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Relationships between the Direct and Induced Effects of Destination Advertising

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ABSTRACT

Tourism advertising is one of the most important tools for destination marketing organizations. As such, many advertising effectiveness studies have been conducted which focus on the direct consequences of destination advertising. However, little of this research has examined the linkages between advertising, changes in trip-related decisions and their impact on length of stay and money spent. The results of this study confirm that destination advertising influences the various aspects of trip structure (e.g. including accommodations, etc.) which in turn, affects trip budgets, but this relationship is not linear. These relationships provide important implications for the design of destination advertising.

Keywords: *Tourism advertising, destination marketing organization, advertising effectiveness, behavioral changes, nonlinear models*

INTRODUCTION

Tourism advertising is one of the most important tools for destination marketing organizations (DMOs) in terms of increasing the number of current and potential visitors, extending the length of stay and increasing tourists' expenditures at the destination (Kim, Hwang, & Fesenmaier, 2005; Park, Nicolau, & Fesenmaier, 2013; Pratt *et al.*, 2010). A review of the tourism advertising literature finds that advertising effectiveness research has focused largely on the tourists' destination decisions and expenditures, where it is argued that they are the direct consequences of destination advertising (Kim *et al.*, 2005). However, Park, Nicolau, & Fesenmaier (2013) and Woodside and his colleagues (Woodside, Trappey, & MacDonald, 1997; Woodside & Dubelaar, 2002), among others, argue that destination advertising has the potential to influence pre-trip decisions related to the destination, *en route* decisions including overnight stops, as well as behavior at the destination (i.e., attending an event). As such, it is posited in this study that the direct behavioral changes in response to destination advertising must include changes in the length of the trip and/or travel expenditures, of which can be understood as the induced effects of destination advertising. Interestingly, little research has examined the linkages between changes in trip structure (i.e., the activities and attractions visited) as a response to destination advertising and the changes in terms of length of stay and money spent. Thus, the goal of this research is to evaluate the relationships between the direct and induced effects of

destination advertising, and then to identify the relative importance of several factors (traveler characteristics, trip characteristics, and planning characteristics) that moderate this relationship.

LITERATURE REVIEW

Measuring advertising effectiveness is not an easy task for tourism marketers since advertising may affect each individual differently (Min, Martin, & Jung, 2013). Consequently, a number of different approaches have been proposed to measure the effectiveness advertising including experimental designs, econometric modeling, and conversion study (McWilliams & Crompton, 1997; Woodside, 1990, 2010). Among these, the conversion study is one of the most frequently used approaches in tourism advertising literature (Woodside & Dubelaar, 2003; Woodside, 1981). The key advantages of this approach include: a) providing feasible results (economic impact, ROI, and etc.), and b) relatively inexpensive (Cai, 1998; Pratt *et al.*, 2010). Despite of these advantages, it has been criticized for: a) considering only destination choice, b) overlooking the role of destination choice on latter decisions, and c) the lack of ability to capture the ‘pure’ conversion ratio.

On the basis of these criticisms, Park *et al.* (2013) proposed the Destination Advertising Response (DAR) model to assess the effectiveness of tourism advertising more accurately. The DAR model includes trip-related decisions (i.e., facet) within the advertising evaluation framework and estimates contributions of each facet to overall trip spending separately (Stienmetz & Fesenmaier, 2013). This facet-based approach has been supported by several recent studies; in particular, Stienmetz, Park, and Fesenmaier (2012) and Stienmetz and Fesenmaier (2013) provided empirical evidences that travelers are influenced by destination advertising differently in terms of trip decision-makings related to each trip decision (e.g. destination choice, attractions, restaurant, accommodation, event, and shopping). This research is consistent with Grigolon, Kemperman, and Timmermans (2012) indicating travel decisions are inter-related and that they sometimes constrain each other.

Research by Jeng & Fesenmaier (2002), however, indicates that trip decisions are not only limited to destination facets (i.e. destination, travel route, accommodation, and activities) but can be extended to trip characteristics (i.e. travel party, date(s), length of stay, budget). Among numerous trip related decisions, destination, length of stay, and travel budget can be regarded as core decisions for travel, and are largely decided in advance of actual on- site trip behavior (Di Pietro *et al.*, 2007; Choi *et al.*, 2011). This notion is also supported by Grigolon *et al.* (2012) who found that different tourism facets choices are planned at different times. Indeed, Hwang (2010) argued that travel decisions can be described as either ‘not changed at all’ or ‘changed at some level (add, skip, and substitution)’ throughout the trip. As such, a host of trip decisions may be influenced either directly or indirectly by destination related advertising. In this study, it is argued that destination decisions regarding attractions and activities visited describe trip structure and length of stay and money spent describe the induced impacts of destination advertising (see Figure 1).



Figure 1 The direct and induced effects of destination advertising

METHODS

Data were obtained using an online survey of American travelers who had requested travel-related information from 20 different states and regional tourism offices in response to 40 different advertising campaigns throughout 2011 year. The web-based survey was distributed to all inquirers based on the date of contact (within 3 months of the request for travel information) and the destination from which information was requested. The advantages of online surveys (e.g., low cost, fast response, and wide accessibility of the Internet) enable researchers to send survey questionnaire to the entire population, and therefore largely eliminate the use of complex structured sampling methods (Hwang & Fesenmaier, 2004). This method makes possible obtaining a sizeable sample to assure the robustness of the estimated parameters, which in turn, enables us to evaluate the relative impact of the hypothesized variables on advertising response.

The survey was distributed using a three-step process in order to increase response rate: (1) an initial invitation, (2) a reminder at four days later, and (3) the final request one week later; the invitation included an opportunity to win a \$100 Amazon gift card. After 264,317 online surveys were delivered to U.S. travelers 18 years and older, a total of 18,602 responses were gathered, yielding a usable sample of 17,785 respondents (6.7 %). The survey questionnaire consisted of three parts, where the first part asked about the nature of the travel information seen (or obtained) and its impact on the trip. The second part included a series of questions related to travel behaviors at the destination including length of trip, expenditures, and travel activities. The last section of the survey asked respondents about basic demographic characteristics including age and gender.

Recent tourism literature indicates that non-response bias has become an important issue when using the Internet survey because of its relatively low response rate in general (Dolnicar *et al.*, 2009; Pan, 2010). Especially for advertising conversion studies, it is important in that the goal is to obtain an accurate estimation of visitors' conversion ratio and expenditures (see Park & Fesenmaier, 2012 for a detailed discussion). This study adopts a weighting adjustment technique using inverse propensity score to identify non-response error (Rosenbaum and Rubin, 1983). The results indicate that the conversion ratio for each trip decision is statistically stable, but average expenditure was slightly underestimated (6.6%) as compared to the entire population. However, the results (i.e., beta coefficients) of the logistic regression using weighted data were not statistically different with those using unweighted data. Therefore, the results of are based on the unweighted data.

A series analyses were conducted to address the research goals of this study. Specifically, descriptive analyses using cross-tabulations and Chi-square tests were first conducted to identify travelers with differing relationships between changes in trip structure and trip budget. In this analysis, changes in trip structure were measured in terms of changes in the number of activities and/or the attractions visited; changes in trip budget, on the other hand, was measured in terms of

changes in money spent and the length of trip. The resulting groups were then compared using ANOVA based upon several traveler and trip characteristics as identified in the literature including demographic variables (e.g. gender, age, income and travel distances) and trip-related behavior (purposes, length of stay, prior experience, group size, accompanying group, and time of planning). Last, a multinomial logistic regression analysis was conducted to assess the relative influence of these variables in distinguishing the respective groups.

RESULTS

Of the respondents, 6,187 (34.79 %) American travelers completed the questions regarding trip behavioral changes in their activities, attractions, the amount of money, and the length of time after requesting and/or receiving information from destination marketing campaigns compared to their original trip plan. Among them, 55.8 percent changed their trip structures while 41.5 percent indicated that they changed their trip budgets. As can be seen, the large majority of respondents belong to one of four shaded groups in Table 1: Group 1) travelers who *did not change* either their trip structure and trip budget; Group 2) travelers who *did not change trip structure, but increased the length of time separately and/or increased the amount of money spent*; Group 3) travelers who *visited additional attractions or changed their activities, but did not change trip budget*; and, Group 4) travelers who *changed both trip structure and trip budget*. However, it is interesting to note that some people increased at least one aspect of their trip budget (time and money) even though they did not change their trip structure (activity and attraction), and vice-versa.

Table 1 Relationship between trip structure changes and trip budget changes

		Trip Budget Changes								Total	
		Both decreased	Stayed the same length of time and Decreased the amount of money	Decreased the length of time and Stayed the same amount of money	Both stayed the same	Increased the length of time and Decreased the amount of money	Decreased the length of time and increased the amount of money	Increased the length of time and stayed the same amount of money	Stayed the same length of time and Increased the amount of money		Both increased
Trip Structure Changes	Stayed the same	19 (0.3%)	30 (0.5%)	24 (0.4%)	2,173 (35.1%)	2 (0.0%)	4 (0.1%)	44 (0.7%)	337 (5.4%)	102 (1.6%)	2,735 (44.2%)
	changed Only activities	13 (0.2%)	0 (0.0%)	4 (0.1%)	96 (1.6%)	2 (0.0%)	2 (0.0%)	16 (0.3%)	59 (1.0%)	62 (1.0%)	254 (4.1%)
	Only visited additional attraction	5 (0.1%)	16 (0.3%)	6 (0.1%)	802 (13.0%)	4 (0.1%)	6 (0.1%)	60 (1.0%)	380 (6.1%)	235 (3.8%)	1514 (24.5%)
	Both changed	12 (0.2%)	16 (0.3%)	12 (0.2%)	550 (8.9%)	9 (1.0%)	8 (0.1%)	93 (1.5%)	438 (7.1%)	546 (8.8%)	1,684 (27.2%)
	Total	49 (0.8%)	62 (1.0%)	46 (0.7%)	3,621 (58.5%)	17 (0.3%)	20 (0.3%)	213 (3.4%)	1,214 (19.6%)	945 (15.3%)	6,187 (100%)

a. Values reflect the percent of the overall number of respondents.

b. χ^2 value = 1279.152 (df=24, p<0.001), effect size is 0.455 (p<0.001)

Analysis of variance (ANOVA) was used to compare the means of the various moderating variables among the four types of groups (see Table 2). The results of these test show statistically significant differences among four groups in terms of total travel party expenditures and the influence of destination advertising. In order to check for the mean differences between the groups, Scheffe's Post-hoc tests were used and significant mean differences were tested at the .01 significant level. The results indicate that the travelers who did not change (Group 1) were least influenced by advertising and spent the least amount of money; this finding contrasts with those travelers who changed both trip structure and budget (Group 4) in that they were influenced greatly by advertising and spent the most. In general, as more and more trip behaviors changed, trip expenditures increased.

Table 2 Differences in Total expenditures and Ads Influences among four groups

	Group 1 n=2,173	Group 2 n=439	Group 3 n=1,352	Group 4 n=1,599	Total ^c n=6,187	F-value
Total Expenditures	456.42a	628.01b	674.76b	820.77c	628.78	96.861***
Destination Decisions						
Destination	11.4a	13.2a	12.2a	19.9b	14.4	20.620***
Attractions	38.0a	54.7b	79.1c	84.8d	63.4	439.690***
Restaurants	30.2a	43.3b	56.2c	68.0d	48.9	212.214***
Events	20.9a	26.9b	43.3c	51.2d	36.0	152.486***
Shopping	22.3a	37.4b	42.8b	57.9c	39.0	185.149***
Accommodations	24.3a	37.8b	42.4b	54.2c	38.3	127.428***

a. *** p< 0.001

b. Scheffe's Post-Hoc tests: means with the same letter are not significantly different at 5% level.

Cross-tabulations were then computed to identify the differences in demographic and trip planning characteristics among the four groups. Tables 3 and 4 summarize the results of these analyses and indicate that each group is significantly different, except for Household Income. In particular, the results of χ^2 pairwise comparison analysis show the statistical differences between each group. With regard to the demographic characteristics, each group is female-dominated; but Group 4 shows slightly higher portion of male respondents than Group 2 and 3 ($\chi^2=10.950$, $p < .05$). While the prevalent age group is respondents who are older than 45 years old across all groups, the respondents who are in Group 4 are slightly younger than other groups ($\chi^2=26.319$, $p < .05$). There are also statistically significant differences between four groups in terms of the distance from destination ($\chi^2=53.486$, $p < .01$), showing that Group 4 is living farther from the destination state compared to those in Group 1. Clear differences also exist regarding the trip planning characteristics among four groups, including trip purpose ($\chi^2=158.450$, $p < .01$), the length of stay ($\chi^2=126.872$, $p < .01$), prior experience ($\chi^2=27.042$, $p < .01$), group size ($\chi^2=18.731$, $p < .05$), Time of planning ($\chi^2=70.092$, $p < .01$), and companion group ($\chi^2=31.595$, $p < .01$). In general, Group 4 has a higher proportion of vacation and weekend getaway in their trip purpose; at the same time, the respondents in Group 1 and 2 are more likely visiting Friend or Relatives. Also in terms of the length of stay, Group 4 shows a higher proportion of 3-5 night trips but lower in day trip and 1 night trip compared to the Group 1. Group 3 has slightly more first-time visitor than other groups, but repeat visitors are statistically similar across all the groups. There

are statistically significant differences in terms of accompanying group and group size; in particular, Group 4 shows a higher proportion of 3-5 persons in group size and less proportion of partner only in accompanying group as compared to those in other three groups. Finally, the respondents in Group 4 planned their trip earlier than others, but not more than two months before.

Table 3 Differences in Demographic Characteristics among four groups

	Group 1 n=2,173	Group 2 n=439	Group 3 n=1,352	Group 4 n=1,599	Total n=6,187	χ^2
<i>Gender</i>						10.950*
Female	62.0a,b	66.1b	63.9b	59.1a	61.8	
Male	38.0a,b	33.9b	36.1b	40.9a	38.2	
<i>Age</i>						26.319*
18 - 24 years	0.6	1.1	0.4	0.8	0.7	
25 - 34 years	4.4	5.3	5.2	5.4	5.1	
35 - 44 years	11.4	10.3	9.3	11.9	11.0	
45 - 54 years	26.5	28.1	26.3	28.6	27.3	
55 - 64 years	33.3	36.1	37.6	33.5	34.5	
65 years or older	23.8a	19.2a,b	21.1a,b	19.9b	21.4	
<i>Household Income</i>						32.97
Less than \$10,000	1.4	1.2	1.1	1.2	1.3	
\$10,000 to 19,999	2.2	2.7	1.5	1.7	2.1	
\$20,000 to \$29,999	5.6	4.4	4.9	5.6	5.3	
\$30,000 to \$39,999	8.4	7.5	9.9	7.7	8.7	
\$40,000 to \$49,999	9.1	11.9	9.9	8.4	9.3	
\$50,000 to \$59,999	12.8	12.7	10.4	10.2	11.6	
\$60,000 to \$69,999	10.1	11.2	11.5	11.0	10.8	
\$70,000 to \$79,999	10.1	10.0	12.8	11.4	11.2	
\$80,000 and over	40.4	38.4	38.1	42.8	39.7	
<i>Distance from Destination</i>						53.486***
Lives in same state	45.4	42.9	45.2	43.8	44.6	
Lives in next state	38.6a	42.2a	31.2b	34.2b	35.6	
Lives far from state	16.0a	15.0a	23.7b	21.b	19.8	

a. *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

b. Each subscript letter denotes a subset of Four Group categories whose column proportions do not differ significantly from each other at the .05 levels.

c. Values reflect the percent of the overall number of respondents.

Table 4 Differences in Trip and Planning Characteristics among four groups

	Group 1 n=2,173	Group 2 n=439	Group 3 n=1,352	Group 4 n=1,599	Total n=6,187	χ^2
<i>Trip purpose</i>						158.450 ***
Vacation	30.6a	30.7a	40.1b	41.3b	36.5	
Weekend Getaway	31.2a	35.9a,b	36.7b	43.0c	36.8	
Special/Sporting Event	8.2	10.3	7.7	9.2	8.4	
Visit Friend/Relative	37.7a	38.7a	31.4b	33.8a,b	35.2	
Business	4.3a	7.3b	5.9a,b	6.7b	5.8	
Other	7.5	7.3	6.1	6.0	6.8	
<i>Length of Stay</i>						126.872 ***
Day trip	15.6a	13.5a	8.6b	8.7b	11.8	
1 night	14.3a	13.3a,b	9.9b,c	8.4c	11.3	
2 nights	26.7a	29.3a	28.1a	27.2a	27.1	
3 - 5 nights	26.6a	29.1a,b	32.1b,c	36.0c	30.9	
6 - 10 nights	11.8	10.5	14.6	13.7	13.2	
11 or more nights	5.0	4.4	6.7	6.0	5.7	
<i>Prior Experience</i>						27.042 ***
Once	10.7a	10.3a	15.8b	13.1a,b	12.8	
2 - 5 times	41.0	39.7	39.7	39.3	40.3	
6 - 10 times	20.4	23.4	19.2	22.0	20.5	
11 or more	28.0	26.6	25.3	25.6	26.5	
<i>Group size</i>						18.731 *
One	9.8	10.3	7.7	8.7	9.2	
Two	49.3	49.8	51.5	46.6	49.2	
3 - 5 persons	33.7a	33.3a,b	33.3a	38.5b	34.9	
6 or more persons	7.1	6.7	7.5	6.2	6.7	
<i>Time of Planning</i>						70.092 ***
Never planned	4.7a	2.8a,b	2.5b	2.1b	3.3	
Day of trip	3.4a	3.0a,b	1.3b	2.2a,b	2.5	
1 - 6 days before trip	15.6a,b	19.8b	14.3a	15.1a,b	15.7	
1 - 4 weeks before trip	35.1	38.2	34.0	34.9	34.8	
5 - 8 weeks before trip	21.2a	19.1a	22.8a,b	25.3b	22.3	
2 months or longer before trip	20.1a	17.2a	25.2b	20.4a	21.4	
<i>Companion Group</i>						31.595 **
Alone	9.3	10.7	7.1	7.9	8.6	
Partner only	37.4a,b	31.2b	40.0a	35.6a,b	36.9	
Family	43.1	47.8	40.7	45.5	43.5	
Friends	8.5	8.4	10.9	9.5	9.3	
Business associates	0.7	1.1	0.5	0.8	0.7	
Others	1.1	0.7	0.7	0.8	0.9	

a. *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

b. Each subscript letter denotes a subset of Four Group categories whose column proportions do not differ significantly from each other at the .05 levels.

c. Total indicates results of overall sample (n=6,187)

A multinomial logistic regression analysis was conducted to assess the relative influence of moderator variables in differentiating the three groups as compared to those that did not change any aspect of their trip (Group 1). The goodness-of-fit measures indicate a satisfactory model fit with the Chi-square value of 1711.77 (df =144) with a p-value of less than 0.001 and the Pseudo R² of 0.328. Further, the hit ratio of 53.9 percent indicates that this model can predict correctly 53.9 percent of the respondents.

The parameter estimates for each group are reported in Table 5 and represent the change in the odds ratio of group membership for a one unit change in the predictor variable as compared to the reference group (Group 1), holding all other variables constant. For example, the getaway variable in Group 2 is statistically significant and the exponentiated value of the coefficient is 1.336, indicating that if a traveler is taking a weekend getaway then the likelihood of membership of Group 2 increased by 33.6 percent as compared to the Group 1. The results of this analysis indicate that age, household income, prior experience, group size, and companion group does not have an effect on the trip structures and budgets changes responding to the destination advertising for trip decisions. In particular, Group 2 (the ‘only budgets changed’) was influenced by trip purpose; Group 3 (‘only structures changed’) was influenced by the length of stay, physical distance, and trip purposes; and Group 4 (‘both changed’) was influenced by gender, trip purposes, length of stay, time of planning, and physical distance. Group 2 was influenced by only attractions and shopping, at the same time, Group 4 was influenced by all trip-related decision facets. Also, as the extent of trip planning increased, the likelihood of membership in Group 4 decreased. Third, the respondents living farther from the destination state are more likely belonging to the Group 4, indicating that they tend to change their plan rather than following their original plan.

Table 5 Results of Multinomial Logistic Regression Analysis

Independent Variables	Likelihood Ratio Tests (χ^2)	Group 2 Exp (β)	Group 3 Exp (β)	Group 4 Exp (β)
<i>Destination Decisions</i>				
Destination	17.655***	0.978	0.798	1.295*
Attractions	417.738***	1.761***	4.583***	5.387***
Restaurants	69.092***	1.281	1.643***	2.175***
Events	60.993***	0.907	1.668***	1.886***
Shopping	40.300***	1.474**	1.305**	1.819***
Accommodations	18.340***	1.280	1.113	1.455***
<i>Gender - Female</i>	10.452**	1.156	1.074	0.838*
<i>Age</i>				
25 - 34 years	2.660	0.709	2.158	1.190
35 - 44 years	1.637	0.551	1.328	0.822
45 - 54 years	1.672	0.637	1.420	0.789
55 - 64 years	2.264	0.665	1.598	0.769
65 years or older	2.541	0.496	1.360	0.703
<i>Household Income</i>				
\$10 - 20	1.036	1.059	0.627	0.912
\$20 - 30	0.725	0.783	0.893	1.217
\$30 - 40	0.122	0.843	1.020	0.950

\$40 - 50	0.310	1.261	0.920	1.022
\$50 - 60	0.608	1.045	0.739	0.869
\$60 - 70	0.273	1.179	1.081	1.234
\$70 - 80	0.259	0.915	1.122	1.189
\$80 and over	0.461	0.979	0.864	1.144
<i>Trip Purpose</i>				
Vacation	17.818***	1.153	1.153	1.558***
Getaway	46.442***	1.336*	1.331**	2.068***
Special Events	8.095*	1.700**	1.021	1.235
Visit Friend/Relative	13.546**	1.279	1.106	1.413***
Business	18.057***	1.982**	2.032***	2.067***
<i>Length of Stay</i>				
One Night	1.564	0.992	1.148	0.896
Two Nights	7.611	1.161	1.543**	1.250
Three to Five Nights	21.214***	1.198	1.794***	1.948***
Six to Ten Nights	10.003*	1.254	1.685**	1.753**
11 or more nights	13.343**	1.557	2.051**	2.365***
<i>Prior Experience</i>				
Once	1.134	1.184	1.192	0.827
Two to Five Times	1.220	1.285	0.828	0.722
Six to Ten Times	1.248	1.502	0.826	0.793
11 or more times	0.913	1.208	0.798	0.751
<i>Group Size</i>				
2 persons	1.844	1.351	0.975	0.811
3 - 5 persons	0.420	0.899	0.885	0.844
6+ persons	1.600	0.895	0.947	0.693
<i>Time of Planning</i>				
Day of trip	5.778	1.382	0.717	1.908
1-6 days before	9.617*	2.048	1.374	2.154**
1-4 weeks before	8.720*	1.608	1.366	2.149**
5-8 weeks before	6.931	1.259	1.255	2.049*
More than 2 months	5.192	1.330	1.512	1.837*
<i>Distance from Destination</i>				
Lives in next state	5.935	1.269	0.950	1.135
Lives far from state	14.853**	1.205	1.460**	1.679***
<i>Companion Group</i>				
Partner Only	4.103	0.564	1.202	1.129
Family	0.941	0.997	1.219	1.246
Friends	2.831	0.791	1.426	1.321
Business Associates	0.760	1.073	0.633	0.805

a. The reference category is Group 1(not influenced by Destination Advertising at all).

b. Model χ^2 (144) = 1711.77 (p = 0.000); -2 log likelihood = 10374.5,

Pseudo R² (Nagelkerke) = 0.328, Hit Ratio: 53.9%.

c. *: p < 0.05, **: p < 0.01, ***: p < 0.001

CONCLUSIONS

The results of the study confirm that the changes in trip structure in response to destination advertising significantly influences trip budgets, but this relationship is not linear. Interestingly, tourists indicated that they were more flexible in changing the nature of trip than the overall trip budget. The results of the study also indicate that there are significant differences between travelers that respond differently to destination advertising. These findings provide clear evidence that trip budget changes, consisting of time and money, can be regarded as induced effects of destination advertising. These results also provide practical implications to the DMOs for measuring the “unrevealed” effectiveness and profitability of their marketing program. It is argued that these results are important for designing effective destination marketing programs by identifying their key target audience based on the marginal effects and signs of travelers, trip, and planning characteristics. Lastly, this study contributes to the existing tourism literature by documenting the induced effects of destination advertising.

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