%	3.0%	5.0%
Lidl	7.4%	.6%	7.8%	23.2%
Plus	4.0%	2.5%	3.1%	6.6%
Super de Boer	7.6%	2.3%	3.5%	4.2%
Average	5.8%	2.1%	4.4%	11.4%

<sup>a</sup> Average value share that the products obtain in the category at the retailer during the first 12 months after introduction, or in 2005 for the permanent PLs.

multicollinearity is not a major concern. The estimated selection coefficient  $\lambda$  of the inverse Mills ratio turns out negative, but is not significant ( $p > .10$ ), so no evidence of a selection bias is found. However, we keep the selection correction as Shaver (1998) showed that even in the absence of a significant selection effect, failure to account for it may lead to incorrect and misleading conclusions.

The parameter estimates of the final selection model proposed in Eqs. (1) and (2) are presented in Table 5. The estimates per se do not give a good idea about the substantive impact of the various drivers of retailers' likelihood to copy and PL copycat performance because they are measured on different scales. To get a sense of their substantive impact, we follow Dhar and Hoch (1997) and calculate for each driver in our model to what extent the retailer's probability to copy and/or the PL copycat share will change (in percentage points) if this variable goes from one S.D. below its mean to one S.D. above its mean (see Table 5). For binary variables, we report the effect of the logical variation in the variable (e.g., for a low versus high reputation NB manufacturer). To determine these effects, all other variables are fixed at their mean level (or zero for dummies). To benchmark the percentage points change in retailers' copycat probability, recall that, on average, only 2.7% of the NB innovations was

copied by an individual retailer (Table 3). Likewise, average PL copycat share in the category at the retailer across all copycats is 5.8% (Table 4).

#### What factors drive or inhibit retailers to copy NB innovations?

The selection model in Eq. (1) fits the data well. Because of the skewed nature of the dependent variable in the copycat introduction model (with many innovations without a copycat introduction), we follow Stepanova and Thomas (2002), and use a cut-off where the number of copycat introductions predicted agrees with the actual number of copycats observed in the sample. That way, we obtain a hit rate of 97.3% for the copycat introduction equation, which is better than the proportional chance criterion ( $94.7\% = \alpha^2 + (1 - \alpha)^2$ , with  $\alpha = 2.7\%$ ; Morrison 1969). Given that the event of no copycat introduction is much more likely, we also look at the ability of our model to correctly predict the (less likely) event of a copycat introduction. With a chance percentage ( $\alpha$ ) of 2.7%, our model correctly classifies 30.95% of the observations with a copycat introduction.

Our results for Eq. (1) (see Table 5, column 2) support that both economic and other motives underlie retailers' decision to copy NB innovations. Consistent with our expectation, we find that more *successful NB innovations* are more likely to face a PL copycat ( $\beta_1 = .04$ ;  $p < .01$ ), irrespective of whether

we leave out the interaction term, results are stable and the maximum VIF is 6.12.

Table 5  
Estimation results.

Variable	Copycat intro			Copycat performance		
	Coefficient	Z-value	Impact $\mu \pm 1 \text{ SD}^a$	Coefficient	t-Value	Impact $\mu \pm 1 \text{ SD}^b$
<b>Economic drivers</b>						
Innovation success ( $\beta_1$ )	<b>.04***</b>	3.21	.46%	<b>.36***</b>	3.43	10.34%
NB innovation promo intensity ( $\beta_2$ )	<b>-1.86***</b>	-3.16	-1.65%	-.29	-.39	-.15%
NB innovation price premium ( $\beta_3$ )	.01	.26	.14%	<b>.12(*)</b>	1.52	1.28%
NB advertising ( $\beta_4$ )	-.00	-.31	-.14%	-.00	-.49	-.25%
NB innovation activity ( $\beta_5$ )	-.02	-1.27	-.99%	-.00	-.32	-.14%
<b>Other drivers</b>						
Difficulty of making the category ( $\beta_6$ )	.21	.53	.23%	.74	1.05	.56%
NB manufacturer reputation ( $\beta_7$ )	<b>-.22*</b>	-1.65	-.57%	-.07	-.29	-.15%
Total PL copycats ( $\beta_8$ )	<b>.13*</b>	1.93	.37%	.03	.22	.11%
Total NB copycats ( $\beta_9$ )	.07	.71	.24%	<b>.31***</b>	2.90	1.19%
<b>Copycat characteristics</b>						
Visual similarity ( $\gamma_1$ )	--	--	--	.15	.69	.35%
Copycat promotion intensity ( $\gamma_2$ )	--	--	--	<b>-2.05***</b>	-2.73	-1.51%
Copycat price premium ( $\gamma_3$ )	--	--	--	<b>-.08*</b>	-1.84	-.50%
<b>Retailer innovation assortment</b>						
NB innovation adoption ( $\beta_{10}$ )	<b>.27**</b>	2.50	.88%	--	--	--
x NB innovation activity ( $\varphi_1$ )	<b>.03***</b>	2.87	.47% <sup>c</sup>	--	--	--
x Difficulty making the category ( $\varphi_2$ )	<b>.67*</b>	1.66	1.26% <sup>c</sup>	--	--	--
x Total NB copycats ( $\varphi_3$ )	<b>.14(*)</b>	1.49	.91% <sup>c</sup>	--	--	--
Joint assortment presence ( $\beta'_{10}$ )	--	--	--	.16	.48	.38%
x Innovation success ( $\varphi_4$ )	--	--	--	<b>-.29***</b>	-2.68	1.87% <sup>c</sup>
x Total NB copycats ( $\varphi_5$ )	--	--	--	<b>-.33**</b>	-2.38	-.11% <sup>c</sup>
x Copycat promotion intensity ( $\varphi_6$ )	--	--	--	<b>2.95***</b>	2.68	.78% <sup>c</sup>
<b>Control variables</b>						
Assortment proliferation ( $\delta_1$ )	<b>-.01***</b>	-6.42		-.00	-1.05	
Category value ( $\delta_2$ )	<b>.44***</b>	3.38		<b>-.87***</b>	-4.29	
PL strength ( $\delta_3$ )	<b>.41*</b>	1.65		<b>1.86**</b>	2.42	
Discounter dummy ( $\delta_4$ )	<b>.47***</b>	4.29		<b>1.45***</b>	5.42	
Albert Heijn (market leader) ( $\delta_5$ )	<b>.32**</b>	2.39		<b>-.52*</b>	-1.93	
Food dummy ( $\delta_6$ )	.16	1.40		.01	.04	
Year 2005 ( $\delta_7$ )	<b>1.54***</b>	5.87		--	--	
Year 2006 ( $\delta_8$ )	<b>.79**</b>	2.59		--	--	
Year 2007 ( $\delta_9$ )	<b>.55(*)</b>	1.54		--	--	
Time since innovation launch ( $\delta_{10}$ )	--	--		<b>-.01***</b>	-2.94	
C.NB innovation promo intensity ( $\sigma_1$ )	<b>.27***</b>	5.81		--	--	
C.NB innovation price premium ( $\sigma_2$ )	<b>.17*</b>	1.91		--	--	
C.NB innovation activity ( $\sigma_4$ )	<b>.23*</b>	1.75		--	--	
C.Copycat price premium ( $\sigma_6$ )	--	--		<b>-.30*</b>	-1.77	
Inverse Mills Ratio ( $\lambda$ )	--	--		-.03	-.10	
Intercept ( $\beta_0$ )	<b>-3.48***</b>	-10.72		<b>-4.57***</b>	-7.33	
(Pseudo) R-Square	29.28%			57.92%		
N	7,733			210		

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$ , (\*)  $p < .15$  (two-sided). Significant effects are indicated in bold.

<sup>a</sup> Reflects the percentage change in PL copycat introduction probability if this driver goes from one S.D. below its mean to one S.D. above its mean, except for the dichotomous variables NB manufacturer reputation and NB innovation adoption that go from 0 to 1.

<sup>b</sup> Reflects the percentage change in PL copycat share at the retailer if this driver goes from one S.D. below its mean to one S.D. above its mean, except for the dichotomous variables NB manufacturer reputation, visual similarity, and joint assortment presence that go from 0 to 1.

<sup>c</sup> Effect if these drivers go from one S.D. below its mean to one S.D. above its mean with the moderator set to 1.

the retailer adopted this product or not (insignificant interaction with NB innovation adoption). Substantively, the average probability of facing a copycat at one of the main Dutch retailers is .46% points higher for successful NB pioneers compared to unsuccessful ones. Retailers also pay close attention to a NB innovation's promotion intensity and copy those of brands with less frequent promotions ( $\beta_2 = -1.86$ ;  $p < .01$ ). Interestingly, heavy promotions by the NB pioneer turn out the most impactful strategy to discourage retailers from copying, with

a reduction in a retailer's probability to copy of 1.65% points compared to NB pioneers with only few promotions, the highest effect among all our drivers (see Table 5). In contrast, the NB innovation price premium and NB advertising actions are unrelated to retailers' likelihood to copy ( $p$ 's  $> .10$ ). The effect of NB innovation activity is more complex and depends on a retailer's adoption of the original NB pioneer. For NB pioneers that are never adopted by a retailer, NB innovation activity is unrelated to their probability to copy (insignificant  $\beta_5$ ). But contrary to

our expectation, for innovations by NBs that frequently innovate and that are adopted by the retailer, the probability of being copied raises significantly ( $\varphi_1 = .03$ ;  $p < .01$ ).

Our results further support that also other, more strategic factors drive retailers' copycat decisions. Retailers are more inclined to introduce a copycat in categories where it is more difficult to make the product, but only if they adopted the original NB innovation ( $\beta_6 + \varphi_2 = .21 + .67 = .88$ ;  $p < .05$ ). According to Table 5, for NB pioneers that were adopted by the retailer, the likelihood that a PL innovation copycat will be added is 1.26% points higher when the category is more difficult to make, while the effect of this driver is negligible (increase of only .23% points) when the retailer never adopted the pioneer.

As expected, retailers are more hesitant to copy NBs of manufacturers with a better reputation ( $\beta_7 = -.22$ ;  $p < .10$ ), with a probability to copy that is .57% points lower for these brands. We further find that retailers value the information contained in rival retailers' actions as the number of other PL copycats ( $\beta_8 = .13$ ;  $p < .10$ ) increases the legitimacy of copycatting. Only when a retailer adopts the original NB innovation, the total number of other NB copycats in the market will foster imitation ( $\beta_9 + \varphi_3 = .07 + .14 = .21$ ;  $p < .01$ ). Finally, NB innovation adoption also encourages retailer imitation ( $\beta_{10} = .27$ ;  $p < .05$ ), and increases the probability to launch their own PL variant with .88% points (see Table 5).

As to the control variables, we find that retailers with a more elaborate established PL assortment are less likely to engage in further proliferation by adding a PL innovation copycat ( $\delta_1 = -.01$ ;  $p < .01$ ). In line with standard PL literature (Sethuraman and Gielens 2014), retailers are found to engage in imitation based on the category's value share contribution ( $\delta_2 = .44$ ;  $p < .01$ ), while also the strength of their existing PL in that category matters ( $\delta_3 = .41$ ;  $p < .10$ ). Our results further confirm that hard discounters Aldi and Lidl ( $\delta_4 = .47$ ;  $p < .01$ ) and market leader Albert Heijn ( $\delta_5 = .32$ ;  $p < .05$ ) are more likely to copy than the other non-leading traditional Dutch retailers. The year dummies indicate that, as expected, innovations that were launched in earlier years have a higher probability of being copied.

#### How do these decisions affect subsequent PL copycat performance?

The  $R^2$  of the PL copycat performance model in Eq. (2) is 57.92%. To evaluate if the same factors that drive retailers' imitation decisions also result in better copycat performance, and hence, whether retailers' imitation decisions are justified, we evaluate the results of Eq. (2) in Table 5 (column 3) and compare them to the findings of Eq. (1). First, retailers' practice to copy NB innovations that have become a 'hit' turns out a good strategy. Although the size of this effect differs drastically depending on whether the PL copycat is sold next to the NB pioneer or not ( $\varphi_4 = -.29$ ;  $p < .01$ ), in general, copycats of well performing NB innovations will be more successful themselves ( $\beta'_1 = .36$ ;  $p < .01$ ; and  $\beta'_1 + \varphi_4 = .07$ ;  $p < .01$ ). Its substantive impact is the highest among all drivers in the copycat performance equation. If both the NB innovation and PL copycat are offered jointly by a retailer, performance of copycats of suc-

cessful NB pioneers is 1.87% points higher than those of less successful ones, but this increases to more than ten percentage points when the original NB pioneer is absent from the assortment. Clearly, retailers are able to free-ride on the success of the original innovation, but we find that the positive spillover effects are much smaller (i.e., PL copycats benefit far less from pioneer success) in the presence of the original product.

Second, despite retailers' concern about manufacturers' promotions for the NB innovation that were found to deter retailer copycat entry, this factor turns out unrelated to copycat success ( $p > .10$ ). Retailers should instead focus more on NB innovations that charge a considerable price premium, although the effect is only marginally significant ( $\beta'_3 = .12$ ;  $p = .13$ ).

Most of the other, more strategic motivations retailers rely on to copy NB innovations are indeed unrelated to copycat performance. Still, a copycat performs better when more NB copycats exist ( $\beta'_9 = .31$ ;  $p < .01$ ). This advantage disappears entirely when the NB pioneer is presented together with the copycat ( $\varphi_5 = -.33$ ;  $p < .05$ ). In this situation, the copycat directly competes with the innovation and perhaps also the other NB copycats, making it more difficult for the copycat to steal market share from the incumbents (in the same store) offering the innovative feature. Further, copycat performance turns out unrelated to the visual resemblance with the original innovation ( $p > .10$ ). Still, retailers can enhance copycat performance by a proper pricing strategy. Keeping prices of the PL copycat sufficiently below those of the NB pioneer will improve performance ( $\gamma_3 = -.08$ ;  $p < .10$ ). More importantly, price promotions for the PL innovation copycat actually hurt performance ( $\gamma_2 = -2.05$ ;  $p < .01$ ), except when offered next to the NB pioneer ( $\gamma_2 + \varphi_6 = -2.05 + 2.95 = .90$ ;  $p > .10$ ). Interestingly, in a comparative setting where both the copycat and innovation are present on the shelf, promotions are not necessarily bad given their opposite impact.

Finally, only few control variables have a different effect compared to the copycat introduction model. One notable exception is the effect of category value. While retailers are more likely to introduce copycats in higher value categories, these copycats actually perform worse compared to copycats in lower value categories ( $\delta'_2 = -.87$ ;  $p < .01$ ). Further, retailers should not refrain from copying innovations in more proliferated categories as we do not find a lower performance here ( $p > .10$ ). Note that the most active imitator among the traditional retailers in the Dutch market, Albert Heijn, is less successful than its peers given that the performance of their copycats is significantly lower ( $\delta'_5 = -.52$ ;  $p < .10$ ) than at mainstream retailers. Interestingly, when retailers wait longer before they launch a copycat (i.e., when the time between innovation and copycat launch increases), copycat performance will be lower ( $\delta'_{10} = -.01$ ;  $p < .01$ ).

We performed several checks to assess the robustness of our results to the estimation method, our sample, and different variants of the copycat performance measure. Results are very stable, as outlined in the Web Appendix.

## Discussion

Retailers in the CPG industry introduce PL innovation copycats that mimic the innovative aspect pioneered by a NB. Although only a small portion of all innovation pioneers (11.7%) was copied by one of the seven Dutch retailers in our study, these innovation copycats are a growing concern to NB manufacturers. For several NB innovations, we observe that multiple retailers launched a copycat variant and offered it next to, or even instead of, the original product. Moreover, unlike classic PLs, PL innovation copycats are closely positioned against one NB pioneer by offering comparable product features. This way, they compete head on with the pioneer they copy, creating horizontal competition with their NB counterparts (Choi and Coughlan 2006). Accordingly, the drivers of standard (Sethuraman and Gielens 2014), economy (Vroegrijk, Gijsbrechts, and Campo 2016), or premium PL introductions (ter Braak, Geyskens, and Dekimpe 2014) do not readily transfer to PL copycats of NB innovations. Instead, we find that especially the success and marketing characteristics of the NB pioneer as well as relational considerations with the innovating manufacturer (e.g., the dependence on, or reputation of the manufacturer) are taken into account by retailers in their copycat decisions.

### Managerial Implications

We show that *retailers* can successfully imitate recent NB pioneers and offer the PL variant of this innovation in their assortment with or without the original NB innovation. With an average category share at the retailer of over 5.8%, PL imitations outperform other non-copycat PLs introduced by the retailer while they clearly do better than most of the NB pioneers they copy. But with thousands of new offerings across many categories every year, even large retailers can only selectively introduce PL innovation copycats. Our findings can guide them on what NB innovations to copy, how to manage these copycats, and in what categories they perform best, while they provide retailers with new insights on the performance implications of alternative PL strategies. Next, we summarize several concrete and actionable recommendations for retailers based on our findings:

- Retailers that consider extending their PL product line are recommended to do so with a PL copycat of a successful NB pioneer if their objective is to launch a well performing PL variant. They can take part in the financial gains these products generate;
- Intense pioneer promotions or a strong manufacturer reputation should not discourage retailers from imitating, but they should instead consider copying NB pioneers with a considerable price premium and in categories where their own PL is already strong. Also, NB pioneers that have already been copied by other manufacturers seem to signal high market potential and its PL copycat will perform well;
- Retailers are further encouraged to manage their PL copycats well by limiting the price gap with the original pioneer and refraining from copycat promotions. We also encourage them

to introduce the PL variant quickly after the NB pioneer has been launched on the market;

- Retailers should tailor their copycat strategies to the innovation assortment composition. First, when retailers copy a moderately successful innovation, they should not be reluctant to add their PL copycat together with the original NB pioneer on the shelf. Second, they should refrain from PL copycat promotions entirely in the absence of the NB pioneer from the assortment, but promotions are justified when the retailer also offers the original NB pioneer.

Nonetheless, retailers may be less driven by the direct financial benefits of a PL copycat and introduce them (or refrain from doing so) for other reasons. In this context, our study has focused on the relational harm and competitive benefits (e.g., reducing their dependence on or enhance their power over the manufacturer, building store traffic, or demonstrating the store's unique image). Still, retailers should realize that with modest copycat performance, other relational or competitive (long-term) benefits are required to justify their imitation decision.

*NB manufacturers* that are dependent on these large retailers to access the local consumer market may not always take actions against retailer imitations. Indeed, legal cases are still exceptional as “... it is still the case that big brands are very much at the mercy of private label suppliers ‘emulating’ their innovation” (PlanetRetail 2010, p. 20). As for settling imitation disputes in court on the basis of an intellectual property right infringement, most manufacturers feel uncomfortable suing retailers, as it puts the relationship with one of their main customers at stake (European Commission, 2011). Therefore, also from the perspective of the innovating NB manufacturer, insights on which NB innovations and manufacturers are likely candidates for imitation by retailers would allow them to take the risk of potential copycat entry already into account at the time of innovation launch. More importantly, this allows them to deter copycat entry or limit copycat performance. For them, we formulate the following concrete advice:

- We recommend manufacturers to promote innovative NBs right before or during new product launch as this keeps retailers at bay. Retailers prefer to copy NB innovations that are sold on promotion less frequently, as this leaves ample room for the PL variant to be profitable and to acquire a competitive price advantage;
- Investing in strong brands and building a company reputation though managing leading, high equity brands is a viable long-term strategic objective for innovative firms. Retailers do not want to put their trade relations with powerful manufacturers at stake by imitating their innovations.
- Finally, innovating manufacturers should seriously consider producing PL innovation copycats for retailers (and, in particular, for their more successful pioneers) under the condition that retailer also offers their NB innovation. Even if the PL copycat takes part in the success of their offering, the performance benefits of PL copycats that are offered jointly in a retailer's assortment are much lower, while manufacturers

can take part in the considerable volumes these PLs generate to recover some of their R&D investments.

### Limitations and Further Research

Our findings are based on data from the Netherlands between 2004–2010. We established that the Netherlands closely resembles other major European countries on key retailing statistics, while also being similar to the U.S. on PL activities. At the same time, we realize that the Dutch grocery market is a vibrant environment where PLs develop rapidly and quality perceptions have improved recently. Perceived PL quality has increased dramatically and its share in the Dutch market grew from 21.5% in 2007 (Nielsen 2011) to 27% in 2013 (Nielsen 2014). These large PL volumes create more sourcing opportunities for PL innovations. In such markets, retailers are emerging as customer-oriented innovators with relevant and accurate consumer information. PlanetRetail (2017, p. 6) points in this context to the “rise in tailored convenience ranges (e.g., vegetarian convenience) and category innovation”, with an increasing number of retailer innovations in ethnic foods, ready-to-eat meals, and organic or fair trade products. This practice and the result of this process remains an unexplored issue, and future research should assess the generalizability of our findings to other developed and emerging countries and extend our analysis to more recent periods.

Second, this study considered several key metrics of copycat performance. However, we did not assess the impact on a retailer’s net profit, given the absence of highly confidential margin information across multiple retailers and categories. Since retailers obtain higher margins on PLs than on NBs (Ailawadi and Harlam 2004), further research is needed to provide a conclusive answer to the impact of a PL innovation copycat on retailers’ net profits.

Third, we do not consider whether and to what extent the PL copycat harms the original innovation. Along the lines of Pauwels and Srinivasan (2004), one could study who benefits from or is harmed by PL copycat entry. The study by Aribarg et al. (2014) showed that PL ‘trade dress’ imitation affects consumers’ brand consideration and preferences, and thus, harms the imitated NB. However, arguments also exist in the opposite direction. The PL copycat may target a different segment, accelerate adoption due to increased consumer attention to the innovative feature, or create a ‘tradeoff contrast’ effect (also known as the ‘rewarding effect’) where consumers’ perception of a product can be enhanced by the mere presence of a (less attractive) PL option (Appel, Libai, and Muller 2013). Still, manufacturers remain skeptical and dislike copycats of their brands. As pointed out in industry reports by PlanetRetail (2010, p. 19): “Years of time and billions of dollars ploughed into R&D, marketing, brand equity and NPD can be undermined virtually overnight by copycat private label suppliers”. Thus, more research from the perspective of the innovating manufacturer should uncover when and what factors underlie the impact of PL copycats on the original pioneer.

Fourth, future research could analyze the entry timing of PL innovation copycats as opposed to the mere presence of a copycat

using a (split-) hazard approach. However, theoretically, there are few reasons to expect a different effect for any of our drivers on the likelihood to introduce a PL innovation copycat versus the speed-to-market of this copycat (Sinapuelas and Robinson 2009). Still, a dynamic model may provide insights on the exact order of retailer entry and its impact on copycat performance.

Finally, policy makers (European Commission 2011) have called for more research to study whether PL products reduce choice and hamper innovation in the market. Copycats can be beneficial to consumers in the short term, because they are typically less expensive than their NB counterpart. However, when retailers free-ride on NBs’ R&D efforts, NB manufacturers may not be able to recoup their investments. This behavior could have a vastly negative impact on manufacturers’ incentive to invest in R&D and harms long-term consumer welfare. This certainly calls for more research on the societal consequences of retailers’ imminent copycat practices.

### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.jretai.2018.06.001>.

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