The effect of sales promotion on post-promotion brand preference: A meta-analysis

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The benefit of sales promotions is that they induce choice. However, this benefit may be offset by undermining preference for the brand when s no longer promoted. Despite the fact that sales promotions have long been employed in marketing practice and researched academically, lear understanding of the impact of sales promotion on post-promotion brand preference continues to evade brand managers and marketing olars alike. This manuscript attempts to provide insight on the effects of sales promotions on brand preference by integrating results from 51 dies on the subject. Our meta-analysis suggests that, on average, sales promotions do not affect post-promotion brand preference. However, ending upon characteristic of the sales promotion and the promoted product, promotions can either increase or decrease preference for a nd. The empirical results provide insights for crafting promotion strategy and for understanding the process by which promotions influence nd preference.

Introduction

Sales promotions are typically viewed as temporary incen-
es that encourage the trial of a product or service (Kotler
38; Webster 1971). Not surprisingly, most research on their
explores the effect of promotions at the time in which they
offered (Blattberg and Neslin 1989; Leone and Srinivasan
'6). Relatively less attention has been devoted to investi-
ing the consequences of sales promotions for brand prefer-
e after the promotion has ended. Furthermore, scholastic
nion on whether promotions help or hinder a brand in
sequent choice periods is mixed. Some researchers assert
: sales promotions can undermine brand preference. Aaker
96, p. 187) states that promotions have the potential to

damage brand equity by focusing the consumer's attention
too heavily on price. Similarly, Keller (1998) warns of a num-
ber of disadvantages of sales promotions such as decreased
brand loyalty, increased brand switching, decreased qual-
ity perceptions and increased price sensitivity. Conversely,
other researchers contend that sales promotions can increase
brand preference (e.g., Davis et al. 1992; Rothschild and
Gaidis 1981). Thus, the extant literature is unclear as to
whether sales promotions detract from or enhance brand
preference.

Despite the widespread use of promotions in marketing
practice and the equivocal research findings, there has
been no systematic attempt to integrate extant research
to determine the nature of the relationship between the
use of sales promotions and brand preference once the
promotion is rescinded. To address this, we conduct a
meta-analysis to evaluate the results of previously published
research that links the use of sales promotion to indicators of
post-promotion brand preference. In addition to examining
the central tendency of association between sales promotion

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and brand preference, we also identify conditions that might moderate this relationship. In the following section, we review the relevant literature and define our analytical domain. We then describe our methodology and provide a detailed presentation of our results. We conclude with a discussion of the implications emanating from this research.

The research domain

Researchers have investigated several aspects of consumers' responses to sales promotions. Inquiry has primarily focused on whether, and by how much, promotions increase choice at the time of the promotion (Goodman and Moody 1970; Massy and Frank 1965). Related research investigated the ability of variables such as promotion type (Schneider and Currim 1991) and promotion value (Leone and Srinivasan 1996) to moderate the relationship between promotion and choice. While relatively fewer studies have been conducted, researchers have also examined if sales promotions have an impact that extends beyond the time they are offered. In so doing, rationale has been forwarded both to predict that promotions will decrease preference for a brand and that they will increase preference for a brand. Making prediction even more difficult, the mechanisms associated with a positive post-promotion effect and those associated with a negative effect may operate simultaneously (Blattberg and Neslin 1989).

Promotions may increase post-promotion preference via purchase reinforcement (Blattberg and Neslin 1989; Pauwels et al. 2002). For existing brand users, promotion reinforcement occurs by reminding existing customers to buy the brand thereby buttressing their preference for it. For non-users, promotions may induce trial thereby bolstering attitudes and the likelihood of repurchase. The case that sales promotions will decrease post-promotion brand preference has been summarized from a behavioral standpoint as the promotion usage effect (Blattberg and Neslin 1989). Consumers may make negative attributions about the brand as they look for explanations as to why the brand needs to promote. Promotion usage effects may also arise by shaping consumers' behavior toward buying promoted products (Rothschild 1987). Given the widespread availability of promotions, this is likely to result in the selection of a competing brand that is promoted when the previously chosen brand rescinds its promotion.

Econometric studies of promotions indicate that they may also undermine brand preference by lowering consumers' price expectations. Literature suggests that consumers evaluate prices relative to their expectations (Lattin and Bucklin 1989; Papatla and Krishnamurthi 1996). A price that is higher than expected decreases the probability that a brand will be chosen. Price expectations, in turn, appear to be a function of previously observed prices (e.g., Rajendram and Tellis 1994). Thus, by lowering the price that consumers observe for a product, a price promotion may lower price expectations and, in turn, future brand choice.

Assessing changes in brand preference

Researchers have identified two outcomes that indicate a change in brand preference following a sales promotion: brand perceptions and choice probability. Studies measuring consumers' brand perceptions typically gauge shifts in subjects' overall "liking" for the brand (e.g., Davis et al. 1992; Tybout and Scott 1983) or perceptions of brand quality (e.g., Dawar and Sarvary 1997; Low and Lichtenstein 1993; Raghubir 2004) following exposure to a sales promotion. Choice probability, the second measure of post-promotion preference, is often assessed directly via pre- and post-promotion brand choice (e.g., Motes 1987; Kahn and Louie 1990; Scott 1976). Choice probability has also been measured indirectly via promotion-induced shifts in price sensitivity (Kopalle et al. 1999; Srinivasan et al. 2000) and promotion-induced changes in brand loyalty (Bhattacharya et al. 1996; Gedenk and Neslin 1999).

Results of studies assessing brand perceptions after a promotion are equivocal across, and sometimes within, research studies. For instance, across four frequently purchased consumer non-durable brands and four perceptual measures of brand preference, Davis et al. (1992) report five instances of statistically significant increases in consumers' brand perceptions after a period of promotions and no instances in which perceptions decreased. Similarly, measures of brand choice are associated with a variety of effects. Kalwani et al. (1990) report a negative effect of promotion on the post-promotion purchase probability for instant coffee. Conversely, Lattin and Bucklin (1989) find a positive effect of promotion in the same product category. Kopalle et al. (1999) find that promotions impair brand preference by leading to a marginally significant increase in price sensitivity whereas Srinivasan et al. (2000) report increased price sensitivity for three brands, decreased price sensitivity for two, and null results for three others. Bhattacharya et al. (1996) report that sales promotions do not affect brand loyalty, while Gedenk and Neslin (1999) find significant negative effects on loyalty. Thus, both measures of post-promotion brand preference are associated with equivocal results that make a detailed study of their conclusions appropriate.

Peripheral research

Before summarizing the results via meta-analysis, we need to clearly delineate our domain of inquiry by identifying several types of promotion-centric studies that are not included in our research domain. Given our interest in the effect of sales promotions after the period in which they are offered, studies that focus on issues at time of the promotion such as maximizing immediate response to the promotion (e.g. Krishnamurthi and Raj 1988) and decomposing this response into promotional gain, brand switching, category expansion, and stockpiling (e.g., Gupta 1988; van Heerde et al. 2003) are outside of our domain. There are also six types of studies that consider forward-looking consumer behaviors or evaluations

in response to a sales promotion that fall outside the scope of our research.

First, we exclude studies that are indicative of stockpiling. For instance, studies of the effect of promotions on purchase timing or quantity for a brand likely reflect a stockpiling effect (e.g., Cotton and Babb 1978; Slonim and Garbarino 1999). Stockpiling leads to lower aggregate or per consumer sales for a brand following a sales promotion by taking consumers out of the market due to greater on-promotion purchase quantities (i.e., consumers who bought the promoted product are now "buying" quantity = zero after stockpiling during the promotion). It is important to consider the effect of promotions on consumer stockpiling to understand the profitability of promotions. However, increased stockpiling presents a relatively benign threat to the promoted brand in that it does not decrease the likelihood that a consumer chooses the brand when making a purchase in the product category again (i.e., is not indicative of a change in preference). Furthermore, promotion-induced stockpiling decreases consumers' opportunities to switch to competing brands and may lead to repeat purchases of the chosen brand, and/or increase overall category consumption (see Ailawadi et al. (2005) for a test of such benefits).

Second, we seek to examine the impact of sales promotion on brand preference rather than judge the plausibility of such an effect. We consequently exclude studies that use simulated data to demonstrate the plausibility that sales promotions affect brand preference (e.g., Neslin and Shoemaker 1989). Third, our interest is on brand-level relationships. Thus, we exclude articles that infer the optimum level of sales promotion for a store across a set of brands (e.g., Blattberg and Levin 1987; Suri and Zufryden 1995). Fourth, the central issue in this manuscript is the impact of (a) offering versus not offering a sales promotion or (b) offering more frequent versus less frequent promotions. Articles that contrast different types of promotions to assess post-promotion preference but do not allow for a comparison to a strategy of not promoting or promoting less frequently are also excluded (e.g., Krishna 1994).

Fifth, we also omit much of the data derived from research focusing on price expectations or internal reference prices. Although lower price expectations following exposure to a promotion can affect future choice, we exclude several of the studies on price expectations for two reasons. First, as would be expected, the dependent variable in many of these studies is the price expectation for a brand (e.g., Bearden et al. 1992; Jacobson and Obermiller 1990). Without linking a consumer's price expectations to future choice, a change in price expectations does not necessarily affect preference for the brand. Second, most studies measuring price expectations do not specify whether these expectations are changing in response to promotions or changes in regular prices. As such, the unique impact of promotions on brand preference is difficult to extricate from effects relating to other price changes. However, studies on price expectations that account for the specific effect of sales promotion on price expectations and

future choice are included in our analyses (e.g., Kalwani et al. 1990). Finally, we eliminated studies in which the author(s) used the same data set to produce a related article. In such cases, rather than having one data set receive undue weight, we included the data from the article that we deemed most central to the issue of post-promotion brand preference and excluded any others from analysis.

In sum, this meta-analysis includes only studies that explore the impact of sales promotions on brand preference after the period in which the promotion is offered by measuring brand perceptions or choice probability or its derivative measures (e.g., price sensitivity). Each study allows for the comparison of brand preference across conditions of (a) offering versus not offering a promotion (e.g., an experimental versus a control condition in lab experiments) or (b) offering more versus less frequent promotions (e.g., a correlation-based measure of promotion frequency and purchase probability when not promoted in models of scanner data). Given this demarcation of our research domain, we now turn to the development of the data set that emerges within this set of boundaries and to our method of analyses.

Methodology

To identify the population of studies for this analysis we conducted key word searches of electronic databases using terms such as "promotions," "brand choice," and "deal retraction." We then studied the reference sections of those identified studies in search of additional empirical studies. Finally, we conducted a manual search of leading journals in which articles addressing sales promotions and brand choice are most likely to be found (e.g., Journal of Marketing, Journal of Marketing Research, Journal of Retailing, International Journal of Research in Marketing, and Marketing Science). We identified 51 suitable empirical studies through the database development process. These studies are noted in Table 1.

After reviewing and coding each study, it became clear that a variety of both dependent variables and metrics were reported across the studies. To make the outcome variables comparable while retaining the greatest number of studies in our database, we used the point-biserial correlation as our effect size given that most of the other reported measures could be converted to it (see Glass et al. 1981; Hunter et al. 1982). From this we retained a total of 132 observations from 42 of the 51 studies. Our inclusion rate is generally consistent with previous meta-analyses (see e.g., Compeau and Grewal 1999; Krishna et al. 2002). One of the principal investigators and a graduate student independently coded the data in each article. Coding consistency between the two was 94%. The few discrepancies were rectified through discussion and subsequent re-coding.

Consistent with the analytical approach advocated by Glass et al. (1981) and employed in other meta-analyses (e.g., Henard and Szymanski 2001; Krishna et al. 2002),

Table 1
Meta-analysis study population

Bawa and Shoemaker (1987)	Lawrence (1969)
Bhattacharya et al. (1996)	Litvack et al. (1985)
Boulding et al. (1994)	Low and Lichtenstein (1993)
Brown (1974)	Macé and Neslin (2004)
Charlton and Ehernberg (1976)	Mazursky et al. (1987)
Darke and Chung (2005)	Mela et al. (1997)
Davis et al. (1992)	Mela et al. (1998)
Dawar and Sarvary (1997)	Motes (1987)
Dawes (2004)	Neslin and Shoemaker (1989)
Dekimpe et al. (1999)	Ortmeyer et al. (1991)
Dodson et al. (1978)	Papatla (1993)
Doob et al. (1969)	Papatla and Krishnamurthi (1996)
Ehrenberg and England (1990)	Pauwels et al. (2002)
Foekens et al. (1999)	Raghubir (2004)
Gedenk and Neslin (1999)	Raghubir and Corfman (1999)
Guadagni and Little (1983)	Scott (1976)
Jedidi et al. (1999)	Scott and Tybout (1979)
Jones and Zufryden (1981)	Scott and Yalch (1980)
Kahn and Louie (1990)	Shankar and Krishnamurthi (1996)
Kalwani et al. (1990)	Shoemaker and Shoaf (1977)
Kalwani and Yim (1992)	Srinivasan et al. (2000)
Karande and Kumar (1995)	Srinivasan et al. (2004)
Kopalle et al. (1999)	Suri et al. (2000)
Krishna (1991)	Tybout and Scott (1983)
Kumar and Pereira (1995)	Zenor et al. (1998)
Lattin and Bucklin (1989)	

we captured correlations at the observation level rather than at the aggregated study level. A study level approach entails averaging the effect sizes within each published study to arrive at a data population where n equals the number of studies contained in the articles. We employed an observation level approach wherein each effect size reported within a study is included in the analysis. For instance, a study that reports results for a brand loyal and a brand switching segment contributes two effect sizes. Thus, the central tendency of association across all studies is calculated using the full population of correlations available. Capturing data at the observation level also enhances our ability to test the impact of moderating variables that might influence the reported relationships (Matt and Cook 1994).

We began our analysis of the correlations between sales promotions and indicators of brand preference by estimating the mean association across the studies retained in the analysis. We used the classical analytical approach advocated by Hunter and Schmidt (1990) and Hunter et al. (1982). Given the variation in correlation results across studies, any attempt to base conclusions solely on a summary of results could be biased by statistical artifacts, measurement method factors, or research context factors (Assmus et al. 1984; Hunter et al. 1982). Therefore, rather than analyze the simple correlation means across studies, we took a weighted average in which each model-level correlation was corrected for the number of persons in that study to attenuate sampling error across studies. This frequency-weighted average appropriately gives relatively greater emphasis to studies with larger populations.

In addition to capturing the direct relationship between sales promotion and post-promotion brand preference reported in the literature, we also assess variables that might moderate this relationship. While a growing body of research focuses on whether sales promotions impact brand preference in future periods, the moderators of such an effect have received relatively less attention. Fortunately, research on consumer responses to sales promotions at the time they are offered provides a framework for identifying factors that might moderate the effect of promotion on brand preference. Specifically, three categories of variables are shown to affect consumer responses at the time of a promotion (and thus may affect post-promotion responses as well). The first such category involves *promotion characteristics* (e.g., Berkowitz and Walton 1980; Chen et al. 1998). Since promotions are typically defined in terms of their type and value (Della Bitta et al. 1981), we consider the potential for the promotion type (e.g., coupon, premium offer) and value (as a percentage of the value of the promoted product) to moderate the effect of promotions on post-promotion brand preference.

The second type of variables that affect consumer reactions to sales promotions at the time of the promotion are those related to the product. *Product characteristics* include factors such as frequency of purchase, whether the product is a search or experience good, the price level of the category, the price level of the brand within category, national/private label, and the popularity of the brand. We are able to evaluate the role of brand type (fictitious versus actual), product category type (packaged goods versus other), inter-purchase time, and number of products in the category. The inter-purchase time reflects the time between successive purchases in studies of brand choice and between exposure to the promotion and product evaluation in studies of brand perceptions. Finally, responses to promotions differ as a function of *consumer characteristics* (Blattberg et al. 1978; Montgomery 1971). While several consumer characteristics may influence reactions to promotions, the data available in the studies examined here allow us to assess only the role of one such characteristic. Specifically, we test whether the consumer is typically loyal to the focal brand or is (potentially) switching to the brand.

Testing for the potential moderating role of characteristics relating to the promotion, the product, and the consumer is consistent with previous meta-analyses on sales promotion effects (e.g., Biswas et al. 1993; Krishna et al. 2002). Also in accordance with these studies, we consider the potential for *study method characteristics* to affect post-promotion brand preference. This allows any effects of method to be accounted for when interpreting the more managerially and theoretically interesting effects of the choice environment. Specifically, we examined researchers' decisions regarding the dependent variable used to capture the promotion-brand preference relationship, the number of purchase occasions tracked in the study, and whether data was collected in lab or field. Thus, in total, we examine four categories of potential moderating factors: promotion characteristics, product

Table 2
Moderator variables coded in the analysis

	Levels	Description
Promotion characteristics		
Promotion type	Announced price cut	Includes shelf tags, end-of-aisle displays, and advertised specials
	Coupon	In-store or mailed coupons
	Premium offer	Another good is included free or offered at a discount
	Unannounced price reduction	A temporary discount appears as a decrease in the regular price
	Unspecified	
Promotion value	Less than 20%, ≥20%, *unspecified*	Value as a percentage of the base product price
Product characteristics		
Brand type	Actual, *fictitious*	Did the study employ real brands or fictitious/unnamed brands?
Product type	Packaged good, *other*	"Other" includes durables and services
Inter-purchase time	Less than/equal to 36 days, >36 days	Time between successive purchases or between exposure to the promotion and brand evaluation
Number of competing products	Less than/equal to 2, >2, *unspecified*	Number of products in the choice/evaluation set
Consumer characteristics		
Segment	Brand loyal	Consumers were identified as being loyal to a brand
	Brand switcher	Consumers were identified as being prone to switch brands
	Unspecified	
Methodological characteristics		
Dependent variable	Choice	DV is brand choice (0, 1) or choice probability
	Perception	DV is brand evaluation
Number of purchases tracked	9 or less, more than 9	Average number of category purchases for each consumer
Type of data	Lab, *field*	Was the data based on lab experiment or field study?

Note: For each characteristic, the default value appears in italics.

characteristics, consumer characteristics, and methodological characteristics. Table 2 illustrates the moderating variables included in our analysis. For the continuous variables (promotion value, inter-purchase time, number of competing products, and number of purchases tracked) levels were created via a median split.

A limiting factor in the selection of a potential moderator is the amount of data necessary for the variable to be included in the analysis. A variable was deemed appropriate for inclusion in the analysis if it was specified in at least two articles and constituted at least 5% of the 132 total data points. These criteria are consistent with meta-analyses on similar topics (e.g., Krishna et al. 2002). In some instances, insufficient detail was provided in the original article by which to classify cases. We include "unspecified" as a variable level to account for such cases. We deviate from this classification when a study did not report whether the data included more or less than ten purchase occasions. In such a case we inferred the number of purchases based on the length of time covered in the data collection period. Of the extant studies that indicate the time between category purchases, the mean inter-purchase time is 36 days. Thus, for ten or more purchases to have occurred in a typical product category, the study would need to cover 360 days.

While a casual review of the extant research focused on the effect of sales promotions on post-promotion brand preference gives managers and researchers a mixed message, the impact of each potential moderating variable (see Table 2) is somewhat more straightforward. Consideration of the mechanisms that drive post-promotion brand preference (i.e., the promotion usage effect, purchase reinforcement, and price

expectations) allows propositions to be forwarded. Table 3 provides a summary of the proposed impact of each potential moderator. Theories on the effects of promotions are not highly pertinent to the decisions regarding the methodological characteristics of study. Thus, we limit our propositions to relate to promotion, brand, and consumer characteristics.

Results

Across studies, the mean correlation between the use of sales promotion and post-promotion brand preference is $-.020$ ($t = -.87$, $p > .10$). On average, sales promotions do not statistically affect brand preference after the promotional period has ended. However, promotions may still affect brand preference (either positively or negatively) in certain conditions. Thus, in addition to identifying the relative effect size between promotions and future brand preference, we sought to ascertain why the strength of the relationship varies across empirical studies. We partitioned the variance in effect size into variance attributable to sampling error and remaining variance. This partitioning provides a methodological foundation for determining if the variance in correlations across studies is a function of statistical artifacts or due to other methodological or contextual factors. The variance attributable to sampling error was negligible (i.e., <5%) and indicates that a search for moderating variables is appropriate and that any statistically significant moderators are unlikely to be significant because of chance (Hunter and Schmidt 1990). We tested for the impact of moderator variables using dummy-variable regression by regressing our correlations

Table 3

Proposed effects of the moderator variables on post-promotion brand preference

	Proposed relationship	Rationale
Promotion characteristics		
P1: coupon usage	+	Coupons require more effort to redeem than point-of-sale discounts. Promotions that are more difficult to redeem mitigate the extent to which purchase is attributed to promotion
P2: unannounced price cuts	–	May be viewed as permanent price reductions leading to lower price expectations and, in turn, lower choice probability once the discount is retracted
P3: point-of-purchase sign/ad	–	Easy to take advantage of and thus easier to attribute purchase to the deal. Price focus may lead to lower price expectations
P4: premium offer	+	Less price focus may insulate against lower price expectations
P5: deeper promotions	–	Purchase is more likely to be attributed to the promotion if the discount is large/powerful
Product characteristics		
P6: fictitious bands	–	Consumers have less well formed beliefs regarding new stimuli. Less firmly held beliefs are more susceptible to change thereby increasing any negative effect of promotions on brand preference
P7: packaged goods	+	Frequent exposure to promotions may decrease sensitivity to promotions and/or decrease the likelihood of making brand–level attributions for the use of promotion (i.e., promotion is a category norm and thus not an indictment of the brand)
P8: longer inter-purchase time	+	Longer time between purchases allows time for brand evaluations or price expectations to regress toward baseline beliefs thereby mitigating any negative effect of promotions
P9: smaller choice set	–	Smaller sets should increase attention to any one brand's promotion thereby heightening any negative response to promotions
Consumer characteristics		
P10: brand switching segment	–	Less loyal consumers may have less firmly held quality beliefs that are less resistant to change in response to promotion

against the potential environmental and methodological moderating variables listed in Table 2.

Overall, the moderating variables account for nearly half of the variance we observed in the correlations between promotion and brand preference ($R^2 = .475$, adjusted $R^2 = .402$). To more clearly understand the source of the variance in post-promotion brand preference we report the effects of each of the four types of independent variables we specified as moderators (promotion, product, consumer, and methodological characteristics) in Table 4. As indicated, none of the consumer or method characteristics significantly affect brand preference while both promotion and product characteristics appear to shape post-promotion brand preference.

Regarding characteristics of the promotion, both the value and type of sales promotion have a significant effect on post-promotion brand preference. Post-promotion brand preference is undermined by promotions that are 20% or more of the product value (standardized $\beta = -.352$, $t = -2.79$, $p < .05$). With respect to the type of promotion being offered, preference is significantly reduced when the promotion is an unannounced price reduction, as when a temporary decrease in the everyday retail price is offered (standardized $\beta = -.249$, $t = -2.12$, $p < .05$). Relative to other promotions, post-promotion preference is higher when the discount is in the form of a coupon (standardized $\beta = .219$, $t = 1.99$, $p < .05$) or a premium (standardized $\beta = .225$, $t = 1.70$, $p < .10$). In fact, coupons are associated with a mean correlation ($r = .121$) that reflects an increase in post-promotion preference that is positive and statistically significant ($p < .10$).

Three of the product characteristics have a significant moderating effect on the degree to which a promotion impacts

brand preference. Promotions have a more positive effect on brand preference when competing against a larger set of products (standardized $\beta = .383$, $t = 4.18$, $p < .01$). Post-promotion preference is lower when consumers are exposed to fictitious brands ($r = -.165$) than when exposed to actual brands ($r = .029$, standardized $\beta = .563$, $t = 4.00$, $p < .01$). Preference for a brand is also lower following a promotion for a durable or service ($r = -.110$) than for a packaged good ($r = .001$, standardized $\beta = .285$, $t = 1.92$, $p < .10$). The inter-purchase time in the category in which the brand competes did not affect post-promotion preference.

Discussion

Our results suggest that, on average, sales promotions have neither a positive nor a negative effect on brand preference beyond the promotion period. While the overall mean effect is not statistically significant, this does not suggest that sales promotions do not affect brand preference. Consistent with the notion that multiple mechanisms may affect post-promotion preferences (e.g., purchase reinforcement can bolster post-promotion brand preference while the promotion usage effect weakens preference), sales promotions may either undermine or augment brand preference depending on the promotion and the characteristics of the product being promoted. We believe the conditional nature of our findings provides valuable insights for both brand managers and scholars.

Brand managers spend more money on sales promotions than they do on advertising expenditures. As managers

Table 4
Regression analysis—the effect of sales promotions on brand preference

	Levels	Frequency	Mean r	Standardized β	t-Value
Promotion characteristics					
Promotion type	POP sign/ad	36	−.051	.062	.41
	Coupon	16	.121	.219	1.99**
	Premium	9	−.007	.225	1.70*
	Unannounced price cut	11	−.358	−.249	−2.12**
	Unspecified	47	.040		
Promotion value	Less than 20%	30	.028	−.048	−.48
	More than 20%	40	−.142	−.352	−2.79**
	Unspecified	62	.030		
Product characteristics					
Brand type	Actual	97	.029	.563	4.00**
	Fictitious	35	−.145		
Product type	Packaged good	107	.001	.285	1.92*
	Other	25	−.119		
Inter-purchase time	36 days or less	65	−.041	−.056	−.47
	More than 36 days	67	−.003		
Number of competing products	2 or less	27	−.049	−.016	−.11
	More than 2	30	.117	.383	4.18**
	Unspecified	75	−.029		
Consumer characteristics					
Segment	Switching	16	−.017	−.116	−1.50
	Loyal	16	−.027	−.082	−1.00
	Unspecified	102	−.018		
Method characteristics					
Dependent variable	Choice	96	−.014	.004	.27
	Perception	36	−.021		
Number of purchases tracked	9 or less	67	−.052	−.083	−.78
	More than 9	65	.012		
Type of data	Lab	68	−.058	−.157	−1.04
	Field	64	.023		

Note: For each characteristic, the default value appears in italics.
* $p < .10$.
** $p < .05$.

ngage in promotion activity they can protect their brands against negative effects by carefully selecting the type and value of the sales promotion they offer. We found the use of an unannounced price cut to be particularly detrimental to brand preference. Thus, managers are urged to offer promotions that are clearly temporary in nature. Post-promotion brand preference was relatively more favorable when the sales promotion was a coupon or premium. In fact, consistent with the findings of Macé and Neslin (2004), our results suggest that a coupon offer may lead to an *increase* in post-promotion preference. In addition, large promotions (>20% of the product's value) were found to have a detrimental effect on brand preference across the studies in our database. Thus, managers must balance the tradeoff between the immediate boost in sales afforded by larger promotions and the longer-term risk which they place their brand by offering high-value promotions.

Our results suggest that managers must also consider the characteristics of their product to assess the potential for sales promotion to diminish brand preference. We found that sales promotions were more harmful to brands with which consumers are unfamiliar than for those with which

they are familiar. In the meta-analysis, lack of familiarity with a brand arose due to the use of hypothetical brands in the choice stimuli. However, this result is likely to apply to brands that are new or relatively unknown. Therefore, managers of new or less dominant brands may look to entice trial through means other than promotions (e.g., Kroger's promise that their store brand products are "as good as the national brand or your money back").

Our results indicate that brand managers should also be mindful of the size of the product category in which they compete since the negative effect of promotion is greater in categories with relatively few competitors. Given a small array of competitors, the actions (i.e., discounts) offered by any one brand are likely to be noticed by consumers. Thus, brands in product categories such as processed cheese, diapers, and canned vegetables in which there are relatively few national competitors may be placed at greater risk via sales promotions. The effect of small category size may also arise if brands are promoted in stores with limited variety (e.g., convenient stores). Finally, promotions by durables and services were associated with more negative effects on brand preference than were packaged goods. This

result may reflect consumers' acceptance of promotions as a competitive norm for frequently purchased non-durables. Such a belief may mitigate negative attributions regarding a packaged-good brand when a promotion is available.

In addition to testing whether sales promotions affect brand preference, researchers have questioned how such an effect would occur. The "promotion usage effect" holds that promotion-induced preference reduction is driven by consumers' attributions regarding promotions. Our findings fit well with an attribution-based explanation of the relationship between sales promotions and brand preference. For instance, coupons require a relatively high level of effort on the part of consumers who wish to take advantage of them. A consumer must locate, cut, carry, and present the coupon at the time of purchase to redeem it. As the effort needed to redeem a given promotion increases, the likelihood that the consumer attributes his or her brand choice to the promotion decreases. Under these circumstances, the consumer is likely to conclude that, "if I am going to this effort, I must like the brand" (e.g., Dodson et al. 1978). Also consistent with an attribution-based effect of promotions, post-promotion preference is inversely related to the value of the promotion value. This finding supports Neslin's (2002, p. 13) claim that "overly powerful promotions can overshadow the bene-

fits of the brand and undermine brand preference." The fact that promotions appear particularly likely to overshadow the benefits of the brand when the brand is fictitious (and thus the benefits of the brand are not well known) also supports an attribution-based account of post-promotion preference.

Readers should bear in mind that the results of our analysis are subject to the limitations inherent in the meta-analysis technique. Most noteworthy is that any meta-analysis is constrained by the data that is available in published studies. In certain instances, we were unable to translate existing empirical results into a metric that allowed for inclusion in our analysis. While we could not include these studies in our final database, their importance to the research question at hand should not be ignored. Therefore, we briefly summarize some of the excluded studies in Table 5. As shown, these studies most often report null and/or negative results. Positive effects of promotion on preference are reported only by Dekimpe et al. (1999) and Foekens et al. (1999).

Our analysis of moderating variables is limited by the description of the promotion environment supplied in the original studies. As a result, some variables of theoretic and practical importance are not included in our analysis. For instance, while we distinguish between actual and fictitious brands, more direct measures of brand familiarity or popular-

Table 5

Qualitative review of studies not included in the empirical analysis

Study	Summary	Findings
Dekimpe et al. (1999)	Tested the effect of promotions on the evolution of brand/category sales over 113 weeks for thirteen brands in four categories	Find no longer-run effects of promotions on sales for ten brands, negative effects for two brands, and positive effects for one brand
Foekens et al. (1999)	Estimated price elasticities for three brands of a frequently purchased non-durable (FPND) product	For the most heavily promoted brand, more recent and more valuable promotions increased consumer price sensitivity. There was no effect of promotion on price-elasticity for the other two brands in the study
Jedidi et al. (1999)	Estimated price and promotion elasticities for four FPND brands	Promotions increase promotion and price sensitivity. These effects are driven more by promotion depth than promotion frequency
Karande and Kumar (1995)	Estimated promotional price elasticities for three brands each of soup, ketchup, and yogurt	More frequent promotion increases consumer sensitivity to promotions (i.e., consumers learn to wait for promotions)
Macé and Neslin (2004)	Modeled post-promotion sales in ten FPND product categories	Products associated with negative effects on post-promotion sales are higher-priced, frequently promoted, mature, and higher-share. Promotions of greater depth increase post-promotion sales dips while the use of coupons helps eliminate the negative post-promotion effect
Mazursky et al. (1987)	Examined panel data on satisfaction and repurchase intentions for margarine, coffee, toilet paper, macaroni, and paper towels	Satisfaction with the chosen brand was lower following promotion-induced brand switching than intrinsically motivated brand switching in three of five categories (no difference in two categories). In four of five categories, a point-of-sale price reduction was associated with lower repurchase intentions. Coupons did not affect repurchase intentions
Mela et al. (1997)	Modeled consumer response to promotion and advertising over an 8 year period for a FPND good	Price promotions increase the price sensitivity of both loyal and non-loyal consumers. Frequent use of promotions also trains non-loyal consumers to wait for promotions by the brand
Neslin and Shoemaker (1989)	Examined the effectiveness of a coupon campaign for a personal care product	Scanner data reveals a spike in sales at the time of the promotion with "no discernable drop after the promotion" (p. 378)
Papatla (1993)	Modeled consumer loyalty for brands of laundry detergent	Loyalty built through brand purchase was greater for brands that were on-deal the least

such as market share are desirable. Similarly, consumers' level of expertise both in terms of brand knowledge (e.g., Shubir and Corfman 1999) and persuasion knowledge are likely to influence the extent to which promotions alter their reactions to promotions. While our results provide useful insights, opportunity exists for studies to broaden the scope of study by testing a wider array of moderating variables. Whereas we study the effect of promotion on preference, some managers might be more interested in profits. Thus, future research should address the effect of promotion on store profitability and whether any decrease in profitability is offset by immediate returns at the time of the promotion.

Despite these limitations, the results offer important insights to both practitioners and researchers. Researchers' interest in post-promotion brand preference has centered on the question of if there is an effect of promotion on preference once the promotion is removed. Our results offer a nuanced answer to this question. On average, promotions do not affect brand preference. However, promotions can either build (specifically via the use of coupons) or detract from longer-term brand preference. The delineation of the product characteristics that are associated with negative post-promotion effects on brand preference informs managers to be advised of the risk at which they place their brands when offering sales promotions. Understanding the effect of promotion characteristics on post-promotion brand preference allows managers to select a form (i.e., coupon, premium) and value (i.e., less than 20% of the product value) of promotion that minimizes risk.

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FROM CASH TO CARD ACCEPTANCE: TRANSFORMING ROUTINE TRANSACTIONS INTO EXTRAORDINARY OPPORTUNITIES

Abstract (Summary)

Leading government entities are taking advantage of quickly evolving electronic payment trends to improve revenue collections while reducing costs, particularly through the latest solutions designed for PINless debit and electronic check conversion. In 2003, electronic payments surpassed cash and checks as the preferred payment method at the point of sale as consumers and citizens not only accepted electronic payments, but embraced them. One promising trend is the conversion of paper checks into electronic check processing via ACH payment. This is of particular interest because it reduces the cost of payment acceptance, is faster, and offers flexibility of payment methods. PINless debit is another trend driving the transformation of payments -- particularly in approved, regulated sectors such as government. This new processing technology enables government entities to process debit card payments in a card-not-present-environment without requiring a PIN -- paying a fraction of the cost of associated processing fees.

Leading government entities are taking advantage of quickly evolving electronic payment trends to improve revenue collections while reducing costs, particularly through the latest solutions designed for PINless debit and electronic check conversion. Taxes, child support, commutation fees, even parking fees, tickets, and other motor vehicle transaction fees are just a few of the revenues where government agencies have successfully incorporated electronic acceptance.

This article is designed to help the government finance officer take the next step in transforming the treasury function to the electronic age. First, some background.

THE FOUNDATION OF THIS TRANSFORMATION

In 2003, electronic payments surpassed cash and checks as the preferred payment method at the point of sale as consumers and citizens not only accepted electronic payments, but embraced them.

Soon, citizens became accustomed to a wider choice of payment options. Yesterday's innovation has become today's norm. In 2005, the number of checks converted to Automated Clearing House (ACH) debits rose by 60 percent, and more than 2.15 billion consumer bill payments were processed through

the ACH Network, according to the Web site Electronic payments.org, a site sponsored by Electronic Payment Networks (EPN) and the National Automated Clearing House Association (NACHA). Earlier this year, the results of survey sponsored by Checkfree Corporation and conducted by Harris Interactive and the Marketing Workshop found that, for the first time, consumers in Internet-connected households are paying more of their household bills online than by paper check. Online payments represented 39 percent of the total volume of bill payments, an increase of 4 percent over the previous year, while the volume of checks sent through the mail decreased by 4 percent. Speed, greater control over timing of payment, and savings of time, paper, and money are the top reasons given by consumers for preferring online payments.

This gradual but profound behavioral shift sent a clear message to governmental agencies. Citizens voted: checks would gradually go the way of the paper fax, which though still in use, has been mainly replaced by electronic messaging. Reflecting citizens' desire to continue to leverage technology to meet government-related financial obligations, more than 3,000 government entities, including the IRS, now offer some form of convenience fee-based payment options.

But could what was good for the citizen also benefit government organizations? Would this solution improve payment processing, and,

even more critically, reconciliation for government entities? All organizations can reap the benefits of accepting automated payment solutions, including debit and PINless debit transactions and electronic check conversion. Electronic payments not only eliminate many costs associated with the generation of paper statements, but also reduce a variety of ancillary costs, including the high cost of fraudulent payments, collections, and exception item processing.

Cost reduction is not the only benefit. Automated payment processing solutions empower a government entity with a tool for control over cash flow forecasting and liquidity management. This also facilitates more accurate reconciliation by posting electronic information into legacy accounting managing software applications. Where managing collections was once seen as a waiting game, automated bill payment systems enable a government entity to have a say in settlement terms and speed.

The benefits for governments are readily apparent - you get your money more quickly You can reconcile more quickly. You have more control. Your treasury processes become more transparent. This is a multiple windfall, but like any opportunity, it comes with complications and challenges. Having a processing partner that offers a high level of service and the latest tools for payment automation helps a government realize the full potential for efficiency, including processing,

collections, forecasting, and personnel. A merchant acquirer can help you choose the right solutions for your payments strategy beyond just secure, reliable transaction processing.

SIMPLIFYING ADOPTION

In a 2004 study by the TowerGroup, 34 percent of responding private sector organizations using automated processes had achieved ROI in an average of 2.1 years; automated payment processing clearly extends a competitive advantage in the market.1

This is mirrored in the public sector. With citizens actively demanding faster, more personalized ways to pay with government entities of all sizes looking to reduce operating costs, and with technology being easier to implement than ever before, there's never been a better time to get on the road to transformation. The question is... who has the road map?

Traditionally, the field of electronic payment solution providers could be described as a vast, complex matrix of technology vendors, payment processors, associations, and other consultants that act independently of one another. This forces government entities interested in crafting electronic solutions for their citizens to deal with multiple disparate partners and to act as their own "general contractor" for an overall solution. Rather than navigating the complexities of electronic payment solutions unaided, government agencies are finding a resource in

private-sector payment experts knowledgeable in the unique needs of municipal, state, local, and federal government agencies. The foremost authority is the merchant acquirer, the financial institutions that are licensed as members of Visa® and/or MasterCard® and are responsible for processing electronic card transactions from the merchants and distributing them to the issuing banks.

Drawing on relationships with vendors and the payment associations, merchant acquirers can provide innovative payment tools for government entities through dedicated consultants that work with government entities to understand their specific needs and develop customized payment solutions - in effect, a one-stop shop.

Simplifying Electronic Check Conversion

One promising trend is the conversion of paper checks into electronic check processing via ACH payment. This is of particular interest because it reduces the cost of payment acceptance, is faster, and offers flexibility of payment methods. Depending on your government entity's needs, there are three choices:

* Accounts receivable check conversion (ARC)

* Point of purchase electronic check conversion (POP)

* Back office conversion (BOC)

The primary advantages for all three include speeding both collection and reconciliation and funds become available sooner, improving float. Additionally, these solutions ensure the ability to schedule electronic re-presentment should it become necessary.

ARC is the solution that has been in place the longest. ARC speeds collections and eases reconciliation by creating an electronic record of paper check activity that can be posted to your accounting management systems. The notice on the citizen's bill equals the authorization.ARC also lowers the cost associated with paper-check processing. Today, paper items are being converted at the point of purchase and being returned to the citizen.

Many hardware and software providers can help the government set up this mature process, though some experts predict that Check 21, which legislated that an image of a check is the legal equivalent of a check, potentially renders ARC obsolete.

POP converts paper checks into electronic payments immediately with a scan of a paper check at the location where checks are received. Because authorization is required at the time of transaction, POP allows the government to automatically access a verification database to identify possible bad check writers, thus providing the additional benefit of functioning as a low-cost alternative to accepting credit cards.

However, there are inherent drawbacks to consider in using POP For one, the process of scanning and verifying can take time. Second, because all ACH payments are governed by NACHA, specific declaratory language must appear on both the check and your government's walk-up location. Finally, some governments may find today's point of purchase hardware too large and too expensive to be practical, especially when they must manage their operation across multiple locations.

BOC converts all paper checks received through multiple locations in one central back office for electronic presentment to the bank, eliminating the need to return citizens' checks and saving on hardware expense.

The primary advantages of BOC versus traditional check processing are accelerated access to funds, plus a reduction in bank check fees and losses from returned items.Tellers and citizens alike have a less cumbersome experience. Interaction time is less for each transaction, enabling your government entity to process more payments in less time, thus cutting down on long waiting lines at peak hours.

BOC can be the easiest and cheapest solution. Of course, BOC sacrifices check verification services at the point of payment.

Recently, a private sector group conducted a business case analysis of BOC on behalf of a retail department store chain to determine

the enterprise-wide benefit. This study found that this retailer could reduce bank fees by 97 percent, improve access to funds by 54 percent, and reduce losses from returned items by 20 percent through implementation of BOC via conversion into an ACH payment. This hypothetical implementation would realize an overall savings of 59.9 percent, or $4.4 million, enterprise-wide.

PINLESS DEBIT

PINless debit is another trend driving the transformation of payments - particularly in approved, regulated sectors such as government. This new processing technology enables government entities to process debit card payments in a card-not-present-environment without requiring a PIN - paying a fraction of the cost of associated processing fees.

Without a doubt, debit card processing reduces the overall cost of payment processing, as interchange levels are significantly lower than credit card or signature debit rates. Also, since transaction approval is based on the cardholder's available balance, the account is memo-posted - and 100 percent authorized - at the time of the transaction.

Debit payment historically has been conducted via two distinct transaction types: Signature (offline) debit, which routes through Visa or MasterCard, and PIN (online) debit, which routes through the Star, NYCE, and Pulse Debit networks. Most of the debit cards carried by

almost 90 percent of consumers, offer both signature and PIN debit functionality Citizens prefer PIN transactions because they offer faster, more secure processing and fulfill payment immediately, all without even having to physically show the card.

How would a government entity set up PINless debit card processing to reduce expenses and meet the citizen demand for this payment option? Using ROI calculation tools to understand potential cost savings associated with converting paper checks to electronic payment methods and working with a payments strategy partner can help your government develop an end-to-end electronic payments solution that enables:

* Online and interactive phone recorder (IVR) bill payment

* PINless debit

* ACH/Direct debit

* Card account update for recurring payments

Some merchant acquirers provide a payment Web site or IVR (interactive phone menu) solution. A merchant acquirer also can recommend a card account update service designed to ensure citizen's card-on-file info is always accurate - failure to do this is one of the most obvious "spoilers" to avoid. Card-on-file functionality stores credit card information and is retrieved automatically when an individual logs onto a Web site using a password. Maintaining up-to-date

information is essential if billers are to provide uninterrupted service, increases authorization approvals, improves customer satisfaction, and reduces costs associated with corrections.

In the end, a system is only as successful as its rate of adoption. So, it is important that all necessary government staff members are trained on how to work with the debit networks (STAR, NYCE, and PULSE), and on helping citizens using the system.

RISK MANAGEMENT

As a payee, the government's concern is twofold: to ensure the validity of each and every electronic payment, and to protect and secure the personal data of all its citizens. That's no easy feat, given that the same technologies that make electronic payments advantageous can also open the door to fraud.Visa, MasterCard, and the other card brands are continuously developing new fraud-protection technologies, services, and programs to help decrease the incidence of identity theft and credit card fraud.

There are basic security measures that verify whether the card, the cardholder, and the transaction are legitimate in situations when the transaction is being conducted over the telephone, i.e., "card not present," and when it is done in person, i.e. "card present." There are also specific requirements that must be strictly adhered to in order to store and transmit data. The Visa Cardholder Information Security Program (CISP) outlines precise security standards for all entities that store, process, or transmit Visa cardholder data. MasterCard and the other card brands have similar requirements, and although adopting the myriad security measures can seem like a complex undertaking, a good payment processor should guide you through the process.

Of equal importance is the assurance that applications that handle cardholder data are compliant with today's security standards. Payment Card Industry Data Security Standard (PCI-DSS) is the standard adopted by the card associations and mandated as absolutely necessary for those entities, both public and otherwise, who have access to cardholder information. Today, companies and their vendors must pass a PCI compliance independent certification in order to be recognized as authorized to handle cardholder information. The penalties for non-certification can be extremely punitive for both the government entity and the vendor.

Many payment processors have created specialized solutions that will work for your agency As needed, they also can develop a unique customized program to help you address persistent "back burner" projects. For example, most processors can replace legacy manual systems with Web-based reporting programs that integrate cardholder data into your existing accounting and ERP systems for seamless transition to an electronic payment system. Not only do these

reporting programs save time and money, but they also improve the strength of your security programs. Indeed, many payment processors have developed highly specialized products and services that ensure complete compliance while combining the highest levels of security with increased efficiency.

WHAT'S NEXT?

AU organizations can benefit from automated payment solutions. But only those with the most awareness and highest levels of payment automation will seize the full potential of this technology - and be prepared to continue to capitalize on trends in the electronic payments space.

The next trend on the horizon is the adoption of middleware solutions that integrate the multiple databases government entities use to manage citizen information - multiple databases that are unable to communicate and share information today. Bill presentment, payment information, and reconciliation functions will no longer happen independently. Leading merchant acquirers and independent middleware providers are working diligently to bring these solutions to the market so that governments can integrate these three critical operational functions.

With certified systems in place, government entities will be able to determine citizens' payments and require payment information to be posted back, i.e., citation or property tax payment. All information will be managed together with the merchant acquirer's processing software and the backend accounting reconciliation software,enabling government treasury operations to enjoy one seamless process, from bill generation and presentment, to payment, then finally to reconciliation. This is one step closer to the transparency that could enable treasury officers a chance for true liquidity optimization.

TAKINGTHE FIRST STEP

Government agencies that are in the early stages of understanding the card acceptance process may want to begin by issuing an RFI (request for information) to a merchant acquirer. This gives the agency a chance to ask basic questions then use the information to clarify needs before issuing an RFP When it comes time to develop the RFP both the Visa and MasterCard Web sites offer valuable suggestions for improving the usefulness of the results. Merchant acquirers can provide guidance right from the start. Of course, finding the right merchant acquirer for your agency will take some time, and there are many to choose from.2

Moving beyond traditional payments requires some planning as you determine what electronic options are most appropriate for your agency. As citizens continue to trend toward non-cash preferences when paying their bills, the ability to accept a range of payment methods will expedite the process of payment fulfillment, benefiting both government and citizens.