



Consumer's perceptions and evaluations of virtual bundling

Ouidade Sabri-Zaaraoui, Pierre Desmet, Pauline de Pechpeyrou, Béatrice Parguel

► To cite this version:

Ouidade Sabri-Zaaraoui, Pierre Desmet, Pauline de Pechpeyrou, Béatrice Parguel. Consumer's perceptions and evaluations of virtual bundling. ANZMAC, 2006, Brisbane, Australia. halshs-00146676

HAL Id: halshs-00146676

<https://shs.hal.science/halshs-00146676>

Submitted on 13 Jan 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Title : Consumer's Perceptions and Evaluations of Virtual Bundling¹

Abstract (max 100) :

As a promotional technique more and more used by retailers and manufacturers, virtual bundling has not been the subject of any research from the consumer point of view. A qualitative study based on nine consumers revealed the perception of the benefits and costs of this form of promotion. An experimentation on a sample of 120 adult consumers was set up to test the hypotheses extracted from the literature and the qualitative study. The results led to the conclusion that there is no loss of interest for the virtual bundle compared to the real bundle.

Key words (max 4) : Virtual bundling, costs and benefits, experimentation

Track indication : Advertising, promotion and marketing communications

¹ The authors have equally contributed to this article.

1. Purpose of the Research

Retailers use promotions in a very intensive manner to attract customers into their shops and increase their revenues. The implementation of the promotions is in part financed by the manufacturers, for whom it represents the second spending effort, after cost of production (Drèze and Bell, 2003).

Implementation costs for some promotions can be so important that it can be a loss in value for all actors, manufacturers, retailers and customers. This is particularly true for bundles and formats that generate costs associated to product identification (EAN identification bar code), product manufacturing and product management (sales previsions on a per shop basis). However, retailers are currently getting equipped with “intelligent” registers that make possible the creation of “virtual bundles” and avoid those costs. Those virtual bundles are economically interesting for both manufacturers and retailers and therefore develop rapidly in retailing.

This research has the objective of identifying the relative efficiency of virtual bundles compared to real bundles, starting from the consumer’s point of view. The literature has amply shown that communication on promotions influences perceived value and purchase intention (Compeau and Grewal, 1994; Briesch, 1997; Krishna *et al.*, 2002; Janiszewski and Cunha, 2004). The efficiency of virtual bundles could be reduced by unfamiliar or insufficient communication and by a reduced interest from consumers for that mechanism. Benefits and perceived costs as well as the interest for real and virtual bundles are identified through in-depth interviews with managers and consumers and then tested by an experimentation on 120 consumers for two categories of everyday consumption products.

2. Conceptual Framework

a. Virtual Bundling and Its Characteristics

A bundle is an offer for price reduction in exchange for buying a set number of product units (Guiltinan, 1987). Variants and characteristics of bundles were presented in a recent summary article (e.g. Stremersch and Tellis, 2002).

A bundle is said to be “real” when the products are physically packaged in a single unit to be sold (over-packaging) and “virtual” when the products are presented separately but in conjunction with communication presenting a possible discount in case of the simultaneous purchase of a set number of product units. The customer creates the bundle himself in his basket and the verification of the granting conditions for the discount is done at the register. Different variants exist depending on the number of units to be bought and the scale of the discount. The most common are: “1 bought = 1 at 50% off” (Buy One Get One Half Price), “1 bought = 1 free” (Buy One Get One Free), “2 units bought = 3rd free” (Buy Two Get One Free).

The bundles are advertised by retailers on features and displays, but unlike the real bundle, the virtual bundle is not advertised on the packaging of the product. However it can sometimes be “materialized” by bags in which the client must insert his products. A virtual bundle could then be perceived less easily in store.

Moreover the communication of the real bundle on features is simpler than that of a virtual bundle. The former presents the package with its price whereas the latter needs at the same time to communicate the basic offer (the product and its price) and the offer referring to the virtual offer (granting conditions and price). If communicating the unit price is mandatory for the product category and if the retailer continues to inform its customers on the value in francs, there are then 4 prices tagged for the real bundle when there can be up to twice as many for the virtual bundle. The communication on virtual bundles also highlights the discount and/or the free aspect of the product, which represent an additional information that increases the perceived value of the offer (Chandrashekaran, 2004).

The literature on virtual bundling is still scarce (Desmet, 1999) and the first step in this research consisted in interviewing managers and consumers. Interviews with experts carried out among three major actors in pushing everyday products to the market (Colgate/Palmolive, Unilever, and Yoplait) justify the development of virtual bundling from its many advantages over real bundling, both for the manufacturer and retailer (see appendix 1).

For the manufacturer, virtual bundling avoids the production and logistic costs of real bundling (i.e. repackaging, specific packing, creation of a new *gencode*). Also, as it does not require a specific manufacturing process, virtual bundling avoids the drawbacks of a failing sales forecast: out of stock conditions or reconditioning of excessive stocks.

For the retailer, virtual bundling allows for an increase of sales volume without modifying the processes at the point of purchase. It enables him to highlight an advantage perceived very strongly by customers, “free” with no revenue loss or added cost.

Finally, virtual bundling affects the manufacturer-retailer relationship. On one hand, it supports a good relationship with the retailer within a trade marketing framework (i.e. addition to features) because this type of promotional offer is in line with retailers expectations. On the other hand, it enables the manufacturer to move from a contractual promotion to an efficient promotion as only the units bought are invoiced for when real bundling was based on fixed allowances (Desmet, 2002).

The global efficiency of virtual bundling depends on its visibility in alleys and its understanding by customers at the point of purchase. A qualitative study by means of in-depth interviews was conducted on nine consumers aged 26 to 59.

The results show that: (1) The virtual and real bundling mechanisms are perceived as similar: *“I feel it is pretty much the same. You have three products and you are explained clearly that the third is free. The technique seems to be the same”*; (2) the virtual bundle is considered as less visible and less clear than the real bundle, and is associated to more consumer uncertainty *“some people will only pick up two items not realizing they could get a 3rd free”*; (3) the consumer doubts the promotion will be applied for the virtual bundle when he feels it is assured for a real bundle: *“When the bundle is packaged together, there is no problem. The bundle is processed with a single code”*. Therefore there must be more awareness from the customer while processed at the register: *“I need to pay attention to my receipt at the register”*; (4) the virtual bundle faces the client with a more intensive decision making process when the real bundle immediately translates into a “promotional signal”: *“I would need to think a little more to realize that if I take two I have one free. For the other example, you have both units associated and the visual impact is immediate”*.

From those first analyses we can conclude that virtual bundling offers an economic benefit for firms but that this type of promotion adds both benefits and costs to the consumer.

b. Theoretical Framework

For the same economic value of the price reduction offered to the consumer, virtual and real bundles differ on two dimensions: the physical presentation of the bundle and the information communicated for the price. The promotional effects are evaluated following three different modes: economic, affective and informational (Raghbir *et al.*, 2004; Chandon *et al.*, 2000).

On the economic dimension, virtual and real bundling result in the same monetary benefit. However, the impact of presentation and the importance of the promotion « signaling » effect can differentiate the consumer perception.

Researches showed that the communication of a promotional offer directly influences its evaluation by the consumer, even for an equal economic value. Expressing the price and the price reduction, expressing a unique consolidated price or indicating the unit price for each component of the bundle are choices that impact the global evaluation of the bundle (Janiszewski and Cunha, 2004; Harlam *et al.*, 1995). Researches also demonstrated that advertising a reference price results in a better evaluation (Della Bitta *et al.*, 1981; Das, 1992; Chandrashekaran, 2004). For the real bundle, the communication on pricing only reflects the bundled price but for the virtual bundle, the bundle price comes with a barred price. In consequence:

H1: The perceived economic benefit is higher for the virtual bundle than for the real bundle.

The promotion allows for a decrease of the costs related to cognitive effort, time and money associated to decision making (Raghbir *et al.*, 2004). In particular, the price promotion enables the consumer to reduce its decision making process by giving him a justification for his purchase and by being a clue to determine the quantity to buy: the promotion acts like a signal for the consumer.

The signal effect of the promotion goes through a first evaluation of the physical dimension of the product (Raghbir and Krishna, 1999). The perceived volume effect of the real bundle is more important than that of the virtual bundle. Moreover the qualitative phase revealed a « peripheral » treatment of the real bundle: it is appreciated on its value as « signal » and is not subject to an in-depth analysis of the associated economic interest. On the contrary, the virtual bundle seems to be the object of an in depth decoding and thus of a more « central » treatment of the offer (Petty and Cacioppo, 1981). Thus, we postulate that:

H2: The perceived cognitive cost linked to promotional signal is higher for the virtual bundle than for the real bundle.

To the general affective benefit derived from the satisfaction of getting a good deal, a benefit of expression, more specific, is linked to a claim of smart shopper know-how (Schindler, 1989). This benefit is directly connected to the self attribution of the responsibility for promotional benefit (Schindler 1998). Virtual bundling requires a particular effort from the buyer, thus the responsibility of obtaining the promotional benefit should be attributed to him, which increases the benefit of expressing oneself, and we can then postulate that:

H3: The perceived self expression value associated to the deal is higher for the virtual bundle than for the real bundle.

Finally, announcing a deal also impacts the consumer's choice by its informational dimension. The communication around the deal can create an uncertainty on the value (Raghbir *et al.*, 2004) and increase the perceived risk from a mistake in choosing. Real bundling corresponds to a certainty on obtaining the benefit when the promotional benefit from virtual bundling is only effective after clearing the register. Thus virtual bundling also contains a stronger uncertainty that generates a perceived psychological cost accentuated by the necessity of increased vigilance at the register.

H4: The perceived cost of effort from control is higher for the virtual bundle than for the real bundle.

The global effect of the bundle presentation (virtual or real) on consumer perceptions results from the combination of previous effects. Lacking preliminary results on the difference in perception, a hypothesis of indifference is chosen.

H5: The perceived interest associated to the deal is identical for both virtual and real bundling.

Individual determinants can influence the evaluation of bundles (Harlam *et al.*, 1995). Purchasers of large quantities are used to buying bundles and therefore should show more interest for those.

H6a: High volume purchasers show a stronger interest for bundles compared to low volume purchasers.

As some customers are familiar with purchases in large quantities, they may be less sensitive to the uncertainty on the application of the reduced price at the register. On the contrary, purchasers of smaller quantities may be less used to benefit from promotions conditioned to high volume purchases. Therefore they perceive a stronger cost of effort from control at the register. As this dimension should be more present with virtual bundles than with real bundles we postulate

H6b: High volume purchasers show a stronger interest for virtual bundles than low volume purchasers.

Sensitivity to a deal corresponds to particular interests to good deals (Froloff, 1992). Promotional bundling being a particular promotional technique, we postulate

H7a: Deal-prone shoppers show a stronger interest for bundles than less deal-prone shoppers.

We can also think that the search for a hedonic dimension of smart shoppers is more important for the deal-prone shopper. As this dimension should be more present with virtual bundles than with real bundles we can think that

H7b: Deal-prone shoppers show a stronger interest for virtual bundles than less deal-prone shoppers.

3. Research Method

The objective is to compare the perceived benefits, costs and interest towards a bundle depending on its implementation (virtual or real) for a constant economic value with an inter-subjects experimentation framework.

Face-to-face interviews were conducted in November in French public places among 120 adult consumers. The experimental manipulation corresponds to the presentation of a photograph of a promotional offer (appendix 2). The 2x2 design crosses the presentation of the bundle (real vs. virtual) and the product category (chocolate bar vs. shower gel). The economic value of the offer is a 33% discount in the form of free product: « 2 units bought = 3rd free ». Two product categories making extensive usage of bundling deals are studied: chocolate bar and shower gel. The selection of the two product categories is set to enable replication of results but no particular difference is expected between the two categories.

The regular prices of the chosen categories reflect the average market prices. The prices of the two products are close because the presentation effects are moderated by the price level of the product (Das, 1992). To bypass the moderating effect of brand perceived image (Gupta and Cooper, 1992), the offer is neutral and bears no mention of brand or store name.

After a selection question on product purchase and the quantity usually consumed, the advertisement is placed at the disposal of the audience for a few minutes then withdrawn. The question sequence first tackles (1) the global evaluation of the offer interest then (2) self expression values and utilitarian benefits and finally (3) the cognitive effort and the uncertainty of the benefit from the deal. The average interview time span is 10 minutes.

4- Major Results

The constructs were measured with multi-item scales. The reliability of scales is satisfactory for the perceived interest (3 items adapted from Bréchet *et al.*, 2004; $\alpha = 0.71$), the economic benefit (3 items from Chandon *et al.*, 2000; $\alpha = 0.85$), the hedonic benefit (3 items from Chandon *et al.*, 2000; $\alpha = 0.80$), the cognitive cost linked to the promotional signal (3 items derived from the exploratory qualitative phase; $\alpha = 0.72$) and the promotional sensitivity (3 items from Froloff, 1992; $\alpha = 0.87$). However, the reliability is modest for the controlling effort cost scale (3 items from the exploratory qualitative phase; $\alpha = 0.50$) that had not been the object of any preliminary validation.

A multivariate variance analysis is conducted with the bundle and the product category as variables and with individual covariates (monthly volume purchased, sensitivity to the deal). The interaction –bundle and product category– is not significant. The effect of covariates follows the expectations: the effects of quantity usually purchased and of the sensitivity to the deal are significant and positive for the interest to the bundle ($F = 2.85$, sig. = 0.094 and $F = 14.07$, sig. = 0.000; H6a and H7a supported). The interaction –bundle and volume usually purchased– is significant: high volume purchasers show a stronger interest for virtual bundles than low volume purchasers ($F = 4.19$, sig. = 0.043; H6b supported). Conversely, the interaction –bundle and promotion sensitivity– is not significant ($F = 0.82$, sig. = 0.367; H7b not supported).

The multivariate analyses show a global positive effect for the variable bundle (Wilks Lamba = 0.854, $F = 3.06$, sig. = 0.008). The statistic test for bundle contrasts gives significant results

for the perception of economic benefits differences ($F = 9.08$, sig. = 0.003; H1 supported) and cognitive efforts linked to the added verification for the virtual bundle ($F = 7.85$, sig. = 0.006; H4 supported). In contradiction with the proposed assumptions, the real or virtual format of the bundle influences neither the importance of cognitive costs linked to the processing of the promotional signal conveyed by the offer ($F = 1.85$, sig. = 0.176; H2 not supported) nor the value of self expression ($F = 1.17$, sig. = 0.281; H3 not supported). Globally the difference of interest between the two bundles is significant: the virtual bundle benefits from a stronger interest than the real bundle ($F = 4.40$, sig. = 0.038; H5 not supported).

5- Discussion

A promotional offer can be presented in different ways and the literature has shown that the offer as well as the communication accompanying it have an effect on the offer interest and on purchasing intention. In this research, virtual and real bundles are compared for an identical economic value. Not only the virtual bundle does not imply a lower interest than the real bundle, but the results suggest that it is characterized by a higher level of interest.

The qualitative study has revealed different benefits and costs associated to the virtual bundle. It seems that the positive effect from a higher perceived economic value is balanced by the negative effect of perceiving the additional cognitive costs associated to the decision making process, in particular those linked to the uncertainty of obtaining the discount for virtual bundles.

Expert interviews conducted with manufacturers and retailers have highlighted the numerous advantages associated to virtual bundling that reduce expenses for every partner while encouraging them to implement joint savings. In particular, virtual bundling can avoid the manufacturing costs of creating and storing the bundles. Taking into account the increased sensitivity of consumers to the environmental consequences of their choice, the reduction of over-packaging is a dimension that could be used to justify virtual bundling.

In conclusion, virtual bundling offers all the characteristics that should lead to its more and more intensive utilization for promotional campaigns aimed at consumers for categories of everyday use product such as the ones studied here.

Two limits should be considered. First, the lack of previous researches led to an exploratory process based on interviews. The new scales developed for the purpose of the study are not totally satisfactory and their reliability has to be improved. Second, the experimentation depicts the virtual bundle out of its context, which excludes the characteristics of the point of purchase. However, the expert interviews have shown the importance of in store communication that ensures the visibility and success of virtual bundling. This dimension could possibly moderate the general conclusion stating virtual bundles appear to be a more interesting solution than the real bundles on both a cost and a volume sold point of view.

Key references

- Bréchet A., Desmet P. and De Pechpeyrou P. (2005), Effets de l'annonce d'un prix multidimensionnel sur la confiance dans la marque, *4^{eme} Congrès sur les Tendances du Marketing*, Paris, France.
- Briesch R. (1997), Does it matter how price promotions are operationalized? *Marketing Letters*, 8, 2, 167-181.
- Chandon P., Wansink B. and Laurent G. (2000), A benefit congruency framework of sales promotion effectiveness, *Journal of Marketing*, 64, 4, 65-81.
- Chandrashekaran R. (2004) The influence of redundant comparison prices and other price presentation formats on consumers' evaluations and purchase intentions, *Journal of Retailing*, 80, 1, 53-66.
- Compeau L. and Grewal D. (1994) Adding value by communicating price deals effectively, *Pricing Strategy & Practice*, 2, 2, 28-36.
- Das P. (1992) Semantic cues and buyer evaluation of promotional communication, R. Leone and V. Kumar (eds) AMA Educator's proceedings: enhancing knowledge development in marketing, Chicago : American Marketing Association, 12-17.
- Della Bitta A., Monroe K. and McGinnis J. (1981), Consumer perceptions of comparative price advertisements, *Journal of Marketing Research*, 18, 4, 416-427.
- Desmet P. (1999), Le lot virtuel: une application d'un marketing interactif de masse, *Décisions Marketing*, 16, 61-66.
- Desmet P. (2002), *La promotion des ventes: du 13 à la douzaine à la fidélisation*, Paris, Dunod.
- Drèze X. and Bell D. (2003), Creating win-win trade promotions: Theory and empirical analysis of scan-back trade deals, *Marketing Science*, 22, 1, 16-39.
- Froloff L. (1992), La sensibilité du consommateur à la promotion des ventes: de la naissance à la maturité, *Recherche et Applications en Marketing*, 7, 3, 69-88.
- Guiltinan J.P. (1987), The price bundling of services: a normative framework, *Journal of Marketing*, 51, 2, 74-85.
- Gupta S. and Cooper L. G. (1992), The discounting of discounts and promotion thresholds, *Journal of Consumer Research*, 19, 3, 401-411.
- Harlam B., Krishna A., Lehmann D. and Mela C. (1995), Impact of bundle type, price framing and familiarity on purchase intention for the bundle, *Journal of Business Research*, 33, 1, 57-66.
- Janiszewski C. and Cunha Jr. (2004), The influence of price discount framing on the evaluation of a product bundle, *Journal of Consumer Research*, 30, 4, 534-546.
- Krishna A., Briesch R., Lehmann D. and Yuan H. (2002), A meta-analysis of the impact of price presentation on perceived savings, *Journal of Retailing*, 78, 2, 101-118.
- Petty R.E. and Cacioppo J.T. (1981), *Attitudes and Persuasion: classic and contemporary approaches*, Dubuque, Iowa, W.C. Brown.
- Raghbir P., Inman J.J. and Grande H. (2004), The three faces of consumer promotions, *California Management Review*, 46, 4, 23-42.

Raghbir P. and Krishna A. (1999), Vital dimensions in volume perception: can the eye fool the stomach?, *Journal of Marketing Research*, 36, 3, 313-326.

Schindler R.M. (1989), The excitement of getting a bargain: some hypotheses concerning the origins and effects of smart-shopper feelings, *Advances in Consumer Research*, 16, 1, 447-452.

Schindler R.M. (1998), Consequences of perceiving oneself as responsible for obtaining a discount: Evidence for smart-shopper feelings, *Journal of Consumer Psychology*, 7, 4, 371-392.

Stremersch S. and Tellis G. (2002) Strategic bundling of products and prices: a new synthesis for marketing, *Journal of Marketing*, 66, 1, 55-72.

Appendix 1 : Advantages and limits of virtual bundles for retailers and manufacturers.

	Explication	Verbatims
Development of virtual bundling technique	The promotional technique based on virtual bundling is a recent managerial practice, more or less imposed by retailers	<ul style="list-style-type: none"> ◆ “Virtual bundles appeared 2 years ago. Some retailers started gradually (Carrefour was one of the first); they developed themes and features dedicated to bundles (Casino).” ◆ “We use this technique more and more.” ◆ “... as a manufacturer we are forced to follow the trend of developing electronic bundles.”
Benefits for retailers		
Management Usability	No breaking up of virtual bundle or reorganization of the display	<ul style="list-style-type: none"> ◆ “End of promotional deal easy to manage for the retailer, especially for permanent article: no unbundling and reorganization of the display.” ◆ “Return to display without problems. No disbundling problems as they are present for physical bundles or over stocks overcrowding the display when the offer is over.”
Consumer attractiveness	Strong impact of virtual bundling on consumers especially for free product	<ul style="list-style-type: none"> ◆ “An offer that is strong for the consumer if there is free product.” ◆ “Strong consumer impact because the mechanism is immediate and concrete.”
Ease of restocking	Virtual bundles = normal products	<ul style="list-style-type: none"> ◆ “Restocking is easy in case of out of stock condition as it is a standard product”
Benefits for manufacturers		
Increase sales in volume	Virtual bundling enables the manufacturer to increase its sales.	<ul style="list-style-type: none"> ◆ “VOLUME!!! When I have a 4in1 offer I give 1/4th of the product but only sell one unit, with a bundle of 2 magnums with the second half price I still give 1/4th but I sell two units.”
Avoid out of stock conditions	Virtual bundling does not need specific repackaging ⇒ out of stock condition due to failure in planning are limited	<ul style="list-style-type: none"> ◆ “Moreover on specific products or real bundles the retail point needs to order 2 months in advance. If they made a mistake in their prevision they will be out of stock during the promotional event. With standard product they are on a more scheduled system and can reorder during the event”
Minimize logistic costs	Virtual bundling creates saving on logistic costs inherent to real bundling: repackaging, new bar code...	<ul style="list-style-type: none"> ◆ “It's cheaper because [...] creating a physical bundle is physically and logically harder to manage.” ◆ “If I have to create a bundle of two units under a blister it's complicated. I have to assign employees in manufacturing to repackage my products, it's expensive and takes time. Also I need to manage new codes, etc.” ◆ “No manufacturing costs for bundles that can be very expensive in term of packaging material and hours [...] creating a gencode, printing new labels, new packing.”
Be present on flyers	Virtual bundling is a strong argument to be included on the retailer's flyer	<ul style="list-style-type: none"> ◆ “Argument to get several products on a flyer if there is a promotional event.” ◆ “No electronic bundle = no spot on the flyer if there is a theme for the bundling”

Limits to the use of virtual bundling for manufacturers		
Need for infrastructure at retailers	Virtual bundling requires an important investment for computerized registers	<ul style="list-style-type: none"> ◆ “Technically, it is not obvious to implement as all the register of the retailers need to be set and able to apply the discount when checking out. Some independent retailers still can not do (ex: Intermarché).” ◆ “This requires a lot of investment for the distributions: computerized management, stock management from the register, information communicated over the whole network, register configuration and the accounting follow.”
Global cost	The virtual bundle is still a promotional technique globally costly	<ul style="list-style-type: none"> ◆ “The hidden side is that bundling stays very expensive as you have to give a minimum of 25% of free product where you could do a simple 5 to 15% discount.”
Difficult communication at the point of purchase	Virtual bundling requires clear and visible communication at the retail location	<ul style="list-style-type: none"> ◆ “The offer often fails due to lack of communication at the retail location.” ◆ “The big problem is communication at the retail location. Carrefour is used to publish special posters but in chains like Auchan or Cora we have a very bad communication. In the best scenario, the offer is advertised on flyers but not relayed on site.”

Appendix 2 : Stimuli

Shower gel :

Gel Douche Marque X 2x250mL+1gratuit

858390	4€36	28€60
5 413149 711101	6,54 €/L	42,90 F/L

Gel douche Marque X 250mL

858390	2€18	14€30
5 413149 711101	8,72 €/L	57,20 F/L

Chocolate bar:

Chocolat Marque X 2x200g+1 gratuit

858390	3€16	20€73
5 413149 711101	5,27 €/Kg	34,55 F/Kg

Chocolat Marque X 200g

858390	1€58	10€36
5 413149 711101	7,90 €/Kg	51,82 F/Kg