

Product-Placement Planning: How Is the Industry Placing Brands in Relation to Moviegoer Consumption?

Ignacio Redondo

ABSTRACT. In the sphere of product placement, institutionalization of the industry has been paralleled by accumulation of research in recent years. However, there is a remarkable lack of attention to the planning of placements in the literature, especially when compared to traditional advertising. This study examines the success rate of 470 products placed in 35 movies to reach the corresponding consumers. As the resulting trends show, these product placements took advantage of the positive association existing between viewers and consumers, and the movie-product pairings were relatively successful in an intuitive way. Secondly, targeting was more accurate in placements highly connected to the plot, and in American productions more than in European ones despite the study being carried out in Spain. Nevertheless, ability to select movies was clearly insufficient, because decisions on movie choice were not systematically made according to the anticipated impact on consumers. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]

Ignacio Redondo is affiliated with Departamento de Financiación e Investigación Comercial, Universidad Autónoma de Madrid, 28049 Madrid, Spain (E-mail: ignacio.redondo@uam.es).

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BACKGROUND

From the legendary success of the Reese's Pieces placement in *E.T. The Extra-Terrestrial* (1982), a notable increase has occurred in the amount of brands placed in movies (Segrave, 2004). The practice of product placement has become so widespread that it has fostered an industry of its own (Wenner, 2004). There are more than one hundred companies practicing in this field internationally (Nelson, 2004). The institutionalization of the industry has been stimulated by the advantages of product placement over more traditional advertising: captive audience, uncluttered environment, implied celebrity endorsement, relatively low cost-per-contact, and unlimited life in video/DVD and television runs (Brennan and Babin, 2004). Additionally, another benefit of product placement is that feature films provide a worldwide audience that can be attributed to the ever expanding global distribution channels (Turcotte, 1995). This international viewing potential is one of the reasons given by practitioners to use product placements (Pardun and McKee, 1999). Product placement campaigns usually follow a standardized international strategy (Gould, Gupta, and Grabner-Kräuter, 2000), even though advances in digital technology have allowed filmmakers to adapt virtual placements to different markets (Wenner, 2004). A paradigmatic case of adaptation was *Demolition Man* (1993), in which the prominent audiovisual placements of Taco Bell in the US version were digitally altered to Pizza Hut for international distribution because of the very limited presence of Taco Bell overseas (Turcotte, 1995).

Despite criticism over the intensifying commercialization of Hollywood movies (Wasko, Phillips, and Purdie, 1993), product placement has continued to emerge as an influential medium of global reach, as an increasing number of high quality brand placements show (Galician and Bourdeau, 2004), thus inducing more academics to study this phenomenon. Research has been conducted on the effects of product placement on viewers and the general acceptance of this technique by audiences. Otherwise, no available studies have examined the relationship between the movies selected and the products consumed by viewers in order to plan product placement more systematically. The present paper takes up this lack of research.

Main Findings in the Literature

The literature relating to product placement has increased significantly in the last decade, mainly concerning its effects on the audience in three areas (recognition, memory, and attitudes) and acceptance of this subtle advertising technique by viewers. With reference to product placement effectiveness in recognition, two studies arrived at contradictory conclusions. According to Ong and Meri (1994), many viewers are not able to state the brands placed in a movie when they leave the theater. While for Babin and Carder (1996b), a great many of the brands placed are consciously identified by the audience. Later studies revealed that recognition is more frequent in prominent placements than in those that are merely contextual (Brennan, Dubas, and Babin, 1999); that recognition is greater when the brand appears together with the lead actor or actress (d'Astous and Chartier, 2000); and that the recognition rate is high in verbal and plot-related placements, but low in visual placements that are not connected to the plot (Russell, 2002).

With regard to the effects on recall, research studies concluded that placements have an effective impact on the receiver's memory, whether they are brands placed in movies (Babin and Carder, 1996a; Vollmers and Mizerski, 1994), in television shows (Roehm, Roehm, and Boone, 2004; Law and Braun, 2000), or in computer and video games (Nelson, 2002). Furthermore, some researchers discovered that effectiveness with regard to memory depends on placement conditions. Gupta and Lord (1998) noticed that prominent placements generated greater recall than conventional advertisements, that the latter had greater recall than subtle placements, and that a verbal placement is recalled more than a subtle visual one. Moreover, the level of recall increases when the lead actor/actress is present, and when the placement is positively evaluated, but decreases when the brand that is placed is well integrated into the movie (d'Astous and Chartier, 2000). In addition, brand salience increases when viewers enjoy the movie and have higher levels of self-monitoring (Johnstone and Dodd, 2000).

Effectiveness regarding attitudes is the most controversial area and, at the same time, the least explored one. Some authors defend the idea that placements do not modify consumer opinions of brands or their intention to purchase them (Ong and Meri, 1994; Babin and Carder, 1996a; Vollmers and Mizerski, 1994). However, in the area of cigarettes, evidence has been found that placements are in fact effective. The appearance of actors smoking in movies causes young people to raise their evaluation of smokers and feel encouraged to

smoke (Pechmann and Chuan-Fong, 1999). More concretely, the fact that the lead actor/actress smokes causes young non-smokers to raise their opinion of cigarettes and smokers while causing young smokers to evaluate the movie and the lead more highly (Gibson and Maurer, 2000). Moreover, the influence of product placement on children is supported by the fact that a group of pupils exposed to a Pepsi placement in *Home Alone* later preferred this brand to Coke in significantly higher numbers than a control group (Auty and Lewis, 2004). With regard to the impact of the format, attitude changes are significant with verbal placements connected to the plot and with visual placements unconnected to the plot, while attitude changes are slight when these variables are reversed (Russell, 2002).

With respect to acceptance of product placement by viewers, most studies found generally favorable attitudes, although perceptions vary depending on country, product category, and individual conditions. The differences between the US and some European and Asian countries are significant, but not great enough to rule out a standardization strategy (Gould, Gupta, and Grabner-Kräuter, 2000; McKechnie and Zhou, 2003; Karrh, Frith, and Callison, 2001). At the same time, ethically-charged products, such as alcohol, cigarettes, and guns, are generally perceived as less acceptable for placement in movies (Gupta and Gould, 1997). Regarding viewer conditions, age, gender, movie watching frequency, and personal beliefs all have an impact on product placement acceptability. To the older moviegoers, brands in movies symbolize social change whereas to younger ones, they symbolize belonging and security (DeLorme and Reid, 1999). Males tend to find the placing of ethically-charged products as more acceptable than do females, and consumers who more frequently watch movies are more likely to find brand placement acceptable (Gupta and Gould, 1997). Viewers with more favorable beliefs toward product placement prefer it over alternative forms of on-the-screen promotional activities (Nebenzahl and Secunda, 1993), and acceptance of product placement by audience members is correlated with their intention to use for the brands placed in movies (Morton and Friedman, 2002).

Despite this large and growing literature on product placements, there remains one important subject to be investigated—namely, the ability of movies to reach the targets to which the products are aimed. This topic provides the main theme for the present paper.

Purpose of the Study

In the planning of traditional advertising, it is usual to define the target group according to demographics (e.g., age, sex, and income) or behavior variables (such as consumption or life style), and later select the most suitable vehicles for that target depending on several criteria (reach, cost-per-contact, etc.). Such a systematic procedure occurs very infrequently in the area of product placement, in which most producers do not even specify contractually the reach and the demographics of their films (Turcotte, 1995). In the practitioners' environment, the lack of interest in product-placement planning is noteworthy (Karrh, McKee, and Pardun, 2003), perhaps because decisions in this field do not seem to be a priority in a technique based on highly qualitative theories (Gupta, Balasubramanian, and Klassen, 2000). In any case, advertisers could choose the movies for their products more rigorously if there were information available about the reach or other ratios in relation to the intended targets.

The present study examines how effectively brands are being placed in movies in relation to moviegoer consumption. To this end, the ability of placements to reach their targets is measured through the association or match between the viewers of a movie and the consumers of a product placed in it. The strength of the association observed in each movie-product (or vehicle-message) pairing is referred to here as "targeting accuracy." The incidence of several factors on targeting accuracy is analyzed—namely, the connection of the placement with the plot, the modality of presentation (verbal, visual or audiovisual), the period in which the movie is set, and its country of origin. The whole study exclusively deals with movies on the big screen, without considering the subsequent windows of exhibition.

If low targeting accuracy is found, it would seem to indicate that planning decisions have primarily been made on the basis of intuition, as often happens in other areas of product placement (Karrh, 1998; 1995), thus making it imperative to use more systematic criteria. Perhaps it is not possible to accurately predict how many people in the target group will see a placement, but it does seem feasible to choose the type of movie that is most suitable to consumers of the relevant product, once the past behavior of the targets towards different types of movies has been examined.

The study's design is explained in the following section. Later, the results that respond to the question posed in the title will be discussed.

METHODOLOGY

The research work was carried out in Spain, a country that, with 141 million movie tickets sold in 2002, is the fourth leading movie market in Europe, after France, the United Kingdom, and Germany (European Audiovisual Observatory, 2004).

General Media Study

The *Estudio General de Medios* (General Media Study) is a source of information generally used by practitioners in the Spanish advertising market, and developed by the *Asociación para la Investigación de Medios de Comunicación* (Association for Media Research). The *Estudio General de Medios* (henceforth EGM) gathers information regarding media audiences (newspapers, magazines, television, radio, movies, and the Internet), consumption habits, household appliances, and some forms of behavior. Questions about consumption and domestic appliances cover a wide variety of products but are not delineated as to brand.

The EGM's current methodology, virtually unchanged since its inception in 1968, consists of 14,000 face-to-face in-home interviews performed three times a year (called "Waves") with individuals aged 14 and over (AIMC, 2003). The sample is distributed proportionally to the size and characteristics of the Autonomous Community, the province, and the city or town. The household is selected using the random route method, and within the household, the interviewee is also determined at random. Each interviewee is assigned a specific balancing coefficient so that the sample faithfully represents the actual distribution of the population according to the province, Autonomous Community, habitat, gender, age interval, family role, and size of household.

The fieldwork for each Wave takes place over eight weeks, and the interviews are evenly divided among all the days that are included. As a control measure, 18% of the surveys are checked by counter-interviews conducted by employees of *Eco Consulting* (the company that carries out the fieldwork), and 10% are supervised directly by the AIMC.

Since 1998, the EGM has been including in its second annual Wave a question about whether the interviewee has seen a list of ten motion pictures. These feature films are selected according to several criteria: having premiered in Spain early enough so that most of the participants could have seen them; not yet having been distributed in formats other than the big screen (video, DVD, and television); having reached a large enough box-office take; representing a wide variety of genres and con-

tents; and including both American movies and the most representative European ones (especially those from Spain).

In this study, 35 of the movies included in the EGM between 1998 and 2002 were taken into account, after excluding those with no placements. Table 1 shows the list of the 35 motion pictures that were analyzed, with the country of origin and the premiere date in Spain, as well as the number of interviews and the duration of the respective Wave.

Compiling the Placements

The movies were examined in DVD format and with a high-definition TV screen, slowing the image down enough to recognize any brief

TABLE 1. Characteristics of the Movies and of the Information Sources

Movie	Country of origin	Premiere in Spain	EGM Wave	No. of interviews	Duration of fieldwork
As Good as it Gets	US	2/27/98	2nd Wave of 1998	13,761	15/4/98 to 9/6/98
Flubber	US	3/20/98			
L.A. Confidential	US	11/7/97			
Open Your Eyes	Spain/France/Italy	12/19/97			
Seven Years in Tibet	US	12/5/97			
The Full Monty	UK	10/10/97			
Titanic	US	1/9/98			
Tomorrow Never Dies	UK/US	12/19/97			
Meet Joe Black	US	1/22/99	2nd Wave of 1999	13,692	7/4/99 to 1/6/99
The Girl of Your Dreams	Spain	11/13/98			
The Siege	US	1/29/99			
The Thin Red Line	US	2/19/99			
You've Got Mail	US	2/12/99			
All About My Mother	Spain	4/16/99	2nd Wave of 2000	14,390	5/4/00 to 6/6/00
Alone (Solás)	Spain	3/5/99			
American Beauty	US	1/28/00			
Butterfly	Spain	9/24/99			
The Sixth Sense	US	1/14/00			
The World Is not Enough	UK/US	12/3/99			
Toy Story 2	US	2/4/00			
102 Dalmatians	US	2/9/01	2nd Wave of 2001	14,533	4/4/01 to 5/6/01
Billy Elliot	UK	1/26/01			
Cast Away	US	1/19/01			
Family Man	US	1/26/01			
Hannibal	US	2/23/01			
Unbreakable	US	1/12/01			
Vertical Limit	US	2/2/01			
What Lies Beneath	US	11/24/00			
You're the One (A Story of the Past)	Spain	10/27/00			
Amélie	France	10/19/01			
American Pie 2	US	12/5/01			
Harry Potter and the Sorcerer's Stone	US	11/30/01			
Moulin Rouge	US	10/11/01			
Ocean's Eleven	US	1/18/02			
Shallow Hal	US	1/11/02			

appearance of the brands, and in the films' original language, because the mentioning of some brands are omitted in dubbed versions. The brand appearances were identified by the author without real advertising intention being confirmed, because of the proprietary nature of product placement industry (Galician and Bourdeau, 2004). The identification of the placements by researchers is a common procedure in the literature, explicit in some studies (Sargent et al., 2001; Ferraro and Avery, 2000; Brennan, Dubas, and Babin, 1999; Babin and Carder, 1996a-b; Ong and Meri, 1994) or implicit in the methodology of others (d'Astous and Chartier, 2000; Johnstone and Dodd, 2000; Gupta and Lord, 1999; Karrh, 1994).

The definition of "placement" used in this study includes the appearance (both visually and/or verbally) of brands or analogous names that can unequivocally be identified in the 35 movies. Brands corresponding to products not included in EGM were not taken into account. Thus, despite the wide variety of content in the EGM questionnaire, some significant absences should be pointed out, such as the use of courier services, clothing choices, fondness for fast food, owning a coffee maker and toaster, or the consumption of ketchup and candy.

As in the article by Galician and Bourdeau (2004), placements were counted regardless of the length of exposure, the brand's possible connection with the plot or main characters, whether there was material or financial compensation by the advertiser, and the geographic scope of brand demand. Also immaterial were whether the brand's image was favored or harmed, or whether the brand name or logo was completely visible (the determining factor was whether the brand was unequivocally recognizable). As with Ferraro and Avery (2000), visible brands on means of transport, billboards, and other outdoor advertising media were deemed product placements, as well as those on vending machines and on stickers, bags, or other promotional materials.

A number of 470 placements were identified, of 361 different brands/titles, corresponding to 85 products/activities. Appendix 1 compiles the placements identified in each movie, with figures in superscript that indicate the respective products/activities according to the numbering system in Appendix 2. Brand identification involved a certain amount of difficulty in some cases. Problems encountered were dealt with by defining criteria that, while arbitrary, seem to be the most reasonable and appropriate ones for this study. (These criteria are described in Appendix 3.)

Defining the Factors

The influence of several factors on targeting accuracy is analyzed: with regard to placement conditions, the connection with the plot and modality of presentation (verbal, visual or audiovisual); and with respect to the characteristics of the movie, the country of origin, and the period in which it is set.

Connection with the Plot

This connection refers to the degree to which the brand is integrated with the plot of the story. Following the studies of Russell (2002) and Galician and Bourdeau (2004), such integration was codified dichotomously as higher/lower plot connection. In many cases, it is clear that placements have high or low involvement in the script; however, in others, their ambiguity makes it necessary to define some assignment criteria. Placements where a lead actor or actress is carrying, wearing or using a brand were considered to be highly related to the script only when these actions formed part of the story line. However, even this criterion cannot be generally applied, as one should also consider the prominence of the appearances. Whether the brand is shown in a close-up or is displayed for a longer time, are both indications of the relevance of the placement to the plot. (Galician and Bourdeau (2004) assumed that, although precise operational definitions guide the categorization, the coding remains somewhat subjective in a few cases.) As for Ferraro and Avery (2000), any verbal mention of a brand was considered to be highly related to the story line.

Modality of Presentation

Placements were classified as verbal when the true or popular name of the brand was spoken, but not when referring to in generic terms, although the product is visible. For example, "Hand me a Budweiser (or a Bud)" qualifies, but "Hand me a beer" does not. Placements were classified as visual if the name, logo or other component by which the brand is unequivocally recognized was fully or partially shown. Finally, placements were classified as audiovisual when they met the requirements for both verbal and visual presentation, even when the brand was visible in one scene and mentioned in another instance in the movie.

The Movie's Country of Origin

The countries of origin of the 35 motion pictures were collected from the credits published in numerous magazines. (They are shown in the second column of Table 1.) In the statistical analysis, the countries of origin were grouped into two areas, the United States and the European Union, a division where questions only arise in the two Anglo-American co-productions of the 007 movies, which were finally assigned to the United Kingdom because of the origin of their producers.

Period of the Action

The inclusion in this study of any movie where some placement was identifiable created a very heterogeneous sample of titles. Some movies could not have contained a large part of the products that others had, because they took place at a time when not so many appliances had been invented, when the same products were not consumed, and when activities that are commonplace in our times were not done. As a result, a distinction was made between motion pictures set in modern times and those set in the past. The effect of this factor will be controlled in the statistical analyses. There were eight movies assigned to the past: *Butterfly*, *L.A. Confidential*, *Moulin Rouge*, *Seven Years in Tibet*, *The Girl of Your Dreams*, *The Thin Red Line*, *Titanic*, and *You're the One*. Some movies that took place in the more recent past, such as *Billy Elliot* or *The Full Monty*, were not included in this group, because most of the products did seem natural in the period that was represented. Fantasy films (such as *102 Dalmatians*) or animations (*Toy Story 2*), in which all types of product placements could fit, were not included either.

Measuring Targeting Accuracy

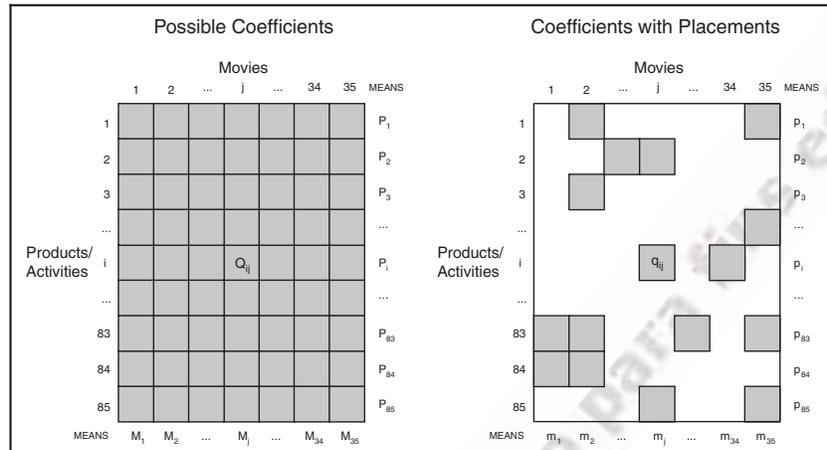
Yule's Q association coefficient was used to gauge the strength of the relationship between the variable viewing-a-movie and the variable consuming-a-product. The cross-tabulation of 35 movies and 85 products/activities generated 2,975 two-by-two contingency tables because all variables were originally dichotomous or were so recoded (has seen/has not seen the movie, consumes/does not consume the product, performs/does not perform the activity, etc.). Yule's Q was chosen among other measures of association due to the appropriateness of three properties to this particular situation. First, Yule's Q varies from -1 to $+1$ and can assume all values between these extremes, which indicate a

perfect negative or positive association, while the value 0 signifies independence or null relationship. (It is pointless using measures that indicate nothing about the direction of the relationship, as do chi-square, the coefficient of contingency, the phi coefficient, lambda, and the odds ratio.) Second, Yule's Q is insensitive to marginal distribution, which means that comparisons can be made among tables with different marginal frequencies (i.e., we can homogeneously compare all the movie-product pairings, with the number of viewers and consumers being irrelevant). Third, Yule's Q takes the value -1 or $+1$ whenever any one of the cells is zero, unlike other coefficients which require two zero entries on a diagonal. Thus Q is equal to -1 when neither the movie is viewed nor the product consumed (i.e., the movie-product pairing is totally ineffective despite only one cell being zero). Because of the suitability of the last two properties for the present study, Yule's Q must be chosen instead of Pearson's product-moment correlation coefficient (Liebetrau, 1983; Bishop, Fienberg, and Holland, 1975).

In regard to the interpretation of Yule's Q , the intrinsic meaning is equivalent to Goodman-Kruskal's gamma for the particular case of two-by-two tables (Davis, 1971): e.g., a Q value of .33 in a movie-product pairing means that we would do 33% better than chance if we always predict that the viewer consumes that product; and a Q value of $-.15$ means that we would do 15% worse than chance if we always predict that the viewer consumes that product. In other words, the higher the Yule's Q between a movie and a product, the greater the match between the respective viewers and consumers so that, as a result, the product's placement in the movie will have stronger targeting accuracy.

With respect to notation, Yule's coefficients were entered in two different ways. As shown in Figure 1, in upper-case letters the left matrix contains the coefficients of all possible pairings between 35 movies and 85 products/activities; and in lower-case letters the right matrix contains only the coefficients of the pairings of products actually placed in movies. (This distinction will enable us to analyze both the targeting accuracy obtained by the actual placements and the accuracy that could have been achieved if the brands had been placed in other movies.) Yule's association coefficient between the product i and the movie j is known as Q_{ij} , while q_{ij} is the same coefficient when a brand of product i was actually placed in movie j . The two matrixes have their respective marginal means for each movie and each product.

FIGURE 1. Association Coefficients Between Movies and Products/Activities



RESULTS

From a moviegoer-consumption standpoint, four questions on product-placement planning are formulated. Are product placements being planned appropriately to match moviegoers and consumers? Are there differences in targeting accuracy regarding movie characteristics and placement conditions? Are movies with similar characteristics being planned with similar standards? Could current planning be improved by means of a more suitable choice of movies? The first three questions will be answered in the subsection “General targeting accuracy” and the fourth one in “Relative targeting accuracy.” Lastly, the most significant cases offered by the individual examination of the placements will be described in “Brand targeting accuracy.”

General Targeting Accuracy

Before anything else, it is worth noting that motion pictures are a suitable vehicle to reach the consumers. The coefficients of all possible pairings between movies and products/activities (left matrix in Figure 1) show that the moviegoers have a relatively strong propensity towards consumption. This statement is based on the fact that the mean value of Q_{ij} is .26, a figure that, within the range of -1 to 1 , is a fair distance above the intermediate value 0 which would indicate independence be-

tween the variables analyzed. That is to say, the 85 products studied have a distinct positive mean association with the 35 movies reviewed. This finding is explained by the convergence of several clear trends observable in EGM databases. First, a large percentage of moviegoers are young people, an audience that is a leader in the consumption of many products/activities (e.g., soft drinks and sports). In addition, the frequency of attending movies rises as the socio-economic position, the size of the city of residence, and the level of studies increase, as these three variables are characterized by a pronounced positive relationship with the level of consumption.

To evaluate if product placements are being appropriately planned, attention must be paid to the q_{ij} coefficients corresponding to the products actually placed in movies. The mean of q_{ij} coefficients is equal to .32, a value that surpasses the average for Q_{ij} by six percentage points. This superiority indicates that the placements were planned in a way that noticeably improves upon the targeting accuracy as better-than-random. The evidence shows that advertisers, taken as a whole, have made a skilful selection of the products placed in each movie. This finding may be explained by the successful use of intuition in product-placement planning.

Further, analysis of variance was used for testing differences in targeting accuracy with the placement conditions and the movie characteristics. The variability of the q_{ij} coefficients was analyzed in four One-Way ANOVAs for each factor: plot connection, type of presentation, country of origin, and period setting. (Putler, Kalyanam, and Hodges (1996) performed ANOVAs on Yule's association coefficients.) Table 2 reflects the means and frequencies of the groups and the F values with their corresponding significance levels. Results indicate that there were significant differences with three of the four factors, as described in the following points.

- Targeting accuracy showed distinct significant differences between the placements highly connected to the plot and those less connected. Placements with higher plot connection achieved better targeting accuracy, which was to be expected because they had received advanced planning, where the movie's potential audience had been more thoroughly assessed.
- There were no significant differences in targeting accuracy with regard to the modality of presentation. The superiority seen in the verbal and audiovisual placements was due to the fact that all were

highly connected to the plot. In addition, it should be recalled that the great majority of placements are only visible.

- Targeting accuracy varied significantly with the movie's continental origin. The brands placed in American productions reached their consumers much better than those placed in European films, although a priori the latter would seem to be more easily geared towards the Spanish market.
- The period during which the plot takes place was another factor with significant differences. The mere 35 placements in films set in the past obtained better targeting accuracy, but this is primarily due to the fact that one-third of the cases are books, a product that obtains high coefficients in movies of a historical genre.

Differences in targeting accuracy with the movies have hitherto not been examined because the motion pictures may be conditioned by two factors that were previously seen to be significant: the country of origin and the period setting. To test the null hypothesis that all movies achieved the same targeting accuracy ($m_1 = m_2 = \dots = m_j = \dots = m_{34} = m_{35}$), a One-Way ANOVA was performed with the movies and then one ANCOVA with a nested hierarchical design (Type I in the program *SPSS 11.0 for Windows*), where the movies were defined as a fixed fac-

TABLE 2. Analysis of Variance on Targeting Accuracy q_{ij} with Each Factor

Factor	Mean	No. of cases	F	Sig.
Connection with script			10.692	.001
- Lower	.299	273		
- Higher	.353	197		
Type of presentation			.918	.400
- Verbal	.343	30		
- Visual	.318	414		
- Audiovisual	.361	26		
Country of origin			17.598	.000
- EU	.283	204		
- US	.352	266		
Period setting			7.952	.005
- Present	.315	435		
- Past	.403	35		

tor and the country of origin and the plot's time setting as covariates. The F values and the corresponding significance levels are shown in Table 3. The One-Way ANOVA shows that there are very significant differences in the targeting accuracy achieved by the movies ($F = 2.584$ and $p = .000$), so that the null hypothesis must be rejected. In turn, the ANCOVA verifies that the differences observed in the movies were not completely explained by the covariates: the movies themselves differed in targeting accuracy ($p = .006$), even though their targeting accuracies were conditioned by both the country of origin ($p = .000$) and the time setting ($p = .001$). In other words, although product-placement planning is more appropriate to moviegoer consumption in the US than in EU, the motion pictures of each area are achieving very different levels of targeting accuracy. This finding has obvious implications for advertisers, particularly for planners who choose the movies in which the products will be placed. The choice of the movie is probably the most difficult and relevant decision in product-placement planning.

Relative Targeting Accuracy of the Movies

Could current planning be improved by means of a more suitable choice of movies? To answer this question, the targeting accuracy coefficient obtained by the placement was compared with the mean of the possible coefficients that the same product/activity would achieve in the 35 films. The new indicator was defined as a simple subtraction, $q_{ij} - P_i$, whose symmetrical and constant scale can be easily interpreted: the more positive the difference is, the better the movie selected; if the difference is zero, the selection was inconsequential; and the more negative the difference is, the worse the movie selected.

The mean of indicators $q_{ij} - P_i$ corresponding to the 470 placements has a value of .01. This mean value reveals that the movies, taken as a whole, were chosen in a virtually inconsequential manner. If the selec-

TABLE 3. Analysis of Variance on Targeting Accuracy q_{ij} with the Movies

Factors	F	Sig.
Movies	2.584	.000
Movies (Fixed)	1.779	.006
Country of origin (Covariate)	18.949	.000
Period setting (Covariate)	11.984	.001

tion of motion pictures had been made at random, a very similar figure would be expected. Accordingly, it seems evident that many product placement practitioners are not systematically choosing the films in relation to moviegoers' consumption. The moderate positive association between viewers and consumers, shown in the previous subsection, can be explained by the skilful use of intuition. In turn, the tiny relative targeting accuracy observed in this subsection can be explained by the lack of a systematic procedure for selecting the motion pictures.

To test differences in relative targeting accuracy of the movies individually, two analyses of variance were performed in a similar way with the previous subsection. (Table 4 shows the F values and significance levels.) A One-Way ANOVA on $q_{ij}-P_i$, with the movies as a factor, shows that there are very significant differences in the relative targeting accuracy achieved by the movies ($F = 4.827$ and $p = .000$). The subsequent ANCOVA on $q_{ij}-P_i$ with the movies as a fixed factor and the country of origin and the time setting as covariates, confirms that the differences between movies were still very significant ($p = .000$), after the significant effects of the country ($p = .048$) and the period ($p = .000$) were eliminated. These results mean, independent of the covariates, the relative standards of product-placement planning were significantly better in some movies than in others.

Toy Story 2 clearly stood out as the movie with the best relative targeting accuracy, because the toys placed in it obtained a match with their target that greatly exceeded those for the other films. Conversely, *102 Dalmatians* obtained the worst relative targeting accuracy—despite the accurate placement of dog food—because the newspapers and magazines placed in it would have obtained greater match with their respective readers in other movies. While the results for *Toy Story 2* and *102 Dalmatians* were fairly predictable, it is surprising that *Vertical Limit* was the film with the second-worst relative targeting accuracy, because

TABLE 4. Analysis of Variance on Relative Targeting Accuracy $q_{ij}-P_i$ with the Movies

Factors	F	Sig.
Movies	4.827	.000
Movies (Fixed)	4.386	.000
Country of origin (Covariate)	3.917	.048
Period setting (Covariate)	19.848	.000

its placements of sports brands could have reached hikers or climbers much better in movies such as *Amelie*, *The World is not Enough* and *You're the One*. This case makes one think that any prediction will be subject to uncertainty.

Brand Targeting Accuracy

The observing of individual cases confirms the above results and offers very illustrative examples. Due to space constraints, this subsection is limited to comparing the competitive brands of cola drinks and describing the most significant cases in other sectors.

Cola drink advertisers have been very active with placements in motion pictures because they are aware of the fact that in movie theaters they will find an audience highly inclined to consume their product: in the placements identified here (12 for Coke, 7 for Pepsi, and 3 for Dr Pepper), the q_{ij} targeting accuracy coefficients varied from .33 to .69, i.e., from a moderate to a substantial positive relationship between viewers and consumers. Table 5 shows the mean q_{ij} values for each brand and reveals that Pepsi had slightly better targeting accuracy than Coke and Dr Pepper, whose figures are very similar. Furthermore, the means for $q_{ij}-P_i$ show that Pepsi is the only one of the three brands that made an efficient selection of movies. Pepsi's targeting accuracy is four points over the neutral value 0, while the practically null figures for Dr Pepper and Coke would be those expected in a random selection.

In other sectors, rival brands achieved divergent levels of targeting accuracy for having chosen movies differently oriented to their consumers. We see some extreme cases (the $q_{ij}-P_i$ value is indicated in parentheses). Among placements for mineral water, Eau Claire's was very accurate in *Flubber* (.16) and Perrier's quite off the mark in *As Good as it Gets* (-.09). Among champagnes, Mötet et Chandon's accuracy in *Moulin Rouge* (.12) is noteworthy, as is Dom Perignon's lack of it in *Shallow Hal* (-.16). For newspapers, the high value of the *Los Angeles*

TABLE 5. Targeting Accuracy Obtained in Brands of Cola Drinks

Brand	No. of placements	Mean of q_{ij}	Mean of $q_{ij}-P_i$
Coke	12	.43	-.01
Dr Pepper	3	.44	.00
Pepsi	7	.48	.04

Times in L.A. *Confidential* (.20) stands out, as does the low value of the three newspapers placed in *102 Dalmatians* (-.19). And in wine, Berberana stands out at the top in *Alone* (.09) with Château Phélan Ségur and Il Grigio at the bottom in *Hannibal* (-.13).

Another surprising finding is that certain brands have had good targeting accuracy in some placements and poor accuracy in others. The cases with the most striking differences are: Motorola cell phone in *American Pie 2* (.23) versus *As Good as it Gets* (-.15); Heineken beer in *Alone* (.15) versus *You've Got Mail* (-.17); Omega watch in *Seven Years in Tibet* (.13) versus *The World is not Enough* (-.13); Evian mineral water in *Shallow Hal* (.14) versus *The World is not Enough* (-.10); and Apple personal computer in *You've Got Mail* (.05) versus *Flubber* (-.17).

It is also of interest to describe other significant divergences. The least accurate placement was for Hoyo de Monterrey cigars in *Family Man* (-.42). The selection of this film was particularly inappropriate, apart from the fact that placing cigars is difficult in any case because cigar smokers seldom go to movie theaters (observable in the EGM databases). Likewise, the choice of *American Pie 2* was quite unsuitable in certain cases due to the scant relationship between its viewers and the cultural proposals that were placed in it: the Guggenheim, MET, and Picasso Museums (-.29), the book *The Art of Antra* (-.23), and the newspaper *The New York Times* (-.21). Moreover, the fact that a placement as striking as the one for Budweiser beer in *Shallow Hal* had such poor accuracy in its target (-.14) is remarkable. Conversely, the placement of America Online in *You've Got Mail* was one of the best in general targeting accuracy ($q_{ij} = .65$) and stood out because of the appropriateness of the movie chosen ($q_{ij} - P_i = .10$).

Lastly, it was observed that forecasts in this field are subject to a level of uncertainty that has yet to be measured. The case of the cell phones placed in two successive installments of the 007 saga, which presumably were going to attract the same type of audience, is very exemplary. Ericsson achieved a notable result in *Tomorrow Never Dies* ($q_{ij} = .37$) and Motorola clearly exceeded it two years later in *The World is not Enough* ($q_{ij} = .53$). This fact may also be partly due to the progressive spread of cell phones among young people, who characterize the profile of 007 viewers. However, there may be other explanatory factors, e.g., the offering of movies from which the public may choose during the weeks the film is being shown. Most of the population goes to the movies less often than the average number of weeks that films are shown (AIMC, 2003): for example, two of three moviegoers do not attend the

theater more than once a month, and many movies are not shown during a longer period. It is thus evident that part of the population may not see a film they would be interested in seeing, because just when they go to the theater, they discover another more appealing offering. In short, if forecasts about the number of viewers for a movie are uncertain (De Vany, 2004), why shouldn't we expect the same with regard to the attendance of consumers of a certain product?

CONCLUSIONS

Previous literature published in the most widely recognized international journals has not analyzed the ability of products placed in movies to reach their intended targets, even though this subject encompasses decisions as relevant as the selection of the film most suitable to the consumers. The study presented herein was carried out in Spain using data from the *Estudio General de Medios*, and researched the relationship between the viewers of 35 movies and the consumers of 470 products placed in them.

The results indicate that motion pictures are an appropriate vehicle to reach the consumers, and product placements are being planned in an intuitive way that increases the intrinsic positive association between moviegoers and consumers. Moreover, targeting accuracy was greater in placements with higher plot connection and in American productions (despite the study being situated in a European country), but did not vary according to the modality of presentation (verbal, visual, and audiovisual). Furthermore, targeting accuracy differed very significantly from one movie to another, independent of the country of origin and the period setting, illustrating the importance of choosing a suitable movie.

Advertisers' ability to select movies was studied, comparing the targeting accuracy achieved by the 470 placements with the accuracy these same placements might have obtained in other motion pictures. The films chosen, in fact, barely improved on the results that might be expected from a random selection. This discovery reveals that decisions on movie choice were not systematically made according to the anticipated impact on consumers.

A specific review of the placements showed exemplary differences in targeting accuracy between brands. A striking case is Pepsi's slight superiority over its traditional competitors, Coke and Dr Pepper. In other sectors, it is easy to find rival brands with very different levels of targeting accuracy. In addition, it is noteworthy that some brands had

good targeting accuracy in some placements and poor in others. All of these results, along with the observation of very accurate placements and other very inaccurate ones, confirm the possibility of improving targeting accuracy by choosing an appropriate motion picture. The relationship between viewers and consumers should be valued in movie planning, in similar way that reach and cost-per-contact are criteria for selecting any advertising medium.

These conclusions are primarily subject to three limitations. First, the fieldwork carried out in Spain may not be universally transferable to other parts of the world. This makes it advisable to replicate the study in other countries, especially in the United States, unquestionably the vanguard of product placement. Second, all the brands appeared in movies were taken as placements without the advertising purpose being confirmed. It would have been better to distinguish the placements in which the advertisers compensated the filmmakers, but such information is not usually provided by practitioners. Third, the conclusions could have been even more solid if a more numerous and heterogeneous list of movies and products/activities had been analyzed.

The findings open up three interesting lines of research. The first one would examine the ability with which consumers could be reached in subsequent windows of exploitation (video/DVD rental and sales, pay-television broadcasts, and broadcasts on free television networks). The second line of research would consist of measuring and explaining uncertainty when the exposure of the consumers to each type of movie is predicted. And finally, the decision criteria used in practice by product placement managers should be studied. The overuse of intuition would demand the formulation of a systematic method, based on an extensive analysis of moviegoers' consumption, in order to choose the type of films most suitable for each product.

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APPENDIX 1

Brands Identified in Each Movie

The figures in superscript indicate the corresponding product/activity on the EGM questionnaire and are numbered as shown in Appendix 2. The brands are presented in product/activity order per Appendix 2 and, within each product/activity, in alphabetic order. Appendix 3 exhibits some criteria for identifying these placements.

Movie	Brands
102 Dalmatians	Veuve Clicquot ¹⁰ ; Alpo ³⁴ ; Lady and the Tramp ⁴⁸ ; Microvitec ⁷³ ; Philips ⁷⁵ ; Vespa ⁷⁹ ; Orient-Express ⁸¹ ; Evening Standard, Le Figaro, Le Soir ⁸³ ; Country Living, Elle, Harpers & Queen, Harper's Bazaar, Hello, Period House, Vanity Fair, Vogue, Wedding ⁸⁴
All About My Mother	Coke ¹ ; Schweppes ³ ; Bi-Solán ⁴ ; Mahou ⁸ ; Freixenet ¹⁰ ; Mokovskaya ¹³ ; Dunhill ¹⁹ ; Häagen-Dazs ²⁹ ; Nutribén ³³ ; Solán de Cabras ³⁵ ; Pronto ³⁷ ; Dodotis ³⁹ ; Evax ⁴⁵ ; Música para camaleones ⁵⁰ ; Airtel ⁷⁷ ; AVE ⁸¹ ; Sport ⁸³ ; Lecturas ⁸⁴
Alone (Solos)	Coke ¹ ; Fanta ² ; Solevita ⁴ ; Cruzcampo, Heineken ⁸ ; La Ina, Tío Pepe ⁹ ; Freixenet ¹⁰ ; Rives, Tanqueray ¹¹ ; Bacardi, Captain Morgan ¹² ; Stolichnaya ¹³ ; Ballantine's, Chivas Regal, DYC, White Label ¹⁴ ; 103, Magno, Soberano, Terry ¹⁵ ; Castellana, Machaquito ¹⁶ ; Bailey's, Larios ¹⁷ ; Marlboro ¹⁹ ; Koipesol ³¹ ; La Española ³² ; Fontvella, Veri ³⁵ ; Berberana ³⁶ ; Balay ⁶⁶ ; Aspes ⁶⁸ ; Renfe ⁸¹ ; Marca ⁸³ ; Diez Minutos ⁸⁴
Amelie	Cinzano, Martini ⁷ ; 1664, Amstel, Heineken ⁸ ; Piper ¹⁰ ; Chivas Regal, Grant's, J & B, Johnie Walker, The Famous Grouse ¹⁴ ; Brugerolle ¹⁵ ; Clacquesin, Cointreau, Pastis 51, Ricard ¹⁷ ; Benson & Hedges, Brooklyn, Camel, Chesterfield, Craven -A-, Dunhil, Fine 120, Fortuna, Gauloises, Gold Leaf, HB, JPS, Kent, Kim, Kool, L & M, Lucky Strike, Marlboro, More, Pall Mall, Peter Stuyvesant, Rothmans, Vogue, Winston ¹⁹ ; Davidoff, Ducados, Gitanes ²⁰ ; Kit Kat, m&m's, Mars, Nuts ²² ; NutraSweet ²³ ; Twinings ²⁶ ; Byrrh ³⁶ ; Omega ⁵¹ ; Duarig ⁶⁴ ; Kodak ⁷¹ ; France Soir, Libération ⁸³ ; Gala, Ici Paris, Paris Match, Science & Vie ⁸⁴
American Beauty	Coke ¹ ; Cutty Sark ¹⁴ ; Kodak ⁴⁹ ; MasterCard ⁵⁶ ; Sony ⁷⁰ ; The Wall Street Journal ⁸³ ; Elle ⁸⁴
American Pie 2	Pepsi ¹ ; Hansen's, Mist, Mountain Dew ² ; Schweppes ³ ; Red Bull ⁶ ; B & B ¹⁷ ; Doritos, Fritos, Pringles ¹⁸ ; Vive ⁴² ; The Art of Antra ⁵⁰ ; Guggenheim, MET, Picasso ⁶⁵ ; Motorola ⁷⁷ ; The New York Times ⁸³
As Good as it Gets	Pepsi ¹ ; Budweiser ⁸ ; Bacardi ¹² ; Jameson, Johnie Walker ¹⁴ ; Planters ³² ; IAMS ³⁴ ; Evian, Perrier ³⁵ ; Cascade ³⁸ ; Kodak ⁴⁹ ; Diners Club International, MasterCard, VISA ⁵⁶ ; MoMA ⁶⁵ ; Motorola ⁷⁷ ; Gulf, Mobil ⁷⁸
Billy Elliot	Martini ⁷ ; Yorkshire ²⁶ ; Kellogg's Corn Flakes, Scott's Porage Oats ²⁷ ; Ajax, Daz ³⁸ ; Erasmic ⁴³ ; Ker Plunk ⁵² ; Spar ⁵⁴ ; National Express ⁸² ; Honey, My Weekly, Weekend, Woman's Own ⁸⁴
Butterfly	Del Mono ¹⁶ ; La isla del tesoro ⁵⁰
Cast Away	Dr Pepper ¹ ; PayDay ¹⁸ ; Snickers ²² ; Evian, Ozarka ³⁵ ; Elvis Presley ⁴⁶ ; Compaq ⁷³ ; Panasonic ⁷⁶ ; Delta ⁸⁰ ; Le Monde, USA Today ⁸³ ; Newsweek, People, Time ⁸⁴
Family Man	Coke, Dr Pepper, Pepsi ¹ ; Sprite ² ; Yoo-Hoo ⁵ ; Lite ⁸ ; Perrier-Jouët ¹⁰ ; The Glenlivet ¹⁴ ; Doritos, Lay's ¹⁸ ; Hoyo de Monterrey ²¹ ; 100 Grand, Clif ²² ; Quik ²⁴ ; Lafitte ³⁶ ; Cat's Cradle, The Art of War ⁵⁰ ; Bloomingdale's ⁵⁵ ; Sharp ⁶⁹ ; Fix Flat, Goodrich, Michelin, Uniroyal ⁷⁸ ; PAN AM, United ⁸⁰ ; New York Post, The Star-Ledger, Wall Street Journal ⁸³
Flubber	Eau Claire ³⁵ ; Casio ⁵¹ ; Apple ⁷³ ; Hot Rodding, National Geographic ⁸⁴
Hannibal	Pepsi ¹ ; Mountain Dew, Slice ² ; Mug ⁸ ; MS ¹⁹ ; Château Phélan Ségur, Il Grigio ³⁶ ; Nike ⁵⁸ ; Nike ⁶⁰ ; Frigidaire ⁶⁷ ; Compaq, Dell, Trinitron ⁷³ ; Panasonic ⁷⁴ ; Panasonic ⁷⁶ ; Herald Tribune, La Nazione, The Washington Post, USA Today ⁸³ ; EuroBusiness, NME ⁸⁴ ; Microsoft Internet Explorer, Netzero ⁸⁵
Harry Potter and the Sorcerer's Stone	Adidas ⁵¹

Movie	Brands
L.A. Confidential	Coke ¹ ; Camel, Chesterfield ¹⁹ ; Quaker Oats ²⁷ ; Bulova, Rolex ⁵¹ ; Remington ⁶³ ; Los Angeles Times ⁸³
Meet Joe Black	Coke, Pepsi ¹ ; Budweiser ⁸ ; Marlboro ¹⁹ ; Jim, Laura Scudder's, Skippy ³⁰ ; Evian ³⁵ ; Fortune ⁸⁴
Moulin Rouge	Möet et Chandon ¹⁰
Ocean's Eleven	Dr Pepper ¹ ; Budweiser, Michelob ⁸ ; Ramlôsa ³⁵ ; Philips, Sony ⁷⁴ ; Motorola ⁷⁷ ; Chicago Tribune ⁹³ ; Time ⁸⁴
Open Your Eyes	Coke ¹ ; Schweppes ² ; Schweppes ³ ; Mahou ⁸ ; Beefeater ¹¹ ; Ballantine's ¹⁴ ; Gran Duque de Alba ¹⁵ ; Frangelico ¹⁷ ; Ducados ¹⁹ ; Camy ²⁹ ; Tissot ⁵¹ ; Philips ⁷² ; Vespa ⁷⁹
Seven Years in Tibet	Omega ⁵¹
Shallow Hal	Coke ¹ ; Budweiser ⁸ ; Dom Perignon ¹⁰ ; Evian, Saratoga ³⁵ ; Advil ⁴⁰ ; Old Spice ⁴⁴ ; Down by the River Where the Dead Man Go ⁵⁰ ; Nike ⁵⁹ ; Thule, Trek ⁶² ; Motorola ⁷⁷
The Full Monty	Coke ¹ ; Martini ⁷ ; Johnie Walker ¹⁴ ; Embassy, Mayfair ¹⁹ ; Kit Kat, m&m's ²² ; Nescafé ²⁵ ; Jacob's ²⁸ ; Wall's ²⁹ ; Persil ³⁸ ; Pull-Ups ³⁹ ; ASDA ⁵⁴ ; BarclayCard ⁵⁶ ; Umbro ⁶⁴ ; Daily Mirror, The Star ⁸³ ; Cosmopolitan ⁸⁴
The Girl of Your Dreams	Veuve Clicquot ¹⁰
The Siege	Coke ¹ ; Budweiser, Sol ⁸ ; Camel ¹⁹ ; m&m's ²² ; Oreo ²⁸ ; Monopoli, Yahtzee ⁵² ; Sony ⁷⁰ ; Apple ⁷³ ; Motorola ⁷⁷ ; The New York Times ⁸³
The Sixth Sense	Lipton ²⁶ ; Cap'n Crunch, Cocoa Puffs, Kellogg's Corn Flakes, Quaker Oats ²⁷ ; Perrier ³⁵ ; TDK ⁴⁷ ; Acme ⁵⁴ ; Nike ⁶² ; Family Fun ⁸⁴
The Thin Red Line	Coke ¹ ; Johnie Walker ¹⁴
The World is not Enough	Bollinger ¹⁰ ; Tanqueray ¹¹ ; Smirnoff ¹³ ; Bailey's, Galliano ¹⁷ ; Romeo y Julieta ²⁰ ; Evian ³⁵ ; Omega ⁵¹ ; VISA ⁵⁶ ; Guggenheim ⁶⁵ ; Fujitsu, Microsoft Windows ⁷³ ; Fujitsu ⁷⁴ ; Motorola ⁷⁷
Titanic	Dom Perignon ¹⁰
Tomorrow Never Dies	Heineken ⁸ ; Smirnoff ¹³ ; Omega ⁵¹ ; Ericsson ⁷⁷ ; BMW ⁷⁹ ; Titan ⁸⁰ ; De Telegraf, Die Welt, Hamburger Abendblatt ⁸³ ; Blitz Illu ⁸⁴
Toy Story 2	Ants in the Pants, Barbie, Battleship, Candy Land, Clue, Guess Who?, Little Tikes, Magic Etch a Sketch Screen, Mousetrap, The Game of Life, Twister ⁵² ; Life, Time ⁸⁴
Unbreakable	Coke ¹ ; Tropicana ⁴ ; Butterfinger ²² ; Apple ⁷³ ; SEPTA ⁸² ; Philadelphia Daily News, San Francisco Chronicle, The Evening Star, The New York Times ⁸³ ; InStyle ⁸⁴
Vertical Limit	Pepsi ¹ ; Kodak ⁴⁹ ; Alpina, Arc'Teryx, Black Flys, Convert, Gore-Tex, JanSport, Koflach, Macpac, Marmot, Met-RX, Mountain Hard Wear, Petzl, The North Face ⁶¹ ; Nikon ⁷¹ ; Sony ⁷³ ; National Geographic, Outdoors, Sports Illustrated ⁸⁴
What Lies Beneath	Louis Jadot ³⁶ ; Kmart ⁵³ ; The Guardian ⁸³
You're the One (A Story of the Past)	Martini ⁷ ; Dom Perignon ¹⁰ ; Terry ¹⁵ ; Del Mono, La Asturiana ¹⁶ ; Camel, Lucky Strike ¹⁹ ; Al Faro, Corazón (Diario de un niño), El gran Gatsby, El tablado de arlequín, Familia, infancia y juventud, For Whom the Bell Tolls?, La familia de Pascual Duarte, Nada, South Sea Stories, Tres maestros: Balzac, Dickens y Dostoiewski, Vida de Oscar Wilde ⁵⁰ ; Alsa ⁸²
You've Got Mail	Pepsi ¹ ; Heineken ⁸ ; Piper-Heidsieck ¹⁰ ; Tanqueray ¹¹ ; Stolichnaya ¹³ ; Evian ³⁵ ; Echinacea ⁴¹ ; Ballet Shoes, Boy: Tales of Childhood, Dancing Shoes, Pride and Prejudice, Skating Shoes, Theater Shoes, What Have You Done, Davy ⁷⁵⁰ ; VISA ⁵⁶ ; Intel ⁵⁷ ; Apple, IBM ⁷³ ; New York Post, The New York Observer, The New York Times, Times ⁸³ ; American Online ⁸⁵

APPENDIX 2

Products/Activities, as Defined in the EGM Questionnaire

1. Personally consume cola drinks
2. Personally consume fruit-flavored soft drinks (orange, lemon, etc.)
3. Personally consume tonic water
4. Personally consume bottled/canned/cartons of fruit juices
5. Personally consume milk shakes
6. Personally consume isotonic beverages
7. Personally consume vermouth
8. Personally consume alcohol-free beer
9. Personally consume fine wines (Jerez, Montilla, etc.)
10. Personally consume champagne/cava
11. Personally consume gin
12. Personally consume rum
13. Personally consume vodka
14. Personally consume whisky
15. Personally consume brandy/cognac
16. Personally consume anisette
17. Personally consume liqueurs
18. Personally consume snacks/potato chips
19. Personally consume Virginia-tobacco cigarettes
20. Personally consume dark-tobacco cigarettes
21. Personally consume cigars
22. Personally consume chocolate bars
23. Personally consume saccharine/sweeteners
24. Consume powdered instant chocolate milk mixes in the household
25. Consume instant coffee in the household
26. Consume packaged teas in the household
27. Consume breakfast cereals in the household
28. Consume cookies in the household
29. Consume ice-cream cakes and ice cream in the household
30. Consume butter in the household
31. Consume sunflower oil in the household
32. Consume packaged snacks (not potato chips) in the household
33. Consume baby food in jars in the household
34. Consume packaged dog/cat food in the household
35. Consume mineral water in the household
36. Consume bottled wine in the household
37. Use furniture polish in the household
38. Use laundry detergents in the household
39. Use baby diapers in the household
40. Regularly use analgesics
41. Regularly use vitamin complexes
42. Regularly use conditioning shampoo
43. Regularly use shaving cream/gel
44. Regularly use after shave
45. Regularly use sanitary napkins
46. Have bought recorded discs/cassettes in the last three months
47. Have bought blank videotapes in the last three months
48. Have bought video movies in the last three months

49. Have bought camera film in the last three months
50. Have bought books in the last three months
51. Have bought wristwatches in the last three months
52. Have bought toys in the last three months
53. Shop at department stores at least once a month
54. Shop at supermarkets at least once a month
55. Shop at shopping centers/malls at least once a month
56. Have a credit card
57. Have stocks, bonds, investment funds, etc.
58. Have gone jogging in the last 30 days
59. Have gone to the gym in the last 30 days
60. Have played tennis/squash in the last 30 days
61. Have gone hiking/climbing in the last 30 days
62. Have gone biking (road or mountain) in the last 30 days
63. Have hunted in the last 30 days
64. Have played some team sport (soccer, basketball, etc.) in the last 30 days
65. Have visited some museum or art exhibition in the last 30 days
66. Have a two-door refrigerator in the household
67. Have a refrigerator/freezer in the household
68. Have an oven built into the stove in the household
69. Have a microwave in the household
70. Have a video camera in the household
71. Have a camera in the household
72. Have an alarm clock radio in the household
73. Have a personal computer in the household
74. Have a wide-screen TV in the household
75. Have a VCR in the household
76. Have a personal stereo in the household
77. Have a cell phone in the household
78. Have a car in the household
79. Have a motorcycle over 75 cc. in the household
80. Have traveled by plane during the last 12 months
81. Have traveled by train during the last 12 months
82. Have traveled by bus during the last 12 months
83. Read or glanced through a newspaper yesterday
84. Have read or glanced through a magazine in the last week
85. Have connected to the Internet in the last 30 days

APPENDIX 3

Criteria for Identifying Placements

1. If a brand appeared several times in the same movie, it was counted as a single placement, unless the brand appeared on different products (for example, two placements were counted for Panasonic in *Hannibal*, for a wide-screen TV and personal stereo).
2. Fictional brands were not taken into account (for example, the JPS Funds company in *Shallow Hal*), nor those which are no longer sold (Schlitz beer in *L.A. Confidential*), nor those which came from the movie itself (i.e., in *Toy Story 2* all pre-existing toys were included as placements, but not the dolls which were the stars of the tale, which can more properly be classified as merchandising).
3. Products usually present in homes were omitted, because the differences between owners and non-owners were of no statistical interest. Specifically, ordinary phones, washing machines, radios, and television sets were not taken into consideration (except in their less frequent formats, such as wide-screen TV's, personal stereos, or alarm clock radios). Cars were not included either, because it is not advisable to treat them as a uniform product with the wide variety of makes and models on the US and EU markets.
4. Generic products were not taken into account (vodka martini in the 007 saga), nor were appellations of origin (Scotch whisky in *Family Man*).
5. Although a company sells different products, only the product/activity that is actually placed in the movie qualifies as a placement. The Nike jersey, for example, visible in *The Sixth Sense* is exclusively associated with the sport of cycling. Placements for large companies that did not advertise specific products were not taken into account, because they can not be associated with any product/activity (e.g., the Nike, Virgin, and Panasonic signs that lit up the New York night in *The Siege*).
6. The brands were compiled with their basic names, with no distinction being made for the specific models/versions used. For example, the different presentations of Diet Coke, Coca-Cola, and Coke are encompassed by the name "Coke," while "Pepsi" includes Diet Pepsi, Pepsi Wild Cherry, and Pepsi.
7. Books were only taken into account when they were connected to the plot, in order to avoid distortion of the results by the large number of titles shown in movies such as *You've Got Mail*.
8. In a very limited number of cases, some placements were not counted because the product was not surveyed in the respective EGM Wave, even if placements for that product were considered in other movies (e.g., the wide-screen Philips TV shown in *Tomorrow Never Dies*).

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