Determining the cross-channel effects of informational web sites

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Appendix I. Multichannel Studies

OVERVIEW OF SELECTED MULTICHANNEL BEHAVIOR STUDIES

	Study	*Type of channels*	*Empirical setting*	*Key findings*
Channel choice	Bendoly et al. 2005	Stores Internet	Survey, 3 US retailers, n = 1598.	Higher levels of channel integration are associated with greater firm loyalty. Channel integration does not predict channel choice.
	Knox 2005	Catalog Internet	Purchase data, US retailer, n = 2000, 139 weeks.	Channel preferences evolve over time and in response to firm marketing. Customer behavior and response to marketing varies across segments.
	Kushwaha & Shankar 2005	Catalog Internet	Purchase data, 750 firms, n = 1 mln., 4 years.	Multichannel customers are more valuable. Demographics, shopping traits and product associations affect channel choice.
Channel migration	Ansari et al. 2006	Catalog Internet	Purchase data, durable retailer, n = 500, 4 years.	Increased use of the Internet leads to lower purchases. Marketing plays a pivotal roll in channel usage.
	Gensler et al. 2007	Call center Internet	Purchase data, home-shopping TV station, n = 15 mln., 15 months.	The incumbent channel is still the dominant channel. Customers who increasingly use the Internet have lower behavioral loyalty.
	Gupta et al. 2004	Stores Internet	Survey, n = 337.	Consumer switch online for search products. Price-search intention and evaluation effort drive switching online.
	Sullivan & Thomas 2004	Stores Catalogs Internet	Purchase data, US retailer, 37,000 orders, 1997 – 2001.	The combination of channels used by the customer does not automatically signal profitability to the firm.

	Study	*Type of channels*	*Empirical setting*	*Key findings*
	Thomas & Sullivan 2005	Stores Catalogs Internet	Purchase data, US retailer, n = 4,1000, 1 year.	Two distinct segments are catalog & Internet and bricks and mortar loyal
Multi-channel buying behavior	Dholakia et al. 2005	Stores Catalogs Internet	Purchase data, US retailer, n = 530,000, 24 month.	Customers use the same channel as their original entry channel, rather add a new channel than replace the old and switch between similar channels.
	Montoya-Weiss et al. 2003	Call center Internet	Survey, financial provider and US university, n = 1,137 and 493.	Overall satisfaction with firm is determined by service quality provided through both channels.
	Schoenbachler & Gordon 2002	Multiple channels	Conceptual.	Not applicable.
	Shankar et al. 2003	Stores Internet	Survey, lodging industry, survey, n = 350.	The online medium can be used to reinforce overall loyalty to the firm.
Multi-channel search and buying behavior	Nicholson et al. 2002	Stores Catalogs Internet	Case studies, UK fashion retailer, n = 48.	Consumers combine available purchase channels due to lifestyle.
	Balasubramanian et al. 2005	Stores Catalogs Internet	Conceptual.	Not applicable.
	Burke 2002	Multiple channels	Survey, n = 200.	The majority of consumers use multiple channels. Internet use is preferred for product information and comparison.
	Van Baal & Dach 2005	Stores Internet	Survey, n = 1,094.	Multichannel firms lose more customers across channels than they retain. Retailers are not compensated for the information service outputs provided.

	Study	*Type of channels*	*Empirical setting*	*Key findings*
	Verhoef et al. 2007	Stores Catalogs Internet	Survey, n = 396.	There are both within and between channel cross-over effects across different shopping tasks. Channel attributes can be manipulated to mitigate the 'research-shopper' phenomenon.
Acquisition channel	Verhoef & Donkers 2005	Multiple channels	Purchase data, financial provider, n = 3,317.	Customer loyalty differs among acquisition channels. Cross-buying is affected by marketing efforts.
	Villanueva et al. 2003	Multiple channels	Purchase data, Internet firm providing free Web hosting services, 70 weeks.	Firm performance differ among acquisition channels.

Notes: Stores means offline outlets.

Appendix II. Survey Chapter 2

DESCRIPTIVE STATISTICS FOR THE ATTITUDES AND BEHAVIOR VARIABLES

	Mean	*Std. Deviation*
Personnel	3.5	.73
Store interior	3.42	.80
Price	3.48	.69
Merchandise	3.5	.68
Content	3.2	.79
Design	3.52	.73
Store attitude	3.85	.74
Site attitude	3.45	.81
Store behavior (ln)	3.15 (.81)	3.43 (.76)
Site behavior (ln)	12.91 (2.23)	11.42 (.84)
Channel involvement	3.29	.74
Involvement	4.49	3.89

RANGE OF THE INTER-ITEM AND ITEM-TO-TOTAL CORRELATIONS FOR THE ATTITUDE VARIABLES

	Inter-Item	*Item-to-Total*
Personnel	.53 - .70	.58 - .71
Store interior	.54 - .74	.64 - .79
Price	.61 - .75	.66 - .76
Merchandise	.39 - .56	.44 - .57
Content	.61 - .73	.72 - .82
Design	.54 - .80	.67 - .84
Store attitude	.61 - .78	.64 - .78
Site attitude	.62 - .73	.68 - .77
Channel involvement	.39 - .44	.48 - .52

Notes: All correlations are significant at the .01 level (2-tailed)

Appendix III. Full Conditional Posterior Distributions

In this appendix we specify the full conditional posterior distributions of the parameters of interest in our multivariate Tobit model. Individuals are indexed by i, and they each make T_i purchases.

Yes/no decision

Sampling of α

To obtain the full conditional posterior distribution of α we rewrite (5) from Section 3.3.1 as

(1) $$\Sigma^{-\frac{1}{2}} Z_{it}^{*} - \Sigma^{-\frac{1}{2}} H_{it}\alpha_i = \Sigma^{-\frac{1}{2}} H_{it}\alpha + \Sigma^{-\frac{1}{2}} \varepsilon_{it},$$

where $H_{it} = (H_{i1t},\ldots,H_{iCt})'$, for individuals $i = 1,\ldots,I$ and purchase occasions $t = 1,\ldots,T_i$. We can interpret (15) as C regression equations with regression coefficient α and uncorrelated normal distributed error terms with unit variance. Hence, the full conditional posterior distribution of α given Z^* and Σ, is normal. The mean and variance result from the OLS estimator of α in (1), see Zellner (1971 Chapter VIII).

Sampling of α_i

To sample α_i we can follow a similar approach as for α. We rewrite (5) from section 3.3.1 as

(4) $$\Sigma^{-\frac{1}{2}} Z_{it}^{*} - \Sigma^{-\frac{1}{2}} H_{it}\alpha = \Sigma^{-\frac{1}{2}} H_{it}\alpha_i + \Sigma^{-\frac{1}{2}} \varepsilon_{it} ,$$

for $j = 1,\ldots,C$, $i = 1,\ldots,I$ and $t = 1,\ldots,T_i$. This represents $C\sum_{t=1}^{T_i}$ regression equations with regression coefficient α_i and uncorrelated normal distributed error terms with unit variance. Hence, the full conditional posterior distribution of α_i given α, Σ_α, Σ, and Z^* is normal. The mean and variance result from the OLS estimator of α_i in (2).

Sampling of Σ_α
For Σ_α it holds that

(5) $$p(\Sigma_\alpha \mid \alpha_i) \propto \exp(-\frac{1}{2}\alpha_i \Sigma_\alpha^{-1} \alpha_i'),$$

hence Σ_α can be sampled from an inverted Wishart distribution, see Zellner (1971 Chapter VIII).

Sampling of Σ
To sample Σ we note that

(6) $$p(\Sigma \mid \alpha, Z^*) \propto \pi(\Sigma) = |\Sigma|^{-\frac{1}{2}\sum_{i=1}^{I} T_i} \exp(-\frac{1}{2}\sum_{i=1}^{I}\sum_{t=2}^{T_i} \varepsilon_{it}' \Sigma^{-1} \varepsilon_{it}).$$

where,

(7) $$\varepsilon_{it} = Z_{it}^* - V_{it}(\alpha + \alpha_i) \qquad \text{for } t = 1,\ldots,T_i,$$

for $i = 1,\ldots,I$.
As Σ is not a free covariance matrix (the diagonal elements are 1), the full conditional distribution is not inverted Wishart. In fact, the full conditional posterior distribution of Σ is not standard. To sample Σ we propose a sampler based on Basag and Green (1993) and Damien, Wakefield and Walker (1999). Loosely speaking, this sampler interchanges the two steps in the Metropolis-Hastings sampler. A possible Metropolis-Hastings sampler for Σ is:

- **Step 1.** Draw the elements of the matrix Σ from a uniform distribution on the interval $(-1,1)$ under the restriction of positive definiteness, resulting in Σ^{new}.
- **Step 2.** Draw u from a uniform distribution on the interval $(0,1)$ and accept Σ^{new} if $\pi(\Sigma^{\text{new}})/\pi(\Sigma^{\text{old}}) > u$ otherwise take $\Sigma^{\text{new}} = \Sigma^{\text{old}}$.

For the sampler used here we interchange these two steps. We first draw u from a uniform distribution on the interval $(0,1)$. In the second step we keep sampling candidate draws of the elements of Σ from a uniform distribution on the interval $(-1,1)$ until Σ^{new} is positive definite and $\pi(\Sigma^{\text{new}})/\pi(\Sigma^{\text{old}}) > u$. The advantage of the latter approach is that it always results in a new draw, which is not the case for the Metropolis-Hastings sampler, see Damien et al. (1999) for details. The disadvantage is that the sampler is slower as one has to draw new candidates until acceptance. Another possibility to generate Σ based on the Metropolis-Hastings sampler is given in Chib and Greenberg (1998) or the hit-and-run algorithm in Manchanda et al. (1999).

Sampling of Z^*

To sample Z_{it}^*, $i = 1,\ldots,I$, $t = 1,\ldots,T_i$, we consider

(8) $Z_{it}^* = H_{it}(\alpha + \alpha_i) + \eta_{it},$

hence Z_{it}^* is normal distributed with mean $H_{it}(\alpha + \alpha_i)$ and variance Σ. The full conditional posterior distributions of the elements of Z_{it}^* are of course also normal. Hence, Z_{ijt}^* can be sampled from truncated normal distributions in the following way

(9) $Z_{ijt}^* \mid Z_{i,-j,t}^* \sim \begin{cases} \text{normal on } (-\infty, 0) & \text{if } \mathrm{Z_{ijt}} = o \\ \text{normal on } (0, \infty) & \text{if } \mathrm{Z_{ijt}} = 1 \end{cases},$

where $Z_{i,-j,t}^* = (Z_{ikt}^* \text{ for all } k \neq j)$, see Geweke (1991) for details.

Purchase amount decision

Sampling of β

To obtain the full conditional posterior distribution of β we rewrite (7) from Section 3.3.1 as

(10) $\Omega^{-\frac{1}{2}} Y_{it}^* - \Omega^{-\frac{1}{2}} G_{it}\beta_i = \Omega^{-\frac{1}{2}} G_{it}\beta + \Omega^{-\frac{1}{2}} \eta_{it},$

where $G_{it} = (G_{i1t},\ldots,G_{iCt})'$, for $i = 1,\ldots,I$, $t = 1,\ldots,T_i$. We can interpret (8) as C regression equations with regression coefficient β and uncorrelated normal distributed error terms with unit variance. Hence, the full conditional posterior distribution of β given β_i, Y^* and Ω, is normal. The mean and variance result from the OLS estimator of β in (22), see Zellner (1971 Chapter VIII).

Sampling of β_i

To sample β_i we can follow a similar approach as for α_i. We rewrite (7) from Section 3.3.1 as

$$(11)\qquad \Omega^{-\frac{1}{2}}Y_{it}^{*}-\Omega^{-\frac{1}{2}}G_{it}\beta = \Omega^{-\frac{1}{2}}G_{it}\beta_i+\Omega^{-\frac{1}{2}}\eta_{it},$$

for $j=1,\ldots,C$, $i=1,\ldots,I$ and $t=1,\ldots,T_i$. This represents $C\sum_{t=1}^{T_i}$ regression equations with regression coefficient β_i and uncorrelated normal distributed error terms with unit variance. Hence, the full conditional posterior distribution of β_i given β, Ω_β, Ω, and Y^* is normal. The mean and variance result from the OLS estimator of β_i in (9).

Sampling of Σ_β

For Σ_β it holds that

$$(12)\qquad p(\Sigma_\beta \mid \beta_i) \propto \exp(-\frac{1}{2}\beta_i\Sigma_\beta^{-1}\beta_i^{'}),$$

hence Σ_β can be sampled from an inverted Wishart distribution, see Zellner (1971 Chapter VIII). In the application, for identification purposes, Σ_β is set to identity.

Sampling of Ω

The covariance matrix Ω is drawn from an inverted Wishart distribution with $\nu=\sum_{i=1}^{I}T_i$ degrees of freedom.

Sampling of Y^*

Y_{ijt}^{*} is equal to the observed Y_{ijt} if $Y_{ijt}>0$, otherwise we sample Y_{ijt}^{*} from a normal distribution, truncated above at 0. In this case, consider

(13) $$Y_{it}^{*} = G_{it}(\beta + \beta_i) + \eta_{it},$$

This shows that Y_{ijt}^{*} is distributed normal with mean $G_{it}(\beta + \beta_i)$ and variance Ω. The full conditional posterior distributions of the elements of Y_{it}^{*} are of course also normal. Hence, Y_{ijt}^{*} can be sampled from (truncated) normal distributions in the following way

(14) $$Y_{ijt}^{*} \mid Y_{i,-j,t}^{*} = \begin{cases} \text{draw normal on } (-\infty, 0) & \text{if } Y_{ijt} = 0 \\ Y_{ijt} & \text{if } Y_{ijt} > 0 \end{cases},$$

where $Y_{i,-j,t}^{*} = (Y_{ikt}^{*}$ for all $k \neq j)$, again see Geweke (1991) for details.

Appendix IV. Descriptives Chapter 3

DESCRIPTIVE STATISTICS ENTIRE DATASET AND ESTIMATION SAMPLE

	Before site implementation			*After site implementation*		
	Entire dataset					
	Mean	*St. dev.*	*Range*	*Mean*	*St. dev.*	*Range*
# Shopping Trips	2.6	1.8	1 - 13	2.1	1.8	0 – 16
€ Ladies Fashion	15.8	28.2	0 -286	13.2	28.5	0 – 365
€ Men's Fashion	8.0	26.0	0 – 332	7.4	24.9	0 – 329
€ Children	11.2	28.1	0 – 256	8.5	29.4	0 – 897
€ Accessories	9.7	19.9	0 – 300	9.3	23.3	0 – 352
€ Interior Design	10.0	35.0	0 – 403	8.4	38.5	0 – 1144
€ Sports	4.9	15.6	0 – 190	5.0	31.5	0 – 1300
# Pages online	0.0	0.0	0 – 0	2.5	9.7	0 – 216
# Site visits	0.0	0.0	0 – 0	0.2	0.6	0 – 14
	Estimation sample					
	Mean	*St. dev.*	*Range*	*Mean*	*St. dev.*	*Range*
# Shopping Trips	2.4	1.9	0 – 15	1.8	1.7	0 – 14
€ Ladies Fashion	13.8	30.6	0 – 330	14.1	44.8	0 – 1096
€ Men's Fashion	6.7	22.5	0 – 276	6.3	24.1	0 – 293
€ Children's	9.0	22.8	0 – 268	8.6	26.7	0 – 379
€ Accessories	8.9	19.2	0 – 153	7.0	18.4	0 – 176
€ Interior Design	10.4	66.3	0 – 1547	7.9	31.7	0 – 624
€ Sports	5.8	20.4	0 – 280	5.6	32.2	0 – 936
# Pages online	0.0	0.0	0 – 0	6.7	26.2	0 – 696
# Site visits	0.0	0.0	0 – 0	0.4	0.8	0 – 11

Appendix V. T-Test Comparison

COMPARISON NUMBER OF SHOPPING TRIPS OF VISITORS & NON-VISITORS

	Sample size		*Average shopping trips*		
Month	*Non-visitors*	*Visitors*	*Non-visitors*	*Visitors*	*T-value*
1	438	2867	2.57	2.47	0.95
2	392	2589	2.49	2.47	0.23
3	466	3447	2.74	2.64	0.95
4	413	2829	2.27	2.39	-1.19
5	491	3116	2.45	2.52	-0.65
6	443	3092	2.63	2.45	1.81
7	428	3051	2.54	2.44	1.03
8	355	2664	2.45	2.44	0.05
9	648	3819	2.52	2.6	-1.00
10	529	3749	2.37	2.15	**2.51**
11	461	3911	2.73	2.4	**3.26**
12	532	4221	2.86	2.89	-0.32
13	397	2961	2.61	2.52	0.78
14	354	2688	2.34	2.37	-0.22
15	471	5418	2.6	1.73	**8.00**
16	380	3738	2.31	1.79	**5.59**
17	460	4229	2.41	1.92	**4.95**
18	402	4149	2.44	1.85	**6.28**
19	372	3368	2.35	1.99	**3.70**
20	307	3263	2.27	1.87	**3.75**
21	461	4304	2.51	2.27	**2.53**
22	369	3553	2.4	1.93	**4.84**
23	416	3915	2.48	2.08	**3.89**
24	520	4377	2.8	2.64	1.55
25	451	4061	2.04	1.89	1.78
26	433	3651	1.81	1.79	0.18
27	523	4712	2.03	2.08	-0.57
28	444	3694	1.81	1.82	-0.12
29	483	4262	1.97	1.93	0.55

Notes: Bold *t*-values are significant at the 5%- level.

Appendix VI. MVP Model Selection

FIT CRITERIA MODEL SELECTION

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
			Hit rate Stage 1			
Ladies	0.71	0.65	0.71	0.71	0.71	0.71
Men's	0.85	0.84	0.85	0.85	0.85	0.85
Children	0.81	0.76	0.82	0.82	0.82	0.82
Accessories	0.71	0.63	0.71	0.71	0.71	0.71
Living	0.78	0.78	0.78	0.78	0.78	0.78
Sports	0.87	0.86	0.87	0.87	0.87	0.87
			RMSE Stage 2			
Ladies	20.77	22.97	21.01	20.84	21.04	20.82
Men's	18.88	19.50	18.73	18.92	18.73	18.94
Children	16.81	18.82	17.13	17.03	17.12	17.03
Accessories	15.93	17.69	16.65	15.93	16.66	15.94
Living	21.50	21.90	21.52	21.48	21.52	21.49
Sports	12.16	12.19	12.21	12.16	12.30	12.17
			MAPE Stage 2			
Ladies	0.72	0.82	0.73	0.72	0.73	0.72
Men's	0.84	0.88	0.85	0.84	0.85	0.84
Children	0.72	0.84	0.73	0.72	0.74	0.72
Accessories	0.75	0.76	0.77	0.76	0.77	0.76
Living	0.78	0.80	0.78	0.78	0.78	0.78
Sports	0.86	0.86	0.87	0.86	0.87	0.86

RESULTS CHOW TEST FINAL MVP MODEL SELECTION

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
LRSS	9672163	11016439	9875302	9727224	9881545	9731082
Df	120	20	30	40	40	50
Df unused	2867	2967	2957	2947	2947	2937
			Chow test results			
	1	*2*	*3*	*4*	*5*	*6*
1		3.98	0.67	0.20	0.78	0.25
2						
3		34.17				
4		19.53	4.49			
5		16.92	0.19			
6		12.93	2.18	0.12	4.54	
			Critical F-values			
	1	*2*	*3*	*4*	*5*	*6*
1		1.69	1.69	1.69	1.87	1.69
2						
3		2.99				
4		2.30	2.99			
5		2.30	2.99			
6		2.02	2.30	2.99	2.99	

Appendix VII. Post-Hoc Comparison

COMPARISON OF CUSTOMERS WITH POSITIVE AND NEGATIVE EFFECTS OF VISITING THE WEB SITE

	Customers with		
	positive site use effect	*negative site use effect*	*Test value*
		Individual level	
Age	39.75	38.98	-1.166
Number of children	1.3	1.2	-1.102
Number of adults	2.3	2.2	-1.101
At most high school education	75.0%	25.0%	4.636*
College education	70.6%	29.4%	
Distance to closest store	5.62	6.56	**2.643**
Gender: male	27.6%	72.3%	1.819*
Gender: female	29.1%	70.9%	
		Zip code area	
Households social class A	18.37%	17.43%	-1.836
Single households	31.31%	29.23%	**-2.576**
Buying through a catalog	57.50%	58.26%	**2.048**
		Behavior	
Number of shopping trips	2.17	1.78	**-4.968**
Total money spent	67.55	52.42	**-5.156**
Total products bought	9.29	7.19	**-4.503**
Money spent in Ladies	13.22	11.19	**-2.386**
Money spent in Men's	7.22	5.02	**-3.463**
Money spent in Children	8.08	6.18	**-2.741**
Money spent in Accessories	6.05	7.86	**-3.501**
Money spent in Living	9.94	7.46	-1.927
Money spent in Sport	5.39	4.92	**-0.891**
Number of site visits	.24	.22	-0.686
Number of Web site pages	4.52	3.45	**-2.084**
N	7634.0	951.0	

Notes: Bold test values are significant at the 5%. Test values with an * are concern a Pearson Chi-square. All other test values concern a T-test.

Appendix VIII. Description Variables Chapter 4

$\frac{\tilde{M}_t}{\tilde{P}_t}$ = the mean monetary value spent per product *a* in period *t*. The series indicates if customers over time spend more, less or roughly the same amount of money on average per product.

$\frac{\tilde{P}_t}{\tilde{T}r_t}$ = the mean number of products purchased per shopping trip in period *t* (basket size). The series indicates if customers over time change the number of products they buy on average per trip per week.

$\frac{\tilde{T}r_t}{C_t}$ = the mean number of shopping trips per customer in period *t* (store traffic). The series indicates if customers change their number of shopping trips in a week.

C_t = total number of customers in period *t* (total store traffic). The series shows how many unique customers are visiting the store each week.

$\frac{\tilde{T}i_t}{\tilde{P}a_t}$ = the mean amount of time per page in period *t* (depth of search). The series indicates the mean intensity or per page duration that customers spend online.

$\frac{\tilde{P}a_t}{\tilde{V}s_t}$ = the mean number of pages seen per visit in period *t* (width of search). The series shows how the depth of online search changes. That is, do customers on average increase or decrease the number of pages they visit during a Web visit.

$\frac{\tilde{V}s_t}{Vrs_t}$ = the mean number of online visits per visitor in period *t* (site traffic). The series shows how the frequency of the online visits changes over time.

Vrs_t = total number of Web visitors in period t (total site traffic). The series shows how many unique customers are visiting the Web site each week.

Appendix IX. Moderation Variables

OVERVIEW MEDIAN SPLIT VARIABLES

	Items/description	Reliability
Flow	During my visit, I often forget my immediate surroundings. During my visit, I often do not realize the duration of my Web visit. During my visit, I lose self-consciousness. During my visit, time seems to fly by.	0.93 in 2001 0.94 in 2002
Site visits	Number of Web visits made by the customer during the period of data collection (March 2001- May 2002)	

DESCRIPTIVES MEDIAN SPLIT VARIABLES

	Mean	*S.D.*	*Median*	*Mode*
Flow	2.52	0.96	2.50	3
Site visits	3.23	4.53	2	1

Appendix X. Moderation Results

PRODUCT TYPE: EFFECTS ONLINE MARKETING ON OFFLINE BUYING

	Nonsensory products			
	Money	*Products*	*Trips*	*Customers*
Online promotions	-0.18	0.05	0.03	24.92
Online communications	-0.59	-0.09	0.03	-56.28
Site introduction	**8.38**	-0.22	0.14	**675.85**
	Sensory products			
	Money	*Products*	*Trips*	*Customers*
Online promotions	0.15	0.00	**0.26**	168.44
Online communications	0.16	0.06	0.05	-51.86
Site introduction	0.78	**0.21**	**0.67**	**958.66**

Notes: Bold parameter estimates are significant at the 5% level.

FLOW: EFFECTS ONLINE MARKETING ON OFFLINE BUYING

	Low experience of flow			
	Money	*Products*	*Trips*	*Customers*
Online promotions	0.71	0.28	0.01	48.25
Online communications	-1.04	-0.15	-0.02	-67.36
Site introduction	3.79	1.15	-0.08	**337.41**
	High experience of flow			
	Money	*Products*	*Trips*	*Customers*
Online promotions	0.61	0.38	-0.02	42.99
Online communications	-0.29	-0.11	0.02	-28.48
Site introduction	2.70	**1.55**	-0.03	**564.14**

Notes: Bold parameter estimates are significant at the 5% level.

FREQUENCY SITE VISITS: EFFECTS ONLINE MARKETING ON OFFLINE BUYING

	Low frequency of visits			
	Money	*Products*	*Trips*	*Customers*
Online promotions	0.14	0.28	-0.01	46.29
Online communications	-0.04	0.03	-0.01	-32.30
Site introduction	2.40	**1.34**	-0.04	**519.13**
	High frequency of visits			
	Money	*Products*	*Trips*	*Customers*
Online promotions	0.38	**0.52**	0.00	54.85
Online communications	0.80	0.28	0.01	-24.69
Site introduction	**6.35**	**1.49**	-0.05	**375.22**

Notes: Bold parameter estimates are significant at the 5% level.