



Do shoppers choose the same brand on the next trip when facing the same context? An empirical investigation in FMCG retailing

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Abstract

The most basic manifestation of brand loyalty is repurchasing – making the same choice on the next category occasion. This study tests to which extent the stability of contextual cues across purchase occasions affects repurchasing. We investigate these effects by analyzing a total of 1.6 million brand choice pairs (i.e., two consecutive choices) of 20,587 German and 23,036 British shoppers in three FMCG categories. We find that stable contextual cues (same retailer, basket size or weekday as on previous occasions) further repurchasing whereas unstable contextual cues (different retailer, basket size or weekday as on previous occasions, a promotion chosen on one of the occasions or a different assortment size) hinder repurchasing. Furthermore, our results stress the importance of inertia and the power of private labels to foster repurchasing. This study provides generalizable insights regarding trip-to-trip stability in shoppers' choices, proposes a metric to benchmark brand performance across multiple retail outlets, and pinpoints opportunities for manufacturer-retailer cooperation in order to nurture repurchasing.

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Convincing a customer to choose the same brand on the next purchase occasion is a goal shared by many organizations. Many marketing activities attest to this goal. Companies in FMCG, fashion or electronics, for example, provide coupons on their packaging to be redeemed within a given timeframe. McDonald's attaches stickers on soft drink cups offering same-day price promotions for coffee or cake to convince customers to stay for dessert and not switch restaurant. B2B vendors call existing customers when they anticipate their previous order to run out, retailers send follow-up offers to their client base and political parties aim to reassure voters from the latest election to repeat that decision. Such efforts are understandable because customers have a choice and often actively search for alternatives. In addition, competitors aim to attract potential switchers to their brands. While there is much discussion about the appropriate level of effort to keep

existing customers (Dawes, Meyer-Waarden, and Driesener 2015; Meyer-Waarden and Benavent 2009; Riebe, Wright, Stern, and Sharp 2014) marketing scholars and practitioners agree that convincing customers to repurchase is a sensible objective.

By investigating two consecutive purchases in the same product category (which we call purchase pairs), our research focuses on brand repurchasing in its most elementary form. Imagine a market where four brands (A, B, C, D) are available and two shoppers each realize ten purchases in a given period. On these ten occasions shopper 1 chooses, in this order, brands A-A-C-C-C-D-B-A-A-C, and shopper 2 chooses A-C-B-C-A-D-A-C-A-C. For both consumers brand choice shares are the same: 40% going to brand A and C respectively, 10% to brand B and D. However, this aggregate perspective hides rather unique purchase patterns that the observation of purchase pairs uncovers. Shopper 1 repurchases the same brand across four of the nine purchase pairs, whereas shopper 2 always switches. This difference could stem from a variety of reasons, for example the retailer visited and its available as-

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sortment, retailers' promotional activities or the shopper's degree of variety-seeking. A better understanding whether specific contextual factors cause shopper 2 to never repurchase brand A and shopper 1 to repurchase brand A on occasions 2 and 9 (but not on occasions 3 or 10) would present opportunities to both brand and retail managers how to facilitate loyalty.

Despite a vast amount of scholarly research on behavioral loyalty we still lack understanding of the contextual determinants of repurchasing from one purchase occasion to the next. Research relying on brand switching matrices does not focus on individual pairs, but derives repurchasing or switching probabilities based on aggregating purchase pairs (Bucklin, Russell, and Srinivasan 1998; Carpenter and Lehmann 1985; Stahl, Heitmann, Lehmann, and Neslin 2012). Focusing on individual pairs provides insights which the established aggregated perspectives do not offer, more precisely, the impact of context on the probability of repurchasing. Specifically, we investigate whether contextual cues are likely to enhance repurchasing when they are stable across occasions or impede repurchasing when they change from one occasion to the next.

Prior research has shown that contextual cues play an important role in shaping cognitive and behavioral stability and change. For example, research on learning emphasizes the importance of context-dependent memory which posits that recall is higher if encoding and retrieval of information takes place in the same environmental setting (Smith 1984; Smith and Vela 2001). Retail marketing literature also provides ample evidence that shoppers often revisit the same retailer and choose the same brand if there is no impetus (e.g., a negative experience) to motivate a change in behavior (Bawa 1990; Zeelenberg and Pieters 2004).

Our research contributes to the behavioral brand loyalty literature as follows: First, this study supplements research based on aggregate switching matrices or individual brand choices (e.g., Colombo and Morrison 1989; Ehrenberg, Goodhardt, and Barwise 1990; Fader and Schmittlein 1993; Guadagni and Little 1983; Kamakura and Russel 1989) by adopting a trip-to-trip perspective. We use micro-level information (i.e., purchase pairs) but derive macro-level learnings to further our understanding of customers' repurchasing in FMCG.

Second, by zooming in on the smallest possible unit of brand loyalty (i.e., choosing the same brand on two subsequent occasions, cf. Jacoby and Kyner 1973) across many customers in two countries and three FMCG categories, this study uncovers how contextual factors further or hinder repurchasing while controlling for brand and customer characteristics.

Finally, this study proposes a performance measure which is particularly useful for brand and retail managers in FMCG retailing. Benchmarking repurchasing rates across different purchase situations (e.g., retailer visited, on promotion or off promotion) highlights contexts in which specific manufacturers' and their retail partners' performance excels or lags. Past research has shown that market orientation, an em-

phasis on creating value for exchange partners (Narver and Slater 1990), should be complemented with measuring relevant metrics to enhance business performance (Frösén, Luoma, Jaakkola, Tikkanen, and Aspara 2016). Our results suggest a pathway to implement such a conjunction by tracking and benchmarking repurchasing across different contexts and deriving joint manufacturer-retailer activities.

Theoretical Background

Brand repurchasing has been attributed to a variety of phenomena, which have received extensive coverage in the marketing literature. Most explanations for repurchasing adopt either a shopper-decision-centric or a brand-strength-centric perspective. From a shopper decision-making perspective one could span a gamut ranging from a deliberate and desired act ("I am really addicted to the taste of this coffee brand") via thoughtless repetition ("I am just sticking with the brand we always have") to an enforced choice ("this is the only capsule which fits into my coffee-machine"). From a brand-strength perspective, repurchasing is often attributed to the sheer size of a brand ("the brand manages to exploit its strong mental and physical availability"), to its appeal for a specific part of the market ("this brand has found its niche") or to its exclusive or preferred availability ("a private label" or "the only brand on the shelf"). A plethora of research adopting various perspectives (e.g., choice, market power, brand equity, commitment, risk aversion) has focused on better understanding why shoppers repurchase the same brand and why brands enjoy different degrees of repurchasing. Because our focus is behavioral, we are less interested in consumers' attitudinal loyalty predispositions but want to understand the most basic form of behavioral loyalty, repurchasing, and factors that inhibit or further repurchasing between two consecutive purchase occasions.

Behavioral Brand Loyalty

Jacoby and Chestnut (1978, p. 80) have provided a nowadays widely accepted definition of brand loyalty: "The (a) biased, (b) behavioral response, (c) expressed over time, (d) by some decision-making unit, (e) with respect to one or more alternative brands out of a set of such brands, and (f) is a function of psychological (decision-making, evaluative) processes". Loyalty has been studied extensively in the marketing and retailing literature (Grewal and Levy 2007; Grewal, Levy, and Lehmann 2004; Kumar and Shah 2004). Loyalty can be directed towards brands (e.g., Yi and Jeon 2003), channel intermediaries (e.g., Verhoef, Neslin, and Vroomen 2007), loyalty programs (e.g., Dowling and Uncles 1997), or employees (Evanschitzky et al. 2012; Palmatier, Scheer, and Steenkamp 2007). While acknowledging the importance of both, attitudinal and behavioral loyalty, several authors argue that building behavioral loyalty is imperative for firms as purchase behavior generates tangible returns to the firm whereas attitudinal loyalty might not translate into actual purchase behavior

(Cooil, Keiningham, Aksoy, and Hsu 2007; Kumar and Shaw 2004; Steenkamp and Dekimpe 1997).

Behavioral loyalty is a valuable asset in competitive markets because repeat purchases by loyal customers strengthen current and future revenues and profits (Dawes et al. 2015). At the same time, achieving high levels of behavioral loyalty is a daunting task for brand managers. The average brand in a typical FMCG category must expect around half of their buyers from one quarter not to buy the brand in the next, a share that is even lower if the brand is small or the category is infrequently purchased (Sharp 2016; Uncles, Ehrenberg, and Hammond 1995).

In the behavioral brand loyalty literature, brand choice as well as repurchasing and switching (i.e., choosing the same brand or swapping one for another on the next purchase occasion) are often focal constructs or the foundation for subsequent analyses. For example, aggregate switching matrices or brand choice shares are the starting points for several behavioral brand loyalty operationalizations (Mellens, Dekimpe, and Steenkamp 1996). Markov matrices (e.g., Massy, Montgomery, and Morrison 1970) or Colombo and Morrison's (1989) model, which additionally accounts for consumer heterogeneity, enable the comparison of repurchasing rates across competitors and provide insights into the development of brand loyalty over time, but they do not investigate contextual determinants of repurchasing (e.g., Dawes et al. 2015; Johnson 1984; Steenkamp and Dekimpe 1997).

Discrete choice modeling (Luce 1959; McFadden 1973; Thurstone 1959) is another impactful literature-stream that often investigates-, or at least accounts for, behavioral loyalty in the form of repurchasing. Guadagni and Little's (1983) multinomial logit model of brand choice was foundational for a substantive body of research that seeks to predict brands' purchase probabilities. Finally, literature on customer churn (e.g., Ascarza and Hardie 2013; Neslin, Gupta, Kamakura, Lu, and Mason 2006) is conceptually (i.e., repurchasing as the antipode of switching or churning) and methodologically (i.e., logistic regression) related to our research. However, these studies differ with respect to the research objective (i.e., investigating drivers of repurchasing vs. comparing and improving churn prediction models) and the data investigated (i.e., market data on different FMCG categories vs. single-firm service provider data).

The Role of Context Stability

Companies invest considerable resources to influence consumer preferences and choices. Notwithstanding the increasing sophistication of these activities, many choices do not result from deliberate consideration but are simply repetitions of past behaviors, especially in high-frequency low involvement settings (Hoyer 1984). In addition to brand loyalty, three closely related constructs have been put forward to explain repeat purchases: inertia, habit, and convenience. Research on inertia aims to capture the aggregate impact of previous decisions on current choices (Dubé, Hitsch, and Rossi 2010; Henderson, Steinhoff, Harmeling, and Palmatier 2020) but

does not attempt to disentangle the role of, for example, availability, attitudinal loyalty or context stability. Convenience is concerned with non-monetary costs of purchases (e.g., time, effort) which consumers incur (Berry, Seiders, and Grewal 2002) when selecting brands or retailers. The desire for convenience may result in repetitive buying because it motivates visiting the same retailer or choosing the same brand (Liu-Thompkins and Tam 2013). Habits refer to frequent and consistent behaviors in stable contexts (Khare and Inman 2006) or learned and scripted behaviors to which humans have been conditioned (Aarts, Verplanken, and Van Knippenberg 1998; Bargh and Ferguson 2000).

Our research most closely relates with habits because we focus on the role of context stability to further automated decision-making and hence repurchasing. Through habits humans save cognitive energy and free bandwidth for other tasks (Wood, Quinn, and Kashy 2002). Habitual behaviors persist as long as specific contextual cues are stable, with timing ("in the morning", "before going to bed"), location ("at school", "at the ballpark"), social setting ("with my friends", "with the kids") and sequential scripts ("before focusing on an important task") being common stabilizing factors (Wood and Neal 2009). It is important to emphasize that context can be both tangible (e.g., a location) and intangible (e.g., a specific mood or mindset). When contexts are not stable, the triggers for automation are unavailable and behaviors are more prone to change (Wood and Neal 2009).

In commercial settings, both attitudinal loyalty and habit can explain how past choices influence current choices (Liu-Thompkins and Tam 2013). Brand repurchasing is more likely if a shopper exhibits high levels of attitudinal loyalty or if contextual stability furthers habitual buying. Each shopping trip contains dozens of choices (which retailer(s) to visit, which aisles to walk, which categories to buy, which brand(s) to choose, how much to buy) and contextual cues are virtually endless (e.g., the weather, people encountered, background music, noise levels). To make the possible configurations regarding their stability manageable we focus on a limited subset of contextual factors all of which are available to retailers and FMCG manufacturers with access to shopper purchase records. We examine whether their stability (versus instability) across shopping occasions in the category affects the probability to repurchase the same brand.

Hypotheses

Contextual Drivers of Repurchasing

Habits may shape through stability in diverse forms (Wood and Neal 2009). The contextual factors we investigate as potential antecedents of repurchasing the same brand on the next occasion may trigger habits via (1) a stable physical context (the same retail chain visited, encountering a similar assortment size), (2) stable timing (same day of the week), (3) learning from successful past goal pursuit (purchasing either on or off promotion, short time since latest purchase) and (4) stable motivations (similar basket size). We elaborate on

each of these potentially stabilizing contexts in deriving our hypotheses.

Visiting the same retail chain will have an effect on shoppers' probability to repurchase the same item as on the previous visit. Differentiating chain characteristics have the potential to create unique shopping experiences (Seenivasan, Sudhir, and Talukdar 2016). By visiting the same chain again shoppers can rely on knowledge regarding product range (Kahn and Lehmann 1991), merchandise value (i.e., the perceived price and quality relation; Sirohi, McLaughlin, and Wittink 1998), aisle structure (Hui, Inman, Huang, and Suher 2013), shelf layout (Campo and Gijsbrechts 2005) and overall store design (Baker, Parasuraman, Grewal, and Voss 2002). Consequently, we hypothesize that retailer stability impacts repurchasing:

H₁: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher if the shopper revisits the same retail chain as on previous category purchase occasions.

The same shopper may enter a specific store to meet a short-term need (e.g., get food because she is hungry) one day, acquire a specific product another day (e.g., buy a brand that is on promotion that day) or with a less precise plan (e.g., buy enough grocery to feed the family over the next week). Different needs affect the degree of unplanned buying (Bell, Corsten, and Knox 2011), retail format choice (Gijsbrechts, Campo, and Nisol 2008), search intensity and duration (Li, Abbasi, Cheema, and Abraham 2020), shopper susceptibility to promotions (Haans and Gijsbrechts 2011) and consequently basket size (Streicher, Estes, and Büttner 2020). Similar needs trigger similar mental representations, enhancing context stability (Dellaert, Arentze, and Timmermans 2008), and in turn contribute to repurchasing. Because trip-specific needs are difficult to uncover we use basket size as a reflection of the underlying shopping need. Consequently, we hypothesize that basket size stability impacts repurchasing:

H₂: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher if the shopper purchases a similar basket size as on previous category purchase occasions.

A contextual cue which has received less empirical attention in fostering habits is timing. While past research has shown that specific days in the year (e.g., Valentine's Days, Christmas, birthdays) are linked to specific consumption habits (Minowa, Khomenko, and Belk 2011; Rook 1985) it is not clear whether regularities based on timing, an important contextual cue (Wood and Neal 2009), also apply to grocery purchasing. One could expect that repetitive events structured by week, like Sunday watching of football games, visiting relatives or friends on specific days, or scheduled exercising could act as triggers for repurchasing. We therefore hypothesize that day stability impacts repurchasing:

H₃: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher if the shopper purchases the category on the same day of the week as on previous purchase occasions.

Price promotions are a common strategy in FMCG retailing (Hendel and Nevo 2006) and retailers communicate promotions via multiple channels, for example online, in mail-delivered leaflets or via TV advertising. One aim of price promotions is to reduce shoppers' habitual choices and trigger purchases by consumers that intended not to buy (as much of) the category or that wanted to buy a different brand (Mela, Jedidi, and Bowman 1998; Van Heerde, Sachin, and Wittink 2003). A risk of promotions is the subsidization of consumers who had planned to buy the focal brand anyway or who buy earlier than planned because of the promotional offer (Breugelmans and Campo 2016). Promotions could therefore both deter and enhance repurchasing. We argue for a decline in repurchasing resulting from choosing a promotion only on the first or only on the second occasion in a category purchase pair. If a brand has been bought on promotion on the first occasion of a purchase pair, it creates a reference regarding its price level (Lattin and Bucklin 1989) which on the next occasion is unlikely to be met, hence resulting in an unstable contextual cue. If the choice on the second, but not the first occasion of a purchase pair is a promoted brand, choosing this promotion also destabilizes context.

In summary, when the first occasion of a purchase pair is (or: is not) a promoted purchase, the context surrounding the focal brand is more stable if the same brand is also on (or: off) promotion on the next purchase occasion. Hence, we hypothesize that promotional stability surrounding the focal brand (both occasions with or both occasions without a promotion) increase the likelihood of repurchasing that brand on the next occasion:

H₄: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher if the shopper chooses a promotion on both or neither occasion(s) of a category purchase pair than if a promotion is chosen on only one of the occasions.

When exposed to a shopping shelf, consumers usually can choose from a large number of brands and product variants. Everything else equal, encountering a larger choice set offers more switching options (Chernev, Böckenholt, and Goodman 2015). In a study of brand loyalty trends between 1998 and 2010 Dawes et al. (2015) found a weak, inverse relationship between the breadth of offerings in a category and brand loyalty. However, larger assortments could also result in choice overload because the number of available alternatives overwhelms the shopper (Iyengar and Lepper 2000). In such situations, shoppers could decide to repurchase the same brand as on the previous occasion to simplify their choice task.¹ We generally expect that larger assortments reduce brand repurchasing, but include a quadratic assortment measure to examine whether this effect is nonlinear. Consequently, we hypothesize that assortment size stability impacts repurchasing:

H₅: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher if the shopper encounters a smaller category assortment size

¹ We thank an anonymous reviewer for suggesting this mechanism.

Table 1
Sample description.

	GERMANY			UK		
	Coffee	Cola	Shampoo	Coffee	Cola	Shampoo
N Panelists	17,859	12,404	13,275	7132	17,179	17,777
N Brands	92	65	172	56	36	137
N Retailers	28	28	28	57	76	64
N Choice Pairs	444,901	309,484	94,403	114,064	562,550	167,539
mean Retailer Stability	1.54	1.56	1.40	1.85	1.48	1.32
sd	1.32	1.34	1.31	1.29	1.35	1.32
mean Basket Size Stability	2.00	1.71	2.07	1.85	1.75	1.66
sd	1.29	1.33	1.26	1.31	1.32	1.32
mean Day Stability	0.49	0.46	0.45	0.69	0.61	0.58
sd	0.91	0.89	0.85	1.08	1.04	0.98
No Promotion on both Trips	64.44%	63.97%	35.88%	63.14%	48.31%	36.27%
Promotion in t-1	10.88%	11.68%	18.56%	9.84%	13.98%	19.77%
Promotion in t	10.94%	11.25%	17.66%	10.55%	12.22%	18.78%
Promotion on both Trips	13.73%	13.10%	27.91%	16.48%	25.49%	25.18%
mean Assortment Index	0.19	0.18	0.42	0.29	0.21	0.50
sd	2.10	1.53	4.17	2.92	1.85	5.06
mean Interpurchase Time	28.48	26.38	76.48	33.35	21.91	63.61
sd	39.19	48.52	79.91	57.47	42.63	73.60

on the second occasion (vs. the first occasion) of a category purchase pair.

Stable contextual cues that trigger habits during a shopping experience rely on the human memory to remember specific aspects of that context. Past research has shown that associations stored in memory decay (Hutchinson, Raman, and Mantrala 1994; Pham and Johar 1997) and recall of brand names declines over time (Sherman 2013). Longer interpurchase times decrease the informational utility of past choices (Erdem and Keane 1996) and therefore the preferred position a recent purchase may enjoy in shoppers' choice sets. Everything else equal, we therefore expect lower repurchasing rates for purchase pairs with longer interpurchase periods.

H₆: The probability of repurchasing the same brand in a given category on the next purchase occasion will be higher for shorter time periods between the two occasions of a category purchase pair.

Empirical Analysis

Data

We test our hypotheses with panel datasets which contain purchases by more than 43,000 UK and German shoppers from 2015–2017 in the product categories cola, coffee, and shampoo. Market research agencies GfK in Germany and Kantar in the UK run these panels. Panelists are recruited online (i.e., website, social media) as well as offline (i.e., phone, direct mailing) and incentivized with collectible points that can be exchanged for non-FMCG products or service vouchers. Participants in the respective panels use electronic scanners to record all their take-home grocery purchases. Across the three categories and two countries, our analysis builds on more than 1.6 million transactions (see Table 1). The data

contain detailed information about each purchase (e.g., date, retailer name, brand name, price) as well as panelist-specific information (e.g., age, household size).

Datasets that cover every single purchase decision by a large sample of customers in different product categories provide a unique opportunity to gain insights beyond the patterns uncovered in brand- or chain-specific datasets. For example, company-owned customer databases are usually limited to purchases of brands owned by that company and ignore purchases by non-buyers of that company and choices of buyers not involving the focal brand. Retailer-generated loyalty card data, while covering all brand choices at the focal retailer, ignore all trips by consumers that never visit this retailer and all trips of existing customers when they choose a different retailer. In contrast, the panel data used for this study exhibit none of these shortcomings because it covers all choices during all trips by all panel members.

Measurement

Table 2 details the measures used in this study. While some measures were used as delivered by GfK and Kantar (e.g., price per mg/ml, basket size, household size) most measures were derived from the original database. For example, we derived the dependent variable *repurchasing* by comparing the brands chosen (i.e., brand names, irrespective of product variants or package size) across two category purchase occasions. We derived the independent variables retailer stability (RS), basket size stability (BS), and day stability (DS) by comparing retailer choices, basket sizes, and day of the week across four consecutive category purchase occasions. In addition to our hypothesized effects, we add brand- and shopper-related control variables to our models (see Fig. 1 for our conceptual model).

Table 2
Measures.

Variables in the Dataset	Variables in the Model
Dependent Variable Repurchasing (RP)	
Brand name (b)	RP_{it} : 1 if $b_{t-1} = b_t$; 0 otherwise
Contextual Drivers of Repurchasing	
Retailer name (r)	Retailer Stability RS_{it} 1 if $r_{t-1} = r_t$, 2 if $r_{t-2} = r_{t-1} = r_t$, 3 if $r_{t-3} = r_{t-2} = r_{t-1} = r_t$; 0 otherwise
Basket size (bs) ¹	Basket Size Stability BS_{it} 1 if $bs_{t-1} = bs_t$, 2 if $bs_{t-2} = bs_{t-1} = bs_t$, 3 if $bs_{t-3} = bs_{t-2} = bs_{t-1} = bs_t$; 0 otherwise
Day of the week (d)	Day Stability DS_{it} 1 if $d_{t-1} = d_t$, 2 if $d_{t-2} = d_{t-1} = d_t$, 3 if $d_{t-3} = d_{t-2} = d_{t-1} = d_t$; 0 otherwise
Price _{t-1} , Price _t	Promotion ² Sequence: $PRO_{it} = 1$ if no promotion in both t and t-1, 2 if promotion in t-1 and no promotion in t, 3 if no promotion in t-1 and promotion in t, 4 if promotion in both t-1 and t
Assortment (ass.) retailer _{t-1} and retailer _t	Assortment Index AI $AI_{it} = (\text{ass. } r_t - \text{ass. } r_{t-1}) / \text{ass. } r_{t-1}$
Interpurchase time	IPT_{it} : time elapsed in days between t-1 and t
Controls	
Market share of the brand bought in t-1	$MS_{1-t-1,it}$
Relative price of the brand bought in t-1	$PRICE_{1-t-1,it}$
Private label in t-1	$PL_{1-t-1,it}$: 1 if b_{t-1} = “private label”; 0 otherwise
Purchase volume on occasion in t-1	$VOL_{1-t-1,it}$
Panelist’s age	AGE_{it}
Panelist’s household size	HHS_{it}
Panelist’s social class ³	SC_{it}
Panelist’s category purchase frequency	PF_{it}
Panelist’s inertia	IN_{it} : 1 if $b_{t-2} = b_{t-1} \mid b_{t-3} = b_{t-1}$, 2 if $b_{t-3} = b_{t-2} = b_{t-1}$; 0 otherwise

¹ Operationalization of basket size: In each year all shopping trips of a household are ranked by the unique number of items purchased. The resulting range is then split into 4 equally spaced groups, with the following definitions: Small Trip = 1; Medium Trip = 2; Large Trip = 3; Extra Large Trip = 4.

² Operationalization of promotion: An item is promoted if the price for the given brand, of the given size, at the given retailer is lower than 80% of its normal price (i.e., rather than the maximum price (see [Foekens, Leeflang, and Wittink 1998](#)) we took the 0.90 quantile to indicate the normal price to account for outliers).

³ Operationalization of social class via a self-reported measure: „If people in our society are divided into upper, upper middle, middle, lower middle, working, and lower classes, which class do you think you belong to?” lower class; working class; lower middle class; middle class; upper-middle class; upper class.

Brand-Related Controls

Prior research on behavioral brand loyalty has found that brands with higher market shares tend to have higher brand loyalty while brands with lower market shares have lower brand loyalty resulting from what has been termed double jeopardy; that is, big brands have more buyers that buy them more often ([Ehrenberg et al., 1990, 2004](#)). Furthermore, [Fader and Schmittlein \(1993\)](#) show that high market share brands have greater loyalty levels than predicted by the Dirichlet model. We therefore expect that the probability of repurchasing increases with market share.

The relative price level of a brand in comparison to competition is often proposed as an indicator of brand equity and has also frequently been linked to loyalty ([Chaudhuri 1999; Chaudhuri and Holbrook, 2001; Krishnamurthi and Raj, 1988](#)). We therefore expect that the probability of repurchasing is higher for relatively more expensive brands.

Most retailers in FMCG offer private labels as mostly lower-priced alternatives to national brands ([Geyskens, Gielens, and Gijsbrechts 2010; Hansen and Singh 2008](#)). Private labels have grown in importance over the past decades by attracting price-conscious consumers and providing high margins to retailers ([Ailawadi and Harlam 2004](#)). A retailer’s

private label share affects behavioral loyalty in the form of share of wallet, share of items purchased, and share of shopping trips ([Ailawadi, Pauwels, and Steenkamp 2008](#)). Usually, private labels are only available at one retailer and therefore can only be repurchased if the same retailer is visited on both occasions. Hence, repurchasing for private labels is contingent on visiting the same retailer. Whether in these cases the probability of repurchasing is higher for private labels or national brands is a question we leave open for the empirical analysis.

Shopper-Related Controls

Past research suggests that prior consumption magnitude enhances inertia ([Henderson et al. 2020](#)). Thus, we control for brand purchase volume on the first occasion in a purchase pair. Customer characteristics have been shown to impact repurchasing and may also serve as proxies for underlying situational and psychological drivers of loyalty ([Wirtz, Xiao, Chiang, and Malhotra 2014](#)). For example, in a study involving automotive customers, [Mittal and Kamakura \(2001\)](#) have found that age negatively and having children (i.e., larger households) positively affect repurchase rates even if customers had the same levels of rated satisfaction. Conversely, [Lambert-Pandraud, Laurent, and Laper-](#)

Repurchasing and its Determinants

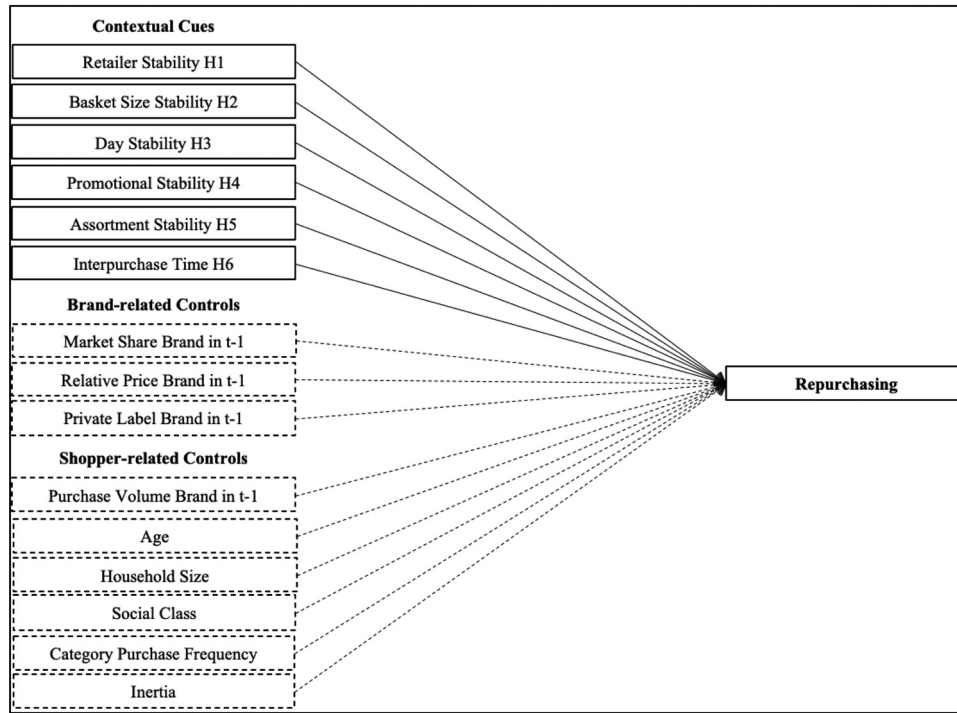


Fig. 1. Repurchasing and its determinants.

sonne (2005) report consistently higher levels of repurchasing the same car brand among older households. Furthermore, prior research on store- and private label loyalty found a positive effect of age (Koschate-Fischer, Cramer, and Hoyer 2014) and a negative effect of household size (Ailawadi et al. 2008; Koschate-Fischer et al. 2014) on store loyalty. Given these conflicting empirical findings, we have no expectations regarding the impact of age and household size on repurchasing. In addition, we control for social class and category purchase frequency of the household.

As a final shopper-related control we account for the extent of inertia by examining whether the first brand chosen in a purchase pair features in previous purchases of that shopper. Past brand purchasing is a strong predictor of future buying (Ehrenberg 1988) and we therefore expect that the probability of repurchasing increases with the number of times the first brand in a pair was purchased before.

Statistical Methodology

To test the effects of contextual determinants on repurchasing we estimated binary fixed effects models using R's `alpa`-package (Stammann and Czarnowske 2020). To account for unobserved heterogeneity across panelists, random or fixed effects model specifications would be possible. However, as random effects specifications require the implausible assumption that unobserved heterogeneity is uncorrelated with the independent variables in the models, we followed Wooldridge (2010) and estimated fixed effects models.

To enable this estimation, we transformed the original datasets into datasets of purchase pairs. That is, each observation in a dataset contained two consecutive purchases in the category by a panelist. This data structure allowed the construction of the binary dependent variable repurchasing (RP) $RP_{it} = 1$ if the panelist purchased the same brand on two consecutive purchase occasions; 0 otherwise. Our model estimated the log odds of purchasing the same brand on two consecutive purchase occasions:

$$\begin{aligned} \text{logit}(RP_{it}|X_{it}) = & \beta_1 RS_{it} + \beta_2 BS_{it} + \beta_3 DS_{it} + \beta_4 PRO_{it} \\ & + \beta_5 AI_{it} + \beta_6 AI_{it}^2 + \beta_7 IPT_{it} + \beta_8 MS_{t-1,it} \\ & + \beta_9 PRICE_{t-1,it} + \beta_{10} PL_{t-1,it} \\ & + \beta_{11} VOL_{t-1,it} + \beta_{12} AGE_{it} + \beta_{13} HHS_{it} \\ & + \beta_{14} SC_{it} + \beta_{15} PF_{it} \\ & + \beta_{16} IN_{it} + \beta_{17} d16_{it} + \beta_{18} d17_{it} + u_i \end{aligned}$$

with $i = 1 \dots N$

$$t = 1 \dots T_i \quad (1)$$

where RP_{it} represents repurchasing of panelist i at time t dependent on the matrix of independent variables X_{it} . RS_{it} denotes how often in a row the panelist has visited the same retailer across the three preceding category purchase occasions. This variable therefore takes on a value between 0 (if the panelist has visited a different retailer on the preceding category trip) and 3 (if the panelist has visited the same retailer on each of his three previous category trips). BS_{it} denotes how often in a row the panelist has stuck to the same basket size (i.e., small trip, medium trip, large trip, extra-large

trip) and DS_{it} denotes how often in a row the panelist went shopping on the same day of the week on the three preceding category purchase occasions. PRO_{it} is a categorical variable which indicates whether none, only the first, only the second, or both of the two brand purchases entailed a promotion. AI_{it} measures the category assortment size ratio (i.e., number of SKUs available) between the retailer visited on the second vs. the first purchase occasion. IPT_{it} represents the number of days that elapsed between the two occasions of a category purchase pair. $MS_{t-1,it}$ denotes the market share of the brand bought on the first purchase occasion, $PRICE_{t-1,it}$ represents the unit price (per mg or ml) of the brand purchased on the first purchase occasion, $PL_{t-1,it}$ denotes if the brand purchased on the first occasion was a private label, and $VOL_{t-1,it}$ is the volume of the brand purchased on the first purchase occasion. IN_{it} is a count measure which indicates how many times the panelist has purchased the brand chosen on occasion 1 during his prior two category purchase occasions. AGE_{it} denotes the panelist's age, HHS_{it} the panelist's household size, SC_{it} the panelist's social class, and PF_{it} the panelist's category purchase frequency. We control for year-specific effects using year dummies (i.e., $d16_{it}$ and $d17_{it}$). Finally, u_i represents panelists' fixed effects.

We estimated this model for purchase pairs where repurchasing was a possible outcome. That is, we removed purchase pairs where the brand chosen on occasion 1 was not available at the retailer visited on occasion 2, which also includes all PL purchases in a category followed by a purchase at a different retailer. If a shopper purchases multiple brands at once (such trips account for 5.95% of all trips) we applied the following logic: If one (more than one) of these brands was repurchased we retained this (a randomly chosen repurchasing) purchase pair and eliminated all remaining pairs linked to that trip. If no brand was repurchased we retained only one randomly chosen purchase pair. We assessed the robustness of our results by estimating the same model on datasets where we excluded all multi-brand trips. All independent variables (except for dummy variables) were z-standardized to ensure comparability between coefficients. We further addressed potential serial correlation by calculating robust standard errors with alpaca's sandwich estimator.

Results

Descriptive Results

We find the highest positive correlation between all variables of our model between repurchasing and inertia (ranging from 0.41 for shampoo in the UK to 0.53 for coffee in Germany) and the highest negative correlation between category purchase frequency and interpurchase time (ranging from -0.30 for cola in the UK to -0.41 for shampoo in Germany). Overall, repurchasing differs substantially between product-categories and between Germany and the UK, ranging from 43.27% (shampoo UK) to 84.79% (coffee UK). Repurchasing increases monotonically with retailer stability. For example, for the coffee category in the UK repurchasing is 90.65%

(87.33%, 85.54%) vs. 72.06% for customers who visited the same retailer on three (two, one) prior purchase occasions vs. customers who did not visit the same retailer on the previous trip. While repurchasing is higher for customers with stable basket sizes, repurchasing does not increase monotonically with increasing basket size stability. However, we find that repurchasing increases monotonically with day stability. For example, for the shampoo category in Germany repurchasing is 57.95% (53.25%, 53.18%) vs. 49.77% for customers who shopped on the same day of the week on three (two, one) prior purchases vs. customers who did not shop on the same day of the week on the previous occasion.

In line with our hypotheses, in all categories repurchasing is lower if consumers chose a promotion on the first but not on the second occasion and if consumers did not choose a promotion on the first but on the second occasion. For example, for coffee in Germany repurchasing is 66.68% if none of the two purchases was on promotion, 82.49% if both purchases were promoted but only 40.45% (41.84%) if the shopper chose a promoted item on the first (second) occasion only. We also find that repurchasing is higher if the assortment index is smaller or equal to zero than if this index is bigger than zero. Hence, if consumers face a larger category assortment at the second retailer, repurchasing tends to be lower. For example, for colas in Germany repurchasing is 85.96% if the assortment index is smaller or equal to zero vs. 81.94% if the assortment index is bigger than zero. Interpurchase time relates negatively to repurchasing in the coffee and cola categories in both countries but not in the shampoo category. Overall, there is model-free support for hypotheses $H_1 - H_5$ and partial support for hypothesis H_6 (see Table 3).

Contextual Drivers of Repurchasing

Tables 4 and 5 show the estimates of our binary fixed effects models. The Odds Change measures indicate that retailer stability, day stability, and basket size stability positively affect repurchasing. In line with our hypotheses, we find, across all six datasets, that one-unit increases in retailer stability increase the odds of repurchasing, ranging from 25.62% for shampoo in Germany up to 44.73% for coffee in the UK. We find small positive effects of day stability on repurchasing in all categories, with one-unit increases in day stability increasing the odds of repurchasing ranging from 1.40% (coffee Germany) to 7.87% (cola UK). Apart from shampoo in Germany, basket size stability has a small positive effect on the odds of repurchasing in all categories. For example, a one-unit increase in basket size stability for the cola category in the UK increases the odds of repurchasing the same brand by 4.01%.

According to the Odds Change measure a chosen price promotion on either purchase occasion exerts a strong negative effect on repurchasing while choosing a price promotion on both occasions exerts a substantial positive effect on repurchasing in all product categories. More precisely, in all categories we find that a price promotion on the first, but not on the second purchase occasion – and vice versa – negatively

affects the odds of repurchasing. For example, compared to a choice pair with no price promotion (i.e., the baseline condition) the odds of repurchasing a coffee brand in the UK decrease by 67.72% if a shopper chose a promotion on the first- but not on the second purchase occasion. Likewise, compared to a choice pair with no price promotion, the odds of repurchasing decrease by 68.34% if a shopper chose no promotion on the first, but a promotion on the second purchase occasion. Repurchasing odds, however, increase in all categories if a shopper chose a price promotion on both occasions. This increase ranges from 11.89% (shampoo UK) to 111.97% (coffee Germany) compared to a choice pair with no price promotion.

In line with our hypothesis, a smaller (larger) category assortment at the second retailer in a choice pair positively (negatively) affects the odds of repurchasing. The positive coefficient for the squared assortment index variable shows that a larger assortment impacts the repurchase probability positively once the assortment size difference reaches a certain level. These U-shaped assortment effects hold for all product categories but are insignificant for the cola category in Germany. The effect of interpurchase time on the odds of repurchasing varies by product category. The effect is negative for coffee (below the chosen significance threshold in Germany) and cola in Germany and in the UK but positive for shampoo in both countries. Overall, we find support for hypotheses H1, H3, and H4 in all categories and partial support for H2, H5 and H6.

Controls

Most brand-related control variables have significant effects on the odds of repurchasing. The Odds Change measure indicates that a private label purchase at the first purchase occasion of a purchase pair positively relates to repurchasing in all product categories in Germany and the UK and has the strongest impact on the odds of repurchasing among all explanatory variables. Market share of the brand bought on the first purchase occasion has a strong positive effect on the odds of repurchasing across the three categories in both countries. Relative price has a positive effect on the odds of repurchasing in the coffee categories in Germany and the UK but a negative effect in the cola category in both countries.

With respect to shopper-related variables we find that inertia and purchase frequency have positive effects on the odds of repurchasing while the effects of purchase volume on the first purchase occasion of a purchase pair are mixed. More precisely, inertia substantially increases the odds of repurchasing in all product categories in both countries. For example, a one-unit increase in inertia increases the odds of repurchasing a coffee brand in the UK by 84.58%. Likewise, consumers' category purchase frequencies have positive effects on the odds of repurchasing in all product categories across the two countries. The effects of purchase volume on the first occasion of a purchase pair are positive for coffee and cola in both Germany and the UK but negative for shampoo in the UK. We find no effects for age (with the exception

of cola in Germany), household size, and social class on repurchasing.

Overall, the models fit the data well. Values for McFadden's Pseudo R^2 range from 0.237 (shampoo Germany) to 0.357 (coffee UK). That is, for all models the respective Pseudo R^2 values indicate "excellent fit" (McFadden 1977, p. 35). Furthermore, as Variance Inflation Factors for all predictors in our models were smaller than 2.5 (a common threshold value is 10; see Rawlings, Pantula, and Dickey 1998), multicollinearity is not an issue in our models. Finally, the results of a robustness check where we excluded all multi-brand occasions attest to the stability of our results with only the effect of purchase frequency turning from small positive to small negative for the categories coffee in Germany and shampoo in the UK.

Discussion

To date, the contextual determinants of individual-level brand repurchasing across two consecutive category purchases, the most basic form of behavioral brand loyalty, remained largely unexplained. This study adds to our understanding of brand loyalty across two consecutive category purchases through a comprehensive investigation of contextual cues that further and hinder repurchasing the same brand. The results of this study show that various contextual cues exhibit a considerable impact on the probability of shoppers to choose the same brand on two subsequent category purchase occasions. Stable contexts, in particular visiting the same retailer, increase repurchasing. Unstable contextual cues, like visiting a different retailer or choosing a promotion on one of the occasions or encountering a larger assortment on the next purchase occasion, decrease repurchasing levels. These findings have implications for our understanding of shopper behavior and provide guidance for trade marketing activities by brand manufacturers and more effective cooperation between manufacturers and retailers.

Implications for Consumer Research

This paper adds to research investigating the importance of contextual cues beyond the scope of Liu-Thompkins and Tam (2013) whose research focused on two contextual factors (time of the day and same outlet). We present a more comprehensive model of six contextual cues as well as numerous brand- and shopper-related controls taking into account the full retail landscape. This study's trip-to-trip investigation of determinants of repurchasing shows the strong impact that contextual stability exhibits on stabilizing choice. Especially visiting the same retail chain turns out to be a major determinant of repurchasing across product categories and countries. This finding extends prior research how being exposed to a familiar shelf layout and a familiar brand position on shelf facilitates consumers' decision making and reduces the incentive to browse (Dreze, Hoch, and Purk 1994), especially in comparatively low involvement markets like FMCG. In addition, stability with respect to the day of the week has a weak

positive effect in all six product categories highlighting the role that timing plays in shaping choice (e.g., Rook 1985). Likewise, basket size stability (which we use as an indicator of stable shopping needs) has a positive effect on repurchasing, confirming the impact of motivational state on consumer choices (e.g., Bell et al. 2011; Gijsbrechts et al. 2008).

The ability of price promotions to break consumers' habits has been widely shown (Mela et al. 1998; Van Heerde et al. 2003). This study extends prior research by finding that the probability of repurchasing is substantially lower if two subsequent purchases in the same category involve one non-promoted and one promoted choice as opposed to a stable setting where neither or both purchases are on promotion. High repurchasing rates for two promoted occasions align with findings that brand-switching only accounts for a third of the sales bump triggered by promotions (Van Heerde et al. 2003) with the remainder accounted for by an increase in or a temporal shift of consumption. To investigate whether we can replicate this observation, Table 6 shows the volume consequences of promoted purchases for the coffee category. We distinguish between four types of category purchase pairs (i.e., non-promoted on both, promoted only on the first, promoted only on the second, and promoted on both occasions) and compare purchase volumes for the three category-leading brands in Germany and the UK for pairs exhibiting repurchasing. This brand-specific analysis shows that promotions usually increase volumes purchased. For five of the six brands a purchase on promotion following a non-promoted purchase results in higher volumes than a second non-promoted purchase. The same is true if both purchases are on promotion confirming that promotions not only impact choice, but also quantity decisions (e.g., Pauwels, Hanssens, and Siddarth 2002).

In five out of six product categories, we find that a larger category assortment on the second occasion negatively affects repurchasing. While prior research shows an inverse relationship between category assortment size and brand loyalty on an aggregate level (e.g., Dawes et al. 2015) this study's trip-to-trip perspective confirms this link on an individual level. In addition, this study, by including a squared assortment index as an additional predictor, shows that the effect of a larger category assortment is negative up to a certain point only. Fig. 2 shows the relationship between the difference in assortment size between the two purchase occasions and the log odds of repurchasing for all six product categories. While the tipping points are category and country specific, once assortment size on the second occasion is more than double the assortment size on the first occasion the probability of repurchasing increases. Choosing the same brand again may help overcome the mental challenge some shoppers experience when facing too much choice (see Schwartz 2004).

Our results partly corroborate prior research showing that longer interpurchase times decrease the informational utility of past choices (Erdem and Keane 1996) as the probability of repurchasing decreases with interpurchase time for the categories coffee and cola. Given the positive effect of interpurchase time on the probability of repurchasing for the

shampoo category suggests that this effect might be category-specific. A non-reported analysis suggests that this finding may be a result of the relationship between household size and repertoire size in shampoo. Large households shop all categories more frequently (which shortens interpurchase times), but their higher diversity regarding gender, age or hairstyle may disproportionately increase choice sets in the shampoo category (compared to cola or coffee).

This study extends the emerging literature on inertia marketing (Henderson et al. 2020) by explicating the importance of inertia in the FMCG context. Inertia is the second most important driver of repurchasing in our study. A shopper's past brand purchasing increases the probability of repurchasing a brand in all product categories investigated.

Furthermore, this study shows that consumers' category purchase frequency consistently has positive effects on repurchasing, indicating that the more often consumers buy a certain category, the more likely they repurchase the same brand on the next purchase occasion. Relatedly, our results align with recent findings that quantity purchased furthers inertia (Henderson et al. 2020) but suggest that the effect of quantity purchased might be category specific as we found positive effects on the probability of repurchasing for coffee and cola, but not for shampoo.

As in prior research, our results regarding the effects of consumer characteristics remain inconclusive (e.g., Wirtz et al. 2014). We find no effects of age (with the exception of cola in Germany), household size, and social class on repurchasing across our six datasets. Finally, in line with prior research on customer churn (e.g., Ascarza and Hardie 2013; Holtrop, Wieringa, Gijsenberg, and Verhoef 2017), our results with respect to inertia as well as retailer-, basket size-, and day stability show that modeling dynamics further improves the understanding of repurchasing.

Implications for Retailing Practice

Across all categories, repurchasing the same brand is much more likely if a shopper visits the same retailer on both occasions. Visits to the same retailer on additional preceding occasions foster repurchasing even more. This pattern provides a strong incentive for manufacturers and retailers to stimulate shoppers to revisit the retailer on subsequent category purchase occasions because otherwise the retailer loses the category occasion (and all other purchases on that trip) and the manufacturer is less likely to be chosen (or may not even be available). Exploiting this aligned interest seems paramount, especially in FMCG markets where relationships between retailers and manufacturers are often contentious. We see opportunities with respect to (1) the adoption and interpretation of performance metrics that matter to both parties, (2) the initiation of smart promotional activities, and (3) assortment presentation and assortment size decisions.

In a recent study Frösén et al. (2016) show that business performance improves if organizations show high levels of market orientation and skills in market performance management. Understanding the interplay between retailer loyalty and

Effects of Assortment Index on Log Odds of Repurchasing

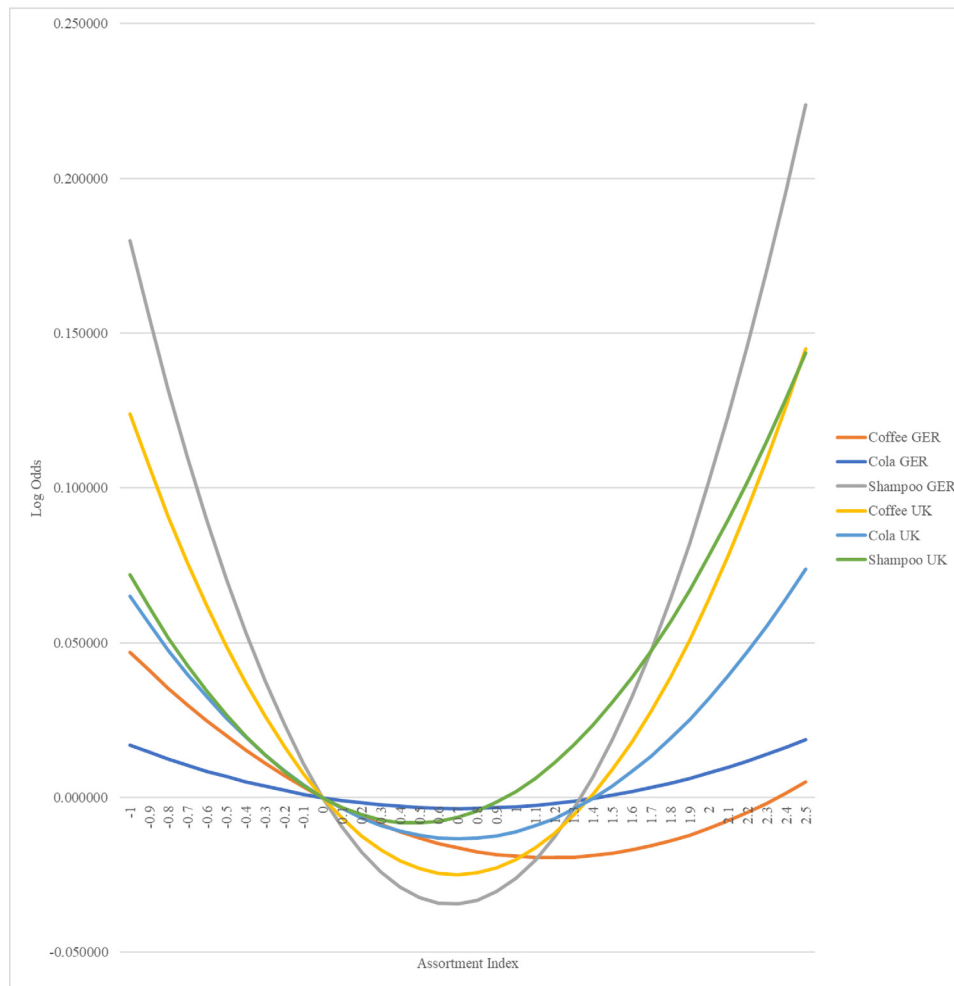


Fig. 2. Effects of assortment index on log odds of repurchasing.

repurchasing is an opportunity to implement this conjunction. By tracking repurchasing rates manufacturers can use performance monitoring (i.e., benchmarking repurchasing rates across contexts) as an objective foundation for demonstrating market orientation in their relationships with retail partners. Regarding their own performance, most retailers will be less worried about shoppers repurchasing the same brand than about shoppers revisiting the same retailer on the next category purchase occasion. But high performance regarding specific brands' repurchasing rates offers an opportunity for a retailer to demonstrate its value for a manufacturer. Repurchasing is therefore a KPI which both parties can use to diagnose the equity of their joint proposition supporting the collaborative nature of the relationship and hence channel member satisfaction (Skinner, Gassenheimer, and Kelley 1992).

Table 7 shows repurchasing levels for one brand in each country and benchmarks the repurchasing rates for a leading retail banner. For example, a Melitta trade marketing manager should want to investigate, ideally in close teamwork with the category manager at Edeka, why repurchasing for

the brand suffers from revisiting Edeka as opposed to revisiting a different retailer. This investigation may help identify assortment gaps, suboptimal shelf placement or effective promotional strategies of competitive brands.

Manufacturers and retailers would both benefit if they were able to stimulate visits to the same retailer on the next category purchase occasion. However, existing attempts to encourage loyalty by either party do not meet this objective. Retailers do provide incentives to stimulate return visits by, for example, offering rebates for limited periods of time based on the expenses a shopper has incurred during a (series of) visits. However, it is not common for a retailer, especially a multi-category FMCG retailer, to restrict this incentive to purchases in specific categories or purchases for specific brands. In contrast, manufacturers often reward brand re-buying by offering coupons on product packaging or online based on proof of purchase but would have little incentive to restrict the validity of these offers to the condition of visiting the same or a specific retailer again. Therefore, suitable promotional schemes would have to be joint undertakings by brand manufacturers and retailers and could build on unique packaging coupons

Table 3
Repurchasing rates for different contexts.

	GERMANY			UK		
	Coffee	Cola	Shampoo	Coffee	Cola	Shampoo
Overall Repurchasing	63.26%	84.66%	51.00%	84.79%	81.76%	43.27%
Retailer Stability 0	42.99%	76.03%	37.11%	72.06%	71.46%	28.72%
Retailer Stability 1	66.25%	86.36%	56.29%	85.54%	85.73%	52.02%
Retailer Stability 2	68.42%	87.46%	57.52%	87.33%	86.83%	52.42%
Retailer Stability 3	78.45%	90.91%	62.12%	90.65%	89.39%	55.70%
Basket Size Stability 0	61.03%	83.65%	47.89%	83.65%	80.00%	41.29%
Basket Size Stability 1	63.38%	85.00%	52.32%	84.94%	82.27%	45.37%
Basket Size Stability 2	62.87%	84.75%	51.24%	84.63%	82.66%	45.26%
Basket Size Stability 3	64.19%	85.22%	51.87%	85.38%	82.55%	43.59%
Day Stability 0	61.85%	84.04%	49.77%	83.19%	79.72%	40.73%
Day Stability 1	64.44%	85.06%	53.18%	85.68%	83.28%	45.65%
Day Stability 2	66.22%	86.17%	53.25%	87.25%	85.79%	48.25%
Day Stability 3	71.72%	89.06%	57.95%	90.21%	89.73%	53.57%
Not Promoted on both Trips	66.68%	88.77%	59.08%	89.66%	85.17%	49.91%
Promotion Trip 1 - No Promotion Trip 2	40.45%	70.45%	32.83%	68.45%	67.57%	29.42%
Promotion Trip 2 - No Promotion Trip 1	41.84%	75.83%	38.83%	67.85%	72.05%	29.29%
Promoted on both Trips	82.49%	84.88%	60.38%	86.83%	87.72%	54.99%
Assortment Index=< 0	65.46%	85.96%	51.84%	86.06%	83.82%	43.65%
Assortment Index > 0	59.32%	81.94%	49.91%	82.20%	77.16%	42.74%
Interpurchase Time > Median IPT	62.40%	83.41%	52.91%	81.25%	78.62%	44.09%
Interpurchase Time < Median IPT	64.16%	85.91%	49.07%	88.13%	84.71%	42.47%

Table 4
Results of binary fixed effects models for Germany.

	Coffee			Cola			Shampoo		
	β	Std. Error	% Odds change	β	Std. Error	% Odds change	β	Std. Error	% Odds change
Retailer Stability	0.252	0.005	28.607***	0.333	0.007	39.571***	0.228	0.01	25.616***
Day Stability	0.014	0.006	1.395*	0.045	0.009	4.607***	0.026	0.013	2.636*
Basket Size Stability	0.025	0.004	2.544***	0.028	0.006	2.797***	-0.003	0.01	-0.288
Promotion in t-1 only	-0.871	0.015	-58.127***	-0.875	0.021	-58.328***	-1.044	0.029	-64.811***
Promotion in t only	-0.822	0.015	-56.034***	-0.722	0.022	-51.438***	-0.785	0.028	-54.382***
Promotion Both Trips	0.751	0.018	111.973***	0.213	0.026	23.73***	0.238	0.027	26.868***
Assortment Index	-0.033	0.008	-3.203***	-0.01	0.009	-0.964	-0.103	0.021	-9.766***
Assortment Index Squared	0.014	0.007	1.43*	0.007	0.008	0.741	0.077	0.02	8.03***
Interpurchase time	-0.009	0.006	-0.906	-0.113	0.009	-10.703***	0.127	0.013	13.497***
Private Label Brand in t-1	1.783	0.017	494.47***	1.156	0.032	217.803***	1.304	0.037	268.327***
Market Share Brand in t-1	0.198	0.006	21.89***	0.227	0.01	25.447***	0.204	0.012	22.641***
Relative Price Brand in t-1	0.252	0.007	28.64***	-0.051	0.009	-5.013***	0.022	0.016	2.235
Inertia	0.736	0.006	108.686***	0.744	0.009	110.394***	0.378	0.013	45.868***
Purchase Frequency	0.03	0.014	2.996*	0.085	0.021	8.821***	0.075	0.023	7.821***
Purchase Volume in t-1	0.079	0.006	8.272***	0.128	0.01	13.611***	-0.017	0.012	-1.674
Panelist's Age	-0.056	0.038	-5.454	0.122	0.047	12.921*	0.096	0.078	10.065
Household Size	-0.01	0.026	-0.998	-0.004	0.037	-0.374	-0.024	0.056	-2.38
Social Class	0.011	0.017	1.067	-0.023	0.023	-2.307	-0.048	0.038	-4.69
Year 2016	0.035	0.011	3.587**	0.002	0.016	0.182	0.015	0.024	1.484
Year 2017	0.013	0.013	1.305	0.014	0.019	1.365	0.051	0.028	5.258
Deviance	338,971.13			163,773.79			81,242.6		
Pseudo R ²	0.333			0.274			0.237		

*** Significant at $p < .001$.

** Significant at $p < .01$.

* Significant at $p < .05$.

which are limited to a specific retailer (or differ by retailer) or coupons made available on the shelf or during checkout. While the manufacturer may have an incentive to implement such promotions with all retailers, they will lose appeal for retailers if other retailers offer them as well. Smart allocation hence becomes critical and should be guided by the marginal

contribution of implementing such a scheme. The respective marginal gains will determine how the costs and revenues of such promotional schemes are shared (Dreze and Bell 2003; Nijs, Misra, Anderson, Hansen, and Krishnamurthi 2010).

Liu-Thompkins and Tam (2013) highlight the double-edged nature of in-store activities (e.g., changing assortment

Table 5
Results of binary fixed effects models for UK.

	Coffee			Cola			Shampoo		
	β	Std. Error	% Odds change	β	Std. Error	% Odds change	β	Std. Error	% Odds change
Retailer Stability	0.37	0.013	44.733***	0.255	0.005	29.027***	0.292	0.007	33.954***
Day Stability	0.056	0.015	5.753***	0.076	0.006	7.868***	0.033	0.008	3.321***
Basket Size Stability	0.027	0.012	2.766*	0.039	0.004	4.006***	0.018	0.006	1.796**
Promotion in t-1 only	-1.131	0.038	-67.718***	-0.726	0.013	-51.621***	-0.93	0.02	-60.554***
Promotion in t only	-1.15	0.036	-68.338***	-0.548	0.014	-42.202***	-0.964	0.02	-61.852***
Promotion Both Trips	0.199	0.041	22.002***	0.339	0.014	40.361***	0.112	0.02	11.893***
Assortment Index	-0.072	0.021	-6.986***	-0.038	0.006	-3.751***	-0.035	0.014	-3.408*
Assortment Index Squared	0.052	0.02	5.346**	0.027	0.006	2.78**	0.037	0.013	3.802**
Interpurchase time	-0.329	0.017	-28.046***	-0.13	0.006	-12.197***	0.062	0.01	6.419***
Private Label Brand in t-1	1.715	0.042	455.868***	2.11	0.034	725.022***	1.664	0.03	427.783***
Market Share Brand in t-1	0.583	0.024	79.054***	0.276	0.01	31.832***	0.229	0.008	25.794***
Relative Price Brand in t-1	0.062	0.021	6.432**	-0.05	0.006	-4.888***	0.004	0.009	0.359
Inertia	0.613	0.017	84.576***	0.748	0.006	111.231***	0.473	0.009	60.42***
Purchase Frequency	0.124	0.035	13.152***	0.126	0.012	13.394***	0.043	0.018	4.41*
Purchase Volume in t-1	0.131	0.016	13.95***	0.067	0.007	6.965***	-0.053	0.008	-5.134***
Panelist's Age	0.525	0.301	69.061	0.216	0.126	24.121	0.192	0.176	21.18
Household Size	0.029	0.071	2.914	-0.027	0.023	-2.625	0.003	0.037	0.309
Social Class	-0.002	0.057	-0.237	-0.002	0.021	-0.157	0	0.032	-0.043
Year 2016	-0.008	0.041	-0.819	0.063	0.017	6.49***	0.025	0.023	2.511
Year 2017	-0.068	0.059	-6.58	0.045	0.026	4.615	0.051	0.033	5.213
Deviance	50,220.25			363,116.4			152,209.01		
Pseudo R ²	0.357			0.264			0.246		

*** Significant at $p < .001$.

** Significant at $p < .01$.

* Significant at $p < .05$.

Table 6
Volume consequences of promoted purchases.

Promotion Occasion 1	Promotion Occasion 2	Coffee Germany		Coffee UK	
		Brand	Mean Purchase Volume (Occasion 2)	Brand	Mean Purchase Volume (Occasion 2)
no	no	Aldi	1.00	Nescafe	1.00
no	yes	Aldi	1.62	Nescafe	1.14
Yes	no	Aldi	1.27	Nescafe	1.19
Yes	yes	Aldi	1.58	Nescafe	1.34
no	no	Dallmayr	1.00	Tassimo	1.00
no	yes	Dallmayr	1.13	Tassimo	0.85
Yes	no	Dallmayr	1.06	Tassimo	0.95
Yes	yes	Dallmayr	1.14	Tassimo	0.83
no	no	Melitta	1.00	Taylors	1.00
no	yes	Melitta	1.12	Taylors	1.06
Yes	no	Melitta	1.07	Taylors	1.11
Yes	yes	Melitta	1.19	Taylors	1.04

Notes: Volumes are indexed with respect to the group with no promotion in either occasion. Only pairs where the same brand is repurchased are analyzed.

or shelf positions) that may satisfy variety-seeking, but also prevent the formation of routines. The drop in repurchasing when visiting a different retailer corroborates the power of consistent contextual information for stabilizing brand choices. Retailers and manufacturers should therefore be cautious regarding changes with respect to a brand's assortment composition and shelf position. Disrupting contextual stability almost inevitably reduces the odds of repurchasing. A national brand manufacturer acting as a category captain may there-

fore find it appealing to maintain the shelf placement of one's own brands and advocate changes in shelf positions of other (or retailer-owned) brands.

Retailers with multiple store formats that differ substantially in assortment size (e.g., city-center convenience outlets versus hypermarkets) could provide two benefits to specific brands (e.g., high margin brands) when listing them in their small formats. First, in small formats these brands would benefit from standing out disproportionately given the limited

Table 7
Context-dependent repurchasing rates: Overall and retailer-specific.

	Coffee		Shampoo	
	Melitta Germany		Alberto UK	
	All Retailers	Edeka	All Retailers	Tesco
Different Retailer	48.42%	50.36%	39.98%	38.15%
Same Retailer	51.12%	41.53%	43.39%	42.39%
No Promotion Both Trips	54.18%	50.58%	58.30%	62.17%
Promotion in t-1 only	22.95%	17.08%	19.77%	16.26%
Promotion in t only	38.85%	31.15%	29.34%	26.79%
Promotion Both Trips	49.21%	49.80%	47.84%	50.66%

shelf space, as shown by disproportional share gains resulting from a brand's availability in small assortments (Friberg and Sanctuary 2017). Second, our finding of a U-shaped relationship between the difference in assortment size and repurchasing suggests that these brands would then more likely be repurchased in larger store formats with a sufficiently bigger assortment.

Finally, we would like to discuss an assortment decision by retailers where retailers and manufacturers are less likely to find common ground, that is, private label offerings. One frequently cited reason why retailers have been promoting private labels in terms of assortment size and shelf space (e.g., Geyskens et al. 2010) lies in the belief that private labels are an effective means to further retailer loyalty (Ailawadi et al. 2008). Our finding that repurchasing is higher after a private label than a national brand purchase does not provide a sufficient justification for retailers to promote their private label offering. By changing the focus from sticking with a brand to sticking with a retailer, however, this study can add to the debate as to whether an emphasis on private labels is an effective means to foster retailer loyalty. Does the choice of a private label or a national brand on a specific trip influence whether a shopper revisits the same retailer on the next category occasion? The pattern is very consistent: The share of same retailer visits for the next coffee purchase in Germany (UK) is 49% (62%) after a branded purchase and 65% (66%) after a PL purchase. The share of same retailer visits for the next cola purchase is 55% after a branded purchase and 70% after a PL purchase in both Germany and the UK. Finally, after a branded purchase in shampoo the share of visits to the same retailer for the next shampoo occasion is 50% in both Germany and the UK. This share shifts to 60% in Germany and 57% in the UK after a PL purchase. The consistency of these differences attests to the differentiating power of private labels in fostering retail banner loyalty (Ailawadi et al. 2008). Manufacturers are therefore well advised to not only benchmark their repurchasing rates at specific retailers with branded competition, but also retailer's own labels. Applying the same logic, retailers can compare the extent to which their branded suppliers differ with respect to their ability to lure shoppers to purchase the category at the same retailer on the next occasion.

Limitations and Directions for Further Research

A limitation of this study is that repurchasing is neither necessary nor sufficient for high sales. Theoretically, zero repurchasing does not prevent share leadership: A brand that consumers choose on every second purchase occasion could achieve 50% market share (assuming no variation in price levels and identical pack sizes) without consumers ever exhibiting repurchasing. Also, a brand could be tiny even if it is always repurchased. By being entirely absent in the choice set of a majority of consumers, even high repurchasing rates would not translate into high sales. However, such examples are not typical and several studies have shown that repurchasing is a strong indicator of sales (Bird, Channon, and Ehrenberg 1970).

Data availability is another issue. While panel-providers offer purchase data for FMCG markets that enable immediate implementation of the repurchasing operationalization, in many industries such data is not available. Furthermore, similar to prior research, our study does not address the issue of multibrand loyalty, behavior that is hard to disentangle from brand switching (see Mellens et al. 1996). Further research could build on our pair-logic and incorporate measures for multibrand loyalty. Likewise, research in other contexts like store patronage, political voting but also higher involvement purchases could build on a pair-logic. While our study incorporated a variety of contextual cues as well as brand- and consumer-related controls, future research could include additional measures, for example measures of attribute-based assortment variety (e.g., van Herpen and Pieters 2002) to better account for the composition of retailers' assortments. Also, distinguishing whether a shopper returns to the same banner or the same outlet of that banner may add to our understanding of the importance of context stability. Finally, a mix of behavioral and attitudinal consumer data may further deepen our understanding of repurchasing.

Our research focuses on consumers returning to the same brand on the second occasion of each pair. If consumers do not return (i.e., they switch instead of repurchase) another brand benefits. Investigating factors that foster the ability of a brand to become the focus of such switching would add

to our understanding of brand growth beyond understanding important drivers of repurchasing.

Most research that investigates retailer loyalty examines a shopper's share-of-wallet going to a specific retailer. However, share-of-wallet is an aggregate measure of loyalty that is a consequence of numerous trip-specific retailer choices of shoppers. A repurchasing angle investigating the probability to return to the same retailer on the next occasion incorporating contextual factors like day of the week, basket size, or basket composition may help retailers understand important loyalty drivers.

Executive Summary

Context Stability and Repurchasing: Why Shoppers Choose the Same Brand on the Next Trip

Fostering brand loyalty is one of the preeminent goals of marketing executives. Brand loyalty in its most basic manifestation is repurchasing – making the same choice on the next category occasion. Past research has shown that people choose the same brand as on previous trips for various reasons (attitudinal loyalty, habit, convenience), but only few studies have focused on the role of contextual factors. This study, set in the FMCG market, examines how the stability of various contextual factors impacts the likelihood to choose the same brand on a subsequent purchase occasion. We analyze a total of 1.6 million brand choice pairs (i.e., two consecutive choices) of 20,587 German and 23,036 British shoppers in three FMCG categories (cola, coffee, shampoo).

These six contextual factors are investigated: (a) visiting the same or a different retailer as on previous occasions, (b) shopping on the same or a different day of the week as on previous occasions, (c) buying a similar or different amount of SKUs as on previous occasions, (d) encountering promotions on none, one or both occasions, (e) short versus long interpurchase intervals and (f) the assortment size difference between the two occasions. We control for brand characteristics (share of the brand chosen on the first occasion, National Brand or Private Label, price level) as well as shopper characteristics (sociodemographics, purchase frequency and inertia with respect to the brand chosen on the first occasion). Our results confirm that more contextual stability is linked to higher levels of repurchasing, for example: The odds of repurchasing the same brand increases with a larger number of subsequent trips to the same retailer, with a larger number of subsequent trips on the same day of the week, if a shopper buys on or off promotion on both trips as opposed on promotion on one trip only. The odds of repurchasing the same brand decreases if the period between the two purchases increases or if the assortment encountered on the second occasion is larger (but not too much) than on the first occasion.

This study confirms prior research regarding the role of contextual stability in stabilizing choice – encountering a familiar context increases the odds of behaving similarly whereas encountering an unfamiliar context decreases these odds. These findings highlight the importance of considering context factors when retailers think about changing store

layout, shelf positions or assortments and also support the power of price promotions to change behaviors. We also provide several recommendations how this effect can inform joint activities by retailers and manufacturers through better use of research metrics, more effective promotional activities and careful assortment management in order to secure contextual stability linked with higher odds of repurchasing.

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