

Product Placement in Top-Grossing Hollywood Movies: 2001–2012

Huan Chen^a and Ye Wang^b

^aUniversity of Florida, Gainesville, Florida, USA; ^bUniversity of Missouri–Kansas City, Kansas City, Missouri, USA

ABSTRACT

The study examines the nature and characteristics of product placement in U.S. top-grossing movies from a historical approach. Several important findings and trends are identified from the results. First, product placements are found to be prolific in U.S. top-grossing movies. Second, the product categories of automobile, electronic equipment, and media and entertainment enjoy the highest exposure in movies. Third, over years, the embedded brands appear more and more bold and salient in movies. Finally, variations are found among product placements in different types of movies and product categories.

KEYWORDS

content analysis, historical analysis, Hollywood movies, product placement

Apple products appeared in 30% of the 33 top films in 2010; Nike, Chevy, and Ford in 24%; and Sony, Dell, Land Rover, and Glock in 15%. In fact, the next James Bond movie will cover one-third of its budget with \$45 million product placement revenue (Karr, 2011). As the aforementioned cases indicate, product placements are now prevalent in U.S. films as consumers are increasingly resistant to traditional advertising. Additionally, more consumers nowadays are multitasking, using digital and wireless technology to consume more often and to view advertising less frequently. Consequently, marketers have to find nontraditional and innovative ways to showcase their products and reach their target audience, and product placement has become one of their strategic communication choices. In recent years, U.S. marketers have continued to increase their investment in product placement in an effort to connect with those hard-to-reach consumers. Compared with traditional advertising, product placement possesses several advantages; for example, it is inescapable (Brennan & Babin, 2004), unobtrusive (Schmoll, Hafer, Hilt, & Reilly, 2006), with long shelf life (Karrh, 1998), and inexpensive (Hackley & Tiwsakul, 2006). Thus, product placement has become a huge business in the United States and across the globe. According to PQ media (2012), global product placement spending increased 9.8% to \$7.39 billion in 2011, and in the US, the world's

CONTACT Huan Chen ✉ huanchen@jou.ufl.edu 📧 University of Florida, 2074 Weimer Hall, 1885 Stadium Road, PO Box 118400, Gainesville, FL 32611, USA.

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largest product placement market, product placement spending rose 10.2% to \$4.26 billion in 2011. In particular, paid placements in U.S. films increased 8.4% to \$977 million in 2011, and reached almost \$8 billion in 2015 (Karr, 2011).

Since the first product placement appeared in a motion picture, this mass medium has consistently been seen as a desirable means to display products, brands, or services (Galician & Bourdeau, 2004; Lehu, 2007). Although previous research on product placements has covered a wide range of topics and explored this phenomenon in different media platforms (e.g., Avery & Ferraro, 2000; La Ferle & Edwards, 2006; Kim & McClung, 2010) and various cultural contexts (Van Reijmersdal, 2009), only limited empirical studies (Sapolsky & Kinney, 1994; Devanathan et al., 2003; Galician & Bourdeau, 2004; Kureshi & Sood, 2011; Devlin & Combs, 2012; Chen, Lin, Wang, & Yang, 2013; Nelson & Deshpande, 2013) have been conducted to examine product placement appearance in movies. However, the motion picture screen has been and still is a major place for displaying brands (Nelson & Deshpande, 2013). Therefore, more systematic studies on product placement in movies are needed to provide a more complete picture of product placement practices in the motion picture industry. In addition, among the limited number of studies, only a few have investigated this particular phenomenon from a historical approach (Galician & Bourdeau, 2004; Chen et al., 2013; Nelson & Deshpande, 2013). However, tracking the changes of product placement in different time periods would reveal the dynamics and fluidity of this phenomenon, thus offering valuable insights for both marketing communication scholars and practitioners. Furthermore, all the previous studies are descriptive in nature without exploring the possible relationships between certain characteristics of brand appearances. However, the examination of the correlations and variations among different characteristics would uncover the patterns and hidden trends of product placement practices in movies, thus adding theoretical implications to the current literature as well as providing specific ideas for future research endeavors. Hence, the purposes of this study are (a) to offer an overview of product placement in motion pictures in the U.S. market, (b) to provide a historical analysis of product placement in movies, and (c) to uncover the possible relationships between the characteristics of brand appearance in movies by content analyzing 24 top-grossing motion pictures released from 2001 to 2012.

Literature review

In the literature, a few studies specifically examine product placement in the top-grossing movies in the United States (Sapolsky & Kinney, 1994; Galician & Bourdeau, 2004; Devlin & Combs, 2012). In an early study, Sapolsky and Kinney content analyzed the 25 top-grossing movies of 1991. They found that 292 brand placements appeared in these movies with an average of 13.9 brands in each film. Among the brands, almost 70% ($N = 156$) were not used or touched by a character. In terms of product category, automobiles appeared most frequently (17.8%), followed by food, alcoholic beverages, and nonalcoholic beverages. In terms of film genre, brands were most likely to appear in comedies.

Devlin and Combs (2012) repeated Sapolsky and Kinney's (1994) study by examining product placements in the 25 top-earning films of 2010. They revealed that films from 2010 contained 528 instances of brand placements with an average of 27.79 brands in each film. In the context of the modality of brand placements, they found 423 (80%) visual-only brands, 75 (14.2%) audio-only placements, and 30 (5.7%) audio-visual brands. In terms of character interaction, they found more than half (56.3%) of the brands were not used or touched by a character. In terms of product category, automobiles (19.5%) again appeared most frequently, followed by food, media outlets, alcoholic beverages, and nonalcoholic beverages. As in the study of Sapolsky and Kinney's, brands were most likely to appear in comedies.

While still focusing on the U.S. top-grossing movies, Galician and Bourdeau (2004) offered a historical analysis of brand placements in Hollywood movies by content analyzing the 15 top-grossing motion pictures of 1977, 1987, and 1997. Their major conclusions include: 546 product placements were identified in the 45 movies, which equaled to about a quarter (24%) of the total running time of the movies; the most frequently appearing product categories were automobiles (21%), beer (14%), and soda (11%), and the most frequently appearing brand was Coca-Cola.

With the popularity of product placement practice increasing in the global market, researchers also investigated brand placement in international movies and markets (Devanathan et al., 2003; Kureshi & Sood, 2011; Chen et al., 2013; Nelson & Deshpande, 2013). Kureshi and Sood analyzed the 30 top grossing Indian movies of 2009 and found that drama and comedy were the two leading genres of placements; service brands appeared most frequently in the movies, followed by durables and non-durables; and the most frequently adopted mode by brands as placements in Hindi films was visual. In a similar study, Nelson and Deshpande content analyzed 50 Bollywood produced movies and found that embedded brands increased significantly, and foreign brands appeared more frequently and prominently than domestic brands. In terms of product categories, most of the products were automobiles and soft drinks.

Chen et al. (2013) examined 20 top-grossing Chinese commercial movies from 1999 to 2011. The major findings of their study are: product placements are prolific in Chinese commercial movies, with a total number of 425 brand appearances and an average of 21 brands embedded in each movie; a variety of product categories are placed in Chinese commercial movies, while electronic equipment, automobile, and clothing/shoes enjoyed the highest exposure; brands appeared visually or verbally, but rarely demonstrated dual modality, and most brands were portrayed neutrally and seen for less than five seconds; the majority of the placed brands seem to fit with the movie setting, and the most popular presentation mode of brand is full product or logo, while the brands are seldom placed in close-up or shown in the center of the screen; and, in Chinese commercial movies, the interaction with character is an important strategy for brand placement.

The product placement practice has also been studied in cross-cultural contexts. Devanathan et al. (2003) content analyzed product placements in the top-grossing movies from 1996–2001 across five countries (Brazil, India, South Korea, Thailand, and United States). They found a total of 678 brand placements in the 54 movies, and the United States had the highest number ($M = 17.2$), followed by India ($M = 14.4$), Thailand ($M = 11.4$), Brazil ($M = 10.7$), and South Korea ($M = 4.9$). With regard to product type, they revealed variations among the five countries. Specifically, the United States, India, and Brazil had more high-involvement products in their movies, while Thailand and South Korea imbedded more low-involvement products in their movies. The top product categories across all countries were cars, fashion, soda, and alcoholic beverage, and the most common brands were Coca-cola, Mercedes, Nike, Pepsi, Volkswagen, and Sony. As for placement prominence and modality, they found that more products were prominently and visually placed.

As the literature indicates, among all the studies, only one (Galician & Bourdeau, 2004) investigated product placement in U.S. movies from a historical approach. Additionally, all the studies are descriptive in nature without revealing the statistical relationships between brand appearance characteristics. However, a historical approach to product placement practice in movies could help scholars and practitioners to identify the trend in this industry. In a similar vein, the statistical analysis of brand appearances characteristics could help scholars and practitioners to gain a more detailed picture of product placement practice in movies. Based on the study purposes, four overarching research questions are proposed:

- R1: What are the general nature and characteristics of product placement in U.S. top-grossing movies from 2001 to 2012?
- R2: What are the historical variations of product placement in U.S. top-grossing movies from 2001 to 2012?
- R3: Are there differences between product placements in various types of movies?
- R4: Are there differences between product placements in various product categories?

Methodology

Quantitative content analysis was conducted and the population was defined as product placements in U.S. top-grossing movies from 2001 to 2012. Generally, marketers and advertisers prefer to place their brands in Hollywood produced, blockbuster-style movies, in order to gain wide exposure among consumers (Galician, 2004; Lehu, 2007). In other words, only Hollywood produced, big budget movies tend to have several product placements. Therefore, we only examined product placements appearing in top-grossing movies. In order to obtain a

Table 1. Sample of U.S. top-grossing movies.

Year	Movie	Box-Office Rank
2012	The Avengers	1
2012	The Dark Knight Rises	2
2011	Transformers: Dark of the Moon	2
2011	Fast Five	6
2010	Iron Man 2	3
2010	Tron Legacy	12
2009	The Hangover	6
2009	Fast and Furious	17
2008	The Dark Knight	1
2008	Iron Man	2
2007	Spider-Man 3	1
2007	Transformers	3
2006	Night at the Museum	2
2006	The Pursuit of Happiness	10
2005	Batman Begins	8
2005	Mr. & Mrs. Smith	10
2004	Spider-Man 2	2
2004	Meet the Fockers	4
2003	Bruce Almighty	5
2003	X2: X Men United	6
2002	Spider-Man	1
2002	My Big Fat Greek Wedding	5
2001	Ocean's Eleven	8
2001	Rush Hour 2	5

Source: www.boxofficemojo.com.

representative sample, three criteria were applied to determine the size of the population. First, as product placements were embedded in movies, only those movies that were likely to have product placements were included. Accordingly, fantasy movies (e.g., *Lord of the Rings*) and animations were excluded from the population placement (Devlin & Combs, 2012). Second, the movies were released during 2001–2012, therefore, this study examines product placement during this period. Third, the movie had to be in the top 20 box office in the year it was released (Galician & Bourdeau, 2004) to qualify as a top-grossing movie. In order to obtain historical data, stratified sampling was applied. Movies from each year were listed. Two random numbers were generated for each year to select movies. As a result, two movies from each year were included in the sample. A total of 24 movies were selected for coding (see Table 1).

Interacoder reliability

Two undergraduate students were recruited as coders and trained over a period of two weeks before coding the movies. During this period, one of the researchers carefully went through each item in the coding book with the two coders.

Intercoder reliability is a type of reproducible reliability (Lacy & Riffe, 1996). It refers to the extent to which coding decisions can be replicated by different researchers (Lacy & Riffe, 1996). Given that it was not feasible to count the total number of product placements in all sampled movies for intercoder reliability purposes, the movie *Wanted*, released in 2008, was coded by both coders in order to

establish intercoder reliability. As intercoder reliability is not an indicator of the sample's or the universe's characteristics, some researchers argue that probability sampling of the test units is not necessary (Lacy & Riffe, 1996). Particularly, when intercoder reliability is calculated by Cohen's kappa, not percentage agreement, the measure does not depend on the representativeness of a sample of test units (Lacy & Riffe, 1996). Cohen's kappa indicates whether the agreement between coders is reached by chance (Lacy & Riffe, 1996). Given the advantage of Cohen's kappa over percentage agreement, intercoder reliability was coded by Cohen's kappa. The results showed that the intercoder reliability ranged from 0.77 to 1 (see Appendix 1 for details). The average intercoder reliability was 0.88. Thus, intercoder reliability met the requirement of 0.75 for content analysis (Tinsley & Weiss, 2000).

Coded variables

The coding book was developed and revised based on previous research (Galician & Bourdeau, 2004; La Ferle & Edwards, 2006). The variables included name of the movie, type of movie, brand name, product category, type of appearance, length of appearance, type of display/visual, exposure/visual, close-up/visual, camera view/visual, brand setting fit/visual, character interaction/visual, character involved in the interaction/visual, character who mentioned the product/verbal, tone of discussion/verbal, brand setting fit/verbal, salient brand, characteristics/verbal (see Appendix 1). Each variable was measured on a nominal scale, and values were assigned for answers of different questions respectively.

Results

The study examined the nature and characteristics of product placement in the top-grossing U.S. movies from 2001 to 2012 from a historical approach. In order to answer the research questions, descriptive and inferential statistical analyses were carried out.

RQ1: General characteristics of product placements between 2001 and 2012

The sample of product placement included 773 cases from 24 movies, with an average of 32 placements per movie. Of the 24 movies, 15 were action, six were comedy, one was crime and gangster, one was drama, and one was science fiction. Overall, action movies had the most product placements ($N = 535$, $M = 35.7$), followed by comedies ($N = 159$, $M = 26.5$). Crime/gangster movies and dramas had 39 and 33 product placements respectively. There were nine product placements in science fiction movies. As shown in Figure 1, the sample was coded in 16 different product categories. The largest categories of products placed in the movies were electronic automobile (34.9%), electronic equipment (11.13%), and media and entertainment (9.2%).

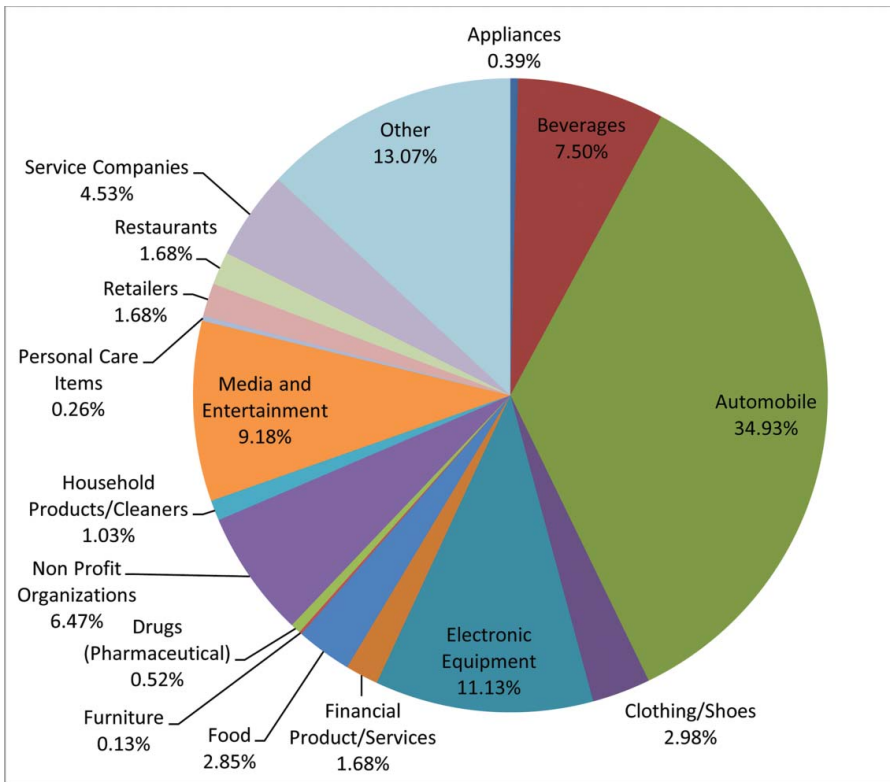


Figure 1. Product categories of the product placements.

All three types of appearances were found within the sample. The frequencies of coded visual and verbal characteristics are shown in [Tables 2–7](#).

RQ 2: Historical variation of the product placements from 2001 to 2012

To examine the amount of product placement over time, linear regression was conducted. Year was the exogenous variable, and the amount of product placement, product placement with a visual component, and product placement with a verbal component were entered as the endogenous variable, respectively. The results showed that year was not associated with the amount of product placement ($b = 4.54$, $t(10) = 2.04$, $p = 0.07$) or product placement with a verbal component ($b = -0.62$, $t(10) = -0.74$, $p = 0.48$). Year was positively associated with the amount of product placement with a visual component ($b = 5.07$, $t(10) = 2.46$, $p < 0.05$). Year explained a significant proportion of variance in product placement with a visual component ($R^2 = 0.38$, $F(1, 10) = 6.05$, $p < 0.05$).

Several logistic regressions were conducted, for each endogenous variable, to examine the trends of visual and verbal features over time. In each logistic regression, year was the exogenous variable. The single coding of the presence of a visual or verbal feature was the endogenous variable.

Table 2. Frequencies of coded variables.

Placement Characteristics	2001–2012	Percentage (%)
Type of appearance		
Visual only	619	80.1%
Verbal only	134	17.3%
Visual and verbal	20	2.6%
Time on screen		
0–5 seconds	328	51.3%
6–10 seconds	106	16.6%
11–15 seconds	30	4.7%
More than 15 seconds	176	27.5%
Visual Characteristics		
Type of display		
Brand on actual product	449	70.0%
Only logo or brand name	77	12.0%
Advertisement	76	11.9%
Other	39	6.1%
Exposure		
Completely exposed	592	92.5%
Slightly obscured	40	6.3%
Obscured	8	1.3%
Close-up		
Shown close-up	211	33.0%
Not close-up	429	67.0%
Camera view		
Center of screen	440	68.8%
Not center of screen	200	31.3%
Brand/setting fit		
Congruent	564	88.1%
Incongruent	76	11.9%
Character interaction		
None	308	48.1%
Yes	332	51.9%
Character involved in the interaction		
Leading character	189	61.8%
Supporting Character	67	21.9%
Other	50	16.3%
Verbal Characteristics		
Character(s) who mentioned the brand		
Leading character	74	48.4%
Supporting Character	54	35.3%
Other	25	16.3%
Tone of the discussion		
Positive	46	31.7%
Negative	11	7.6%
Neutral	88	60.7%
Brand/setting fit		
Incongruent	21	13.7%
Congruent	132	86.3%
Salient Brand Characteristics		
Psychological Attribute	9	5.9%
Physical Attribute	21	13.7%
Both	3	2.0%
None	120	78.4%

Table 3. The cross-tab of type of movies and type of appearance.

	Action	Comedy	Crime & Gangster	Drama	Science Fiction	Total
Visual Only	469	107	16	23	6	621
Verbal Only	58	46	21	6	1	132
Visual and Verbal	8	6	2	4	0	20
Total	535	159	39	33	7	773

Table 4. Visual features of PPL in various types of movies.

	Action	Comedy	Crime & Gangster	Drama	Science Fiction	Total
Brand On Actual Product	354	75	7	8	5	449
Only Logo or Brand Name	49	19	5	3	1	77
Advertisement	58	5	2	11	0	76
Other Types of Visual Display	16	14	4	5	0	39
Completely Exposed	449	102	14	21	6	592
Slightly Exposed	23	9	3	5	0	40
Obscured	5	2	1	1	0	9
Close-up	1	144	47	9	6	5
Not Center of the Screen	159	32	0	10	0	201
Center of the Screen	318	81	18	17	6	440
Character Interaction	231	59	3	10	5	308
Leading Character Interaction	126	51	2	5	5	189
Supporting Character Interaction	56	7	1	3	0	67
Other Character Interaction	48	1	0	1	0	50

Table 5. Verbal features of various types of movies.

	Action	Comedy	Crime & Gangster	Drama	Science Fiction	Total
Leading Character Mentioned	22	33	10	8	1	74
Supporting Character Mentioned	35	8	9	1	0	53
Other Character Mentioned	9	11	4	1	0	25
Positive Tone of Discussion	13	21	1	9	1	45
Negative Tone of Discussion	7	3	0	1	0	11
Neutral Tone of Discussion	42	24	22	0	0	88
Mixed Tone of Discussion	3	4	0	0	0	7
Psychological Attribute	5	3	1	0	0	9
Physical Attribute	8	11	1	0	1	21
Both Psychological and Physical Attribute	0	0	0	3	0	3
No Attribute Mentioned	53	38	21	7	0	119

Table 6. Visual features of PPL in various product categories.

Product Category	Close-up		Camera View		Brand-Setting Fit		Character Interaction	
	No	Yes	Not Center of Screen	Center of Screen	Incongruent	Congruent	No	Yes
Appliance	2	1	1	2	3	0	0	3
Beverage	42	10	25	27	52	0	41	11
Automobile	193	57	55	195	244	6	90	160
Clothing/shoe	18	3	11	10	21	0	8	13
Electronic equipment	36	47	19	64	83	0	34	49
Financial product/service	6	1	3	4	6	1	6	1
Food	14	2	7	9	15	1	11	5
Furniture	0	1	0	1	1	0	0	1
Drugs	3	1	4	0	3	1	3	1
Non-profit organization	14	22	14	22	36	0	29	7
Household product	3	2	2	3	3	2	1	4
Media and Entertainment	22	29	16	35	49	2	36	15
Retailer	7	1	4	4	8	0	7	1
Restaurant	8	0	6	2	8	0	7	1
Service company	22	5	7	20	27	0	16	11
Other	39	28	26	41	59	8	43	24
Total	429	210	200	439	618	21	332	307

Table 7. Verbal features of PPL in various product categories.

Product Category	Brand Setting Fit	
	Incongruent	Congruent
Beverage	0	6
Automobile	2	24
Clothing/Shoe	1	1
Electronic Equipment	1	2
Financial Product/Service	0	6
Food	3	4
Drugs	0	1
Non-profit Organization	1	13
Household Product	0	5
Media and Entertainment	8	14
Personal Care Item	0	2
Retailer	4	1
Restaurant	1	4
Service Company	0	8
Others	2	40
Total	23	131

Multinomial regression showed that year was significantly associated with the type of display ($\chi^2 = 66.27$, $p < 0.00$). Exp (b) showed that there was a slight increase in the likelihood of displaying brands on actual products ($\chi^2 = 42.85$, Exp (b) = 1.22, $p < 0.00$) and displaying only logo or the brand name ($\chi^2 = 6.04$, Exp (b) = 1.11, $p < 0.05$) over a year. Year was significantly associated with exposure ($\chi^2 = 31.90$, $p < 0.00$). Exp (b) showed that there was a slight increase in the likelihood of complete exposure ($\chi^2 = 29.16$, Exp (b) = 1.17, $p < 0.00$) over a year. Year was significantly associated with characters involved in a visual product placement ($\chi^2 = 9.64$, $p = 0.02$). There was a slight increase in the likelihood of leading ($\chi^2 = 5.40$, Exp (b) = 1.06, $p < 0.05$) and other characters' involvement ($\chi^2 = 5.24$, Exp (b) = 1.12, $p < 0.05$) over a year. Year was significantly associated with characters who mentioned the product ($\chi^2 = 33.51$, $p < 0.00$). There was a slight decrease in the likelihood of leading ($\chi^2 = 16.53$, Exp (b) = 0.86, $p < 0.00$), supporting ($\chi^2 = 13.83$, Exp (b) = 0.86, $p < 0.00$), and other characters ($\chi^2 = 8.48$, Exp (b) = 0.84, $p < 0.01$) mentioning brands over time.

Logistic regression showed that there was a significant increase in the likelihood of center of the screen ($\chi^2 = 7.85$, Exp (b) = 1.06, $p < 0.00$), visual character interaction ($\chi^2 = 7.79$, Exp (b) = 1.06, $p < 0.00$), and positive tone in brand mention ($\chi^2 = 14.00$, Exp (b) = 0.86, $p < 0.00$) over time.

Variables that were not significantly associated with year included the length of a visual product placement ($\chi^2 = 1.31$, $p = 0.25$), close-up ($\chi^2 = 0.07$, $p = 0.80$), brand-setting fit ($\chi^2 = 0.46$, $p = 0.50$), negative tone in brand mention ($\chi^2 = 0.09$, $p = 0.77$), and brand attributes mentioned in a verbal product placement ($\chi^2 = 2.4$, $p = 0.49$).

RQ3: Differences between product placements of various types of movies

Chi-square was applied to test the significant relationship between type of movies and visual and verbal characteristics. The results showed that type of movies had a significant relationship with type of appearance ($\chi^2 (8, N = 773) = 87.23, p < 0.001$).

Chi-square also revealed that the type of movies had a significant relationship with the type of display ($\chi^2 (12, N = 638) = 72.84, p < 0.001$), exposure ($\chi^2 (8, N = 638) = 17.92, p < 0.05$), close-up ($\chi^2 (4, N = 638) = 16.36, p < 0.01$), camera view ($\chi^2 (4, N = 638) = 12.75, p < 0.05$), character interaction ($\chi^2 (4, N = 638) = 12.03, p < 0.05$), and character involved in the interaction ($\chi^2 (12, N = 638) = 42.00, p < 0.001$).

Type of movies also had a significant relationship with character(s) who mentioned the brand ($\chi^2 (12, N = 155) = 22.80, p < 0.05$), tone of the discussion ($\chi^2 (20, N = 155) = 46.84, p < 0.001$), and salient brand characteristics emphasized ($\chi^2 (16, N = 155) = 53.22, p < 0.001$).

RQ4: Differences between product placements of various product categories

Among all visual product placements, product categories had a significant relationship with close-up ($\chi^2 (30, N = 638) = 81.28, p < 0.001$), camera view ($\chi^2 (315, N = 638) = 83.00, p < 0.001$), brand-setting fit ($\chi^2 (15, N = 638) = 60.10, p < 0.001$), character interaction ($\chi^2 (15, N = 638) = 89.20, p < 0.001$), and character involved in the interaction ($\chi^2 (45, N = 638) = 125.40, p < 0.001$). In addition, among all verbal product placements, type of product category had a significant relationship with brand-setting fit ($\chi^2 (14, N = 155) = 42.22, p < 0.001$).

Discussion

The current study explored the nature and characteristics of product placement in top-grossing U.S. movies, and revealed the possible relationships between different executional characters of brand placement, and investigated the historical changes of brands embedded in these movies. Several important findings and trends were identified from the results.

First, a few crucial findings regarding the descriptive nature and characteristics of product placements in top-grossing Hollywood movies were revealed. Consistent with previous studies (Sapolsky & Kinney, 1994; Galician & Bourdeau, 2004; Devlin & Combs, 2012), product placements were found to be prolific in top-grossing U.S. movies, with an average of 32 brands embedded in each movie. Additionally, as in previous studies' findings (Sapolsky & Kinney, 1994; Galician & Bourdeau, 2004; Devlin & Combs, 2012), a variety of product categories were placed in the top-grossing U.S. movies, and automobile, electronic equipment, and media and entertainment enjoyed the highest exposure. Finally, the results of the current study extend the findings of previous studies by revealing that action and comedy movies have more product placements than other genres of movies.

Second, with regard to the historical variations and trends, there are two key findings. A general trend emerged from the current study that the newly released movies had more visual oriented product placements than older movies. In addition, with regard to the specific execution factors, the data of the current study revealed that brands in the newly released movies were more likely to be displayed as actual products, to be shown as only logo or brand name, to be complete exposed, to interact with characters, to interact with leading characters in particular, to be placed in the center of the screen, to be mentioned more positively than those in the older movies.

Third, with regard to the relationship between product placements and types of movies, there are a few notable findings. Although visual only product placements were the most common type of placements in different types movies, verbal only product placements appeared more often in the crime/gangster movies than in other types of movies. In terms of the visual features of product placement, while the actual product was the most frequently displayed format of placements in various types of movies, the advertisements of a particular product, brand, or service were more frequent in drama movies than in other types of movies; no matter what type of movie, usually products were displayed more often in the center of the screen, and involved interactions with leading characters. Products with close-ups appeared much more often in comedy movies than in other types of movies. Finally, in terms of the verbal features of product placement, while in other types of movies leading characters mentioned products more often than supporting characters, in action movies products were discussed more often by supporting characters than leading characters; no matter what type of movie, products were discussed more often in a neutral tone.

Finally, with regard to the relationship between product placements and product categories, a few interesting findings were observed: while most products were shown less frequently with close-ups, electronic equipment, media and entertainment products, and non-profit organizations were displayed more often with close-ups, other types of products were displayed less frequently involving interactions with characters, automobiles, electronic equipment, and clothes/shoes appeared more frequently involving interactions with characters; and, no matter what type of product category, all the products were shown more frequently in the center of the screen and incongruent with the environment.

Theoretical implications

The current study offered several important theoretical implications. First, the current study supplemented previous studies by providing an overview of the practice of product placement in top-grossing motion movies in the U.S. market. Specifically, the current study revealed some major characteristics of today's product placement in Hollywood movies such as the prevalence of embedded brands, popular product categories, dominance of visual-oriented products, incongruence between brands and environments, and predominance of the interaction between characters and brands.

Second, the current study provided a historical analysis of product placement and identified historical trends of product placement practice in Hollywood movies. In particular, the findings of the study indicated that over years, the embedded brands appeared more and more bold and salient in Hollywood movies. Finally, the current study also presented some interesting findings regarding the relationships between product placements and types of movies, as well as between product placements and product categories. For example, crime/gangster movies had more verbal-oriented brands; more brands were shown as advertising in drama movies; electronic equipment, nonprofit organizations, and media and entertainment companies were shown in more close-ups; automobiles and electronic equipment products were shown with less interactions with characters; product placements were mentioned more frequently by supporting characters in action movies; and more brands were discussed positively in comedy movies than brands in other types of movies.

Practical implications

The current study also offered several important implications for marketers. First, while product placement continues to be a valuable marketing communication tool for marketers, the promotional environment is increasingly cluttered. Therefore, marketers should have more controls of their brand placements by carefully designing and strategically placing their brands in a more innovative way. Second, automobile, electronic equipment, and media and entertainment companies should take full advantage of this promotional technique to make connections with consumers. Other product categories, especially less common product categories such as financial services or personal care products, may also consider embedding their brands in top-grossing U.S. movies more often to achieve maximum effectiveness. Finally, as revealed by the current study, the characteristics of product placements varied among different types of movies and various product categories. Thus, in order to achieve better persuasive effect, marketers should consider those characteristics and variations and try to ensure the placed brands fit with the types of movies and the product categories.

Limitations and future research

The study has certain limitations that should be noted. First, only top-grossing movies and a limited number of movies in a certain time period were selected for analysis. Although in reality more brands are placed in widely distributed movies, the results may not be generalized to the whole U.S. movie industry. Future research should select a wide range of movies and replicate the study to provide more generalized results. Similarly, although the current study adopted a historical approach, the time frame is relatively short. Thus, the findings of this study may not be extended to movies produced in different historical periods. Future research should examine movies from a longer time period to verify the findings of the current study. Furthermore, two methodological issues should be noted. First, the sampling was particularly challenging for this study. As product placements are embedded in

movies, it requires significant resources to identify these exact cases in all the movies. Given the resources available, the researchers selected movies instead of sampling product placements. Additionally, the intercoder reliability usually requires 10% of the sample. As it was difficult to determine the total number of product placements in the sample beforehand, this study used another movie from the population to establish the intercoder reliability. While this method is arguably a strategic choice that the researchers made, future studies can test the reliability of the coding on a large scale if resources allow. Finally, the study only addressed brands in U.S. movies and made no attempt to measure the impact of those appearances on consumer knowledge and persuasion. Future studies should focus on the impact of brand appearances in terms of attitude and persuasion and their influence on brand purchase.

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Appendix 1: Coding scheme

Unit of analysis: Brand appearance

Each brand appearance is a unit of analysis. If a particular brand appears in the show more than once, do the coding of brand placement by portrayal characteristics more than once.

A brand appearance is coded when a brand is referred to verbally, visually, or both in a continuous segment of programming lasting at least one second in length.

A brand appearance is noted from the time it is mentioned or seen on screen, until one of three things occurred:

- 1) The brand is no longer referenced verbally or was visible.
- 2) The scene changes.
- 3) The program goes to commercials.

If a brand appears several times in quick succession, the length of each exposure is summed to form a single placement.

Celebrity names, government agencies, countries, street names, and fictional characters are excluded.

1. *Movie's name* _____
2. Type of movie:
 - 1) 1 Action
 - 2) 2 Adventure
 - 3) 3 Comedy
 - 4) 4 Crime & Gangster
 - 5) 5 Drama
 - 6) 6 Epics/Historical
 - 7) 7 Horror
 - 8) 8 Musicals/Dance
 - 9) 9 Science Fiction
 - 10) 10 War



3. *Time of appearance*: _____, e.g., 1h12'
4. *Brand name*: _____
5. *Product category* (Cohen's Kappa = 1):
 - 1) Appliances
 - 2) Beverages
 - 3) Automobile
 - 4) Clothing/shoes
 - 5) Electronic equipment
 - 6) Financial product/services
 - 7) Food
 - 8) Furniture
 - 9) Drugs (pharmaceutical)
 - 10) Nonprofit organizations (including hospitals, colleges and universities, social service organizations, etc.)
 - 11) Household products/cleaners
 - 12) Media and entertainment
 - 13) Personal care items
 - 14) Retailers
 - 15) Restaurants
 - 16) Service companies
 - 17) Others
6. *Type of appearance* (Cohen's kappa = 1):
 - 1) Visual only: the product or brand logo appears on the screen, but is not verbally mentioned by the characters.
 - 2) Verbal only: the product or brand logo is mentioned by the character, but not visually shown on the screen.
 - 3) Visual and verbal.

When you choose 1) and 3) in Item 6, please code Items 7 to 14, which are about appearances with visual component. Otherwise, skip Items 7 to 14, and go to Item 15.

7. *Length of appearance: the total time that the product appears on the screen* (Cohen's kappa = 0.93).
 - 1) 0–5 seconds
 - 2) 6–10 seconds
 - 3) 11–15 seconds
 - 4) more than 16 seconds
8. *Type of display* (Cohen's kappa = 0.87):
 - 1) Brand on actual product
 - 2) Only logo or brand name
 - 3) Advertisement
 - 4) Other

9. *Exposure (Cohen's kappa = 0.83):*
 - 1) Completely exposed: the full product or brand logo is shown on the screen.
 - 2) Slightly obscured: More than 50% of the product or brand logo is shown on the screen.
 - 3) Obscured: Less than 50% of the product or brand logo is shown on the screen.
10. *Close-up (Cohen's kappa = 1):*
 - 1) Not close-up: camera does not give extra emphasis or exposure to the placed brand.
 - 2) Shown close-up: camera view is intentionally drawn closer to the brand.
11. *Camera view (Cohen's kappa = 0.77):*
 - 1) Not center of screen: brand is located in the peripheral areas of the screen.
 - 2) Center of screen: brand is located in the center of the screen.
12. *Brand/setting fit (Cohen's kappa = 1):*
 - 1) Incongruent: the product or brand is not normally used or appears in this setting or not relevant to the ongoing plot, and the plot does not justify the use or appearance of the product in this setting. For example, while eating at a restaurant, a real estate developer's logo appears, and the plot does not indicate that the conversation over dinner is about buying or selling houses. This appearance is incongruent with the setting.
 - 2) Congruent: the product or brand is normally used or appears in this setting or is relevant to the ongoing plot. For example, the leading characters are a couple. They are searching to buy an apartment. They mention the name of a real estate developer while eating at a restaurant. This appearance is congruent with the setting.
13. *Character interaction (Cohen's kappa = 1):*
 - 1) None: the picture does not visually show that the product is used by the character.
 - 2) Yes: the picture visually shows that the product is used by the character.
14. *Character involved in the interaction (Cohen's kappa = 0.86):*
 - 1) Leading character
 - 2) Supporting character
 - 3) Other

When you choose 2) and 3) in Item 6 please code Items 15 to 18, which are about appearances with verbal component.

15. *Character(s) who mentioned the brand (Cohen's kappa = 1):*
 - 1) leading character
 - 2) supporting character
 - 3) other

16. *Tone of the discussion*: attitude toward the product or brand revealed in the conversation. (*Cohen's kappa* = 1)
 - 1) Positive: the character expresses liking or having favorable feelings toward the product or brand.
 - 2) Negative: the character expresses dislike for or unfavorable feelings toward the product or brand.
 - 3) Neutral: the character does not express liking or disliking, favorable or unfavorable feelings toward the product or brand.
 - 4) Mixed: both positive and negative.
 - 5) Cannot tell.
17. *Brand/setting fit*: (for definition, please refer to Item 11) (*Cohen's kappa* = 1)
 - 1) Incongruent
 - 2) Congruent
18. *Salient brand characteristics emphasized* (*Cohen's kappa* = 1):
 - 1) Psychological attribute (unsearchable: how does the brand make you feel?) means the placement demonstrates the non-functional (or image-related) attributes of the product (e.g., creating a sense of successfulness, happiness, warmth, and so on); or characters use adjectives, such as the most prestigious or the world's best, to describe the brands.
 - 2) Physical attribute (searchable: what can the product do?) means that the placement demonstrates the functional attribute of the product. For example, AT&T cell phone can take photos. A Lexus car can side park by itself. Or characters verbally or visually describe certain functional attributes of the product.
 - 3) Both.
 - 4) None.

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