Original Article

Multi-channel management in direct marketing retailing: Traditional call center versus Internet channel

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ABSTRACT The direct marketing retailers have traditionally provided mail order and call center channels. In the emergence of the Internet channel, the direct marketing retailers have reported a large increase in the use of Internet channel and some have encouraged the customers to use the Internet channel more than other channels because of potential cost savings for the firm. However, the traditional call center channel has not disappeared from the direct marketing industry. This study is motivated by this observation, and investigates the relative benefits of using different channels. It sets up hypotheses about the consumer's channel usage behavior and provides an empirical study of what benefits the consumers see in using different channels. It also investigates whether encouraging the consumers to use the Internet channel would be beneficial for the retailers and the consumers. We use a transactional database from a direct marketing retailer that operates multiple channels. Our empirical results support the hypotheses and show that the Internet channel is helpful for the purchase when the consumer has low perceived risk and high experience and familiarity with the purchase, but the call center channel is helpful when the consumer has high perceived risk and low experience and familiarity with the purchase. The results suggest that the direct marketing retailer is not recommended to encourage the consumers to use the Internet channel for cost saving purpose, but to help them use proper channels for different problem-solving situations.

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INTRODUCTION

Direct marketing retailers have traditionally mailed catalogs and provided consumers with order channels such as mail order and call center.[1] With the advent of the Internet channel, the direct marketing retailers have reported a 'channel shift' toward Internet-based orders. They also

might have perceived that maintaining a call center would be much costlier than the Internet channel, and encouraged their customers to use the Internet order channel. Some have thought that the Internet channel would dominate the direct marketing purchases owing to its availability, convenience and information source. However, we have observed over a decade of Internet usage that the Internet channel never eliminated the other channels in direct marketing. Hence, our research questions are:

- Why is the Internet channel not completely dominating the purchases for the direct marketing retailers?
- What relative benefits would order channels provide the consumers?

The current study investigates the relative benefits of using the order channels of the direct marketing retailer and determines whether encouraging customers toward using the Internet channel would be beneficial for the firm and the consumers.

Studies in marketing literature discuss some factors that influence the channel usage behavior. Balasubramanian et al[2] suggest five goal factors that influence the consumer's channel choices at different stages of purchase process. They argue that psychological factors are important in the choice process. However, this study does not provide any empirical study to test the influences. The current study focuses on the perceived shopping cost in the channel usage process, given our transaction database of a direct marketing firm.

Other marketing studies investigate the contribution of channel to the firm's revenue and loyalty. Kumar and Venkatesan[3] show that customers who shop across multiple channels provide higher revenues and higher share of wallet and are more active than those who shop in one channel. However, this study does not investigate

the channel usage behavior that will make the consumer a multi-channel shopper. Shankar et al[4] find that loyalty to a service provider is higher when it is chosen online versus offline. The current study focuses on the channel choice within a direct marketing setting in which there are only remote channels. As the remote channels carry the same products and prices and have no distance effect, we are able to study the channel usage behavior with these factors controlled.

Other studies explore channel cannibalization. Biyalogorsky and Naik[5] find that online sales do not significantly cannibalize retail sales and that the firm's online activities build long-term online equity. Dleersnyder et al[6] find little evidence that the introduction of a newspaper website cannibalizes circulation of the print version. However, these studies do not consider under what conditions the Internet channel will not cannibalize the sales of other channels. We consider the nature of the shopping basket and investigate the effect on the channel usage.

One study discusses the influence of acquisition channels on customer retention and cross-buying. Verhoef and Donkers[7] find that for a financial services provider, customers acquired through different channels differ with respect to retention rate and cross-buying behavior. However, this study does not investigate what channels the customers use after they are acquired. The current study focuses on the channel usage behavior after acquiring the customers.

Another study investigates channel migration. Ansari et al[8] find that the Internet has negative relationship with a firm's future sales and that the catalogs have a positive effect on the purchase inertia. They also find that this negative impact of the Internet on demand can be mitigated by the firm's marketing activities. However, they do not consider the nature of a shopping basket.

Hypotheses

In studying the relative benefits of using channels of the direct marketing retailer, we consider the problem-solving situations of the consumer. In a routine problem-solving situation, the consumer would have low perceived risk and high experience and familiarity with the purchase. However, in an extended problem-solving situation, the consumer would have high perceived risk and low experience and familiarity with the purchase. Table 1 shows this relationship.

Under this conceptual background, we set up hypotheses about two major perceived costs of the consumers in choosing the channel: perceived channel access costs and the perceived shopping basket-related costs. The perceived channel access costs represent the costs of accessing the channel regardless of the nature of what is in the shopping basket. The perceived shopping basket-related costs are the costs that the customers perceive owing to the nature of the shopping basket. Now, we set up a hypothesis regarding the perceived channel access costs and three hypotheses regarding the perceived shopping basket-related costs.

Perceived channel access costs

Hypothesis 1: The perceived cost of accessing the call center is higher than that of the Internet channel.

The perceived access costs of call center may include the perceived cost of dialing up, potential wait times and the time involved in providing account information, and going through a verification process. The perceived access costs of the Internet channel may consist of the perceived cost of loading the retailer's home page, logging in, navigating the website and checking out. As the computer is connected to the Internet in many homes and the log-in name and password are already saved in the

Table 1: Problem-solving situations

	Routine problem solving	Extended problem solving
Perceived risk	Low	High
Experience/familiarity	High	Low

computer, the perceived cost of accessing the Internet channel may not be as high as that of the call center.

Perceived shopping basket-related costs

Hypothesis 2: When there are more products in the shopping basket, the consumers are more likely to use the Internet channel than the call center.

In the Internet channel, the consumer perceives the cost of time and effort of entering the product orders in the shopping cart. In the call center, the consumer spends the time and effort in reading out the products to the call center associate and receiving a confirmation. It would take more effort to talk to a sales associate in the call center than to enter product orders in the shopping cart online.

Hypothesis 3: When the value of the shopping basket is higher, the consumers are more likely to use the call center channel than the Internet.

Consumers anticipate the accuracy of decision making, and the amount of effort they put and choose a particular strategy that represents the best trade-off for the task at hand.[9] When the monetary value of the products in the shopping basket is high, the consumer naturally perceives higher risk and may be willing to put in a larger amount of effort.

In the Internet channel, the consumers can simply put products in the shopping cart, but in the call center the consumers need to put time and effort in talking to

the sales associates. However, the call center would enable the consumer to ask about the high-priced products that bear perceived risk and hence provide a higher accuracy of ordering the right products for the consumers.

Hypothesis 4: When there are more products in the shopping basket that are first-time orders for the consumers, the consumers are more likely to use the call center channel than the Internet.

Alba and Hutchinson[10] define familiarity as the number of product-related experiences that have been accumulated by the consumer. They find that the ability to elaborate on given information, generating accurate knowledge that goes beyond what is given, improves as familiarity increases. Therefore, when there is low familiarity to the products in the shopping basket, the consumers would have less ability to process information and less accurate knowledge about the products. As the call center associates provide higher accuracy, the consumers would be more likely to choose the call center when there are unfamiliar products in the shopping basket.

The remainder of this article is organized as follows: we first describe the direct marketing retailer's customer shopping data. We then explain the details of the proposed model, discussing its components. The model is then applied to the retailer's shopping data and we show how much the results support the hypotheses. Finally, we discuss managerial implications and conclude by discussing possible steps for further research.

DIRECT MARKETING RETAILER'S SHOPPING DATA

We use a database of completed transactions from January 2002 to December 2004 with a direct marketing retailer. The retailer offers a number of channels for placing the order: Internet, call center, mail order and voice response system (VRS). Mail order is

a traditional order channel in which the consumers use post cards to manually fill up the product orders and mail. The VRS is an automatic phone system in which the consumers call the system and input the product orders using the touch keys. Channel shares have been fairly dynamic over the period of the analysis. In the beginning of the period, the Internet has a share of 16.5 per cent and the call center has 53.1 per cent. By the end of the period, the Internet share has increased to 42.7 per cent and the call center share has decreased to 37.3 per cent. This shows a clear increasing trend of Internet use.

The final data set consists of 782 customers, with 13 958 observations. We hold out the last four purchases of these customers for model performance test.

CHANNEL USAGE MODEL

We formulate a multinomial logit model for channel choice at the individual level.

$$P(h,c,t) = \frac{\exp(-TSC_{h,c,t})}{\sum\limits_{c=1}^{4} \exp(-TSC_{h,c,t})} \quad (1)$$

where $TSC_{h,c,t}$ is total perceived shopping cost of the household h for an order channel c at time t. As the probability of using a channel increases as the total perceived shopping cost decreases, we put a negative sign on the cost.

We deconstruct the total perceived shopping costs into two components that are relevant in the context of direct marketing channels: Perceived channel access cost and perceived basket-related cost. The total perceived shopping costs for household h for channel c in time t are given by

$$TSC_{h,c,t} = CAC_{h,c,t} + BC_{h,c,t} + SF_{h,c,t} + \varepsilon_{h,c,t}$$

$$(2)$$

where $CAC_{h,c,t}$ is the perceived channel access cost associated with household h using channel c at time t; $BC_{h,t}$ is the perceived shopping basket-related costs and $\varepsilon_{h,c,t}$ represents any other variables not captured by the model. We also include the situational factors $SF_{h,c,t}$ to control for the seasonality and time trend effect. In the transaction database, seasonality exists in January and July, and these seasonal changes in sales need to be recognized in the model. In addition, owing to general industry trend, the Internet channel usage has increased for all the direct marketing retailers, and this trend is shown in the data description. This time trend effect should also be controlled for.

Perceived channel access cost

$$CAC_{h,c,t} = \beta_{0_c} \qquad (3)$$

where β_{0_c} represents the perceived cost of accessing the channel c. As this is an intercept in the shopping cost model, this can be interpreted as the perceived cost of using the channel in the absence of any other costs.

Perceived shopping basket-related costs

$$BC_{h,c,t} = \beta_{1c} * BasketSize_{h,t} + \beta_{2c} * Value_{h,t}$$
$$+ \beta_{3c} * First_{h,t} \qquad (4)$$

where $BasketSize_{h,t}$ is the household h's number of products in the basket, and $Value_{h,t}$ is defined by the total monetary value of the products in the shopping basket. This variable represents the degree of *perceived risk* with the purchase. $First_{h,t}$ is defined by the proportion of the product categories in the shopping basket that are the first purchases for household h. For instance, if all the product categories in the shopping basket are the first purchases to

the household, the *First* variable becomes one. This variable represents the *experience/familiarity* of the products in the shopping basket.

Situational factors

$$SF_{h,c,t} = \gamma_{1_c} Jan_{h,t} + \gamma_{2_c} July_{h,t} + \gamma_{3_c} Time_{h,t} \qquad (5)$$

where $Jan_{h,t}$ is the seasonality dummy variable that is defined to be one if the purchase date is in January. $July_{h,t}$ is another seasonality dummy variable that is one if the purchase date is in July. $Time_{h,t}$ captures the time trend in the data. For instance, as the shopping data are for three years (36 months), Time = 1 if the order takes place in the first month of the data, and Time = 36 if the order takes place in the last month of the data.

EMPIRICAL ANALYSIS

The channel usage model is applied to the shopping data of the direct marketing retailer. Table 2 shows that the model performs well, obtaining an in-sample hit rate of 57.14 per cent and out–of–sample hit rate of 56.37 per cent. This is a good performance for a logistic model.

Estimation results

Beginning with the perceived channel access cost, the estimated perceived channel access costs are positive and statistically significant for the mail order, call center and VRS order channels. The cost for the Internet channel is not statistically significant, which means that the perceived channel access cost for the Internet channel is virtually none in relative to other channels. The estimated perceived cost of

Table 2: Model performance

	Estimation	Prediction
Hit rate	57.14%	56.37%

Note: Prediction is computed with a holdout sample.

accessing call center is as high as 27.810, as opposed to non–significant access cost of the Internet channel. This result supports Hypothesis 1. This shows that the cost of dialing up, potential wait times, and the time in providing account information and going through a verification process in the call center is perceived to be very high.

In addition to the channel access cost that is fixed for each channel, the results of perceived basket-related costs tell a more interesting story. The *Basket Size* coefficients for the Internet and mail order channels are positive and significant, but those for the other channels are not significant. This result supports Hypothesis 2. When there are more products in the shopping basket, the consumers are more likely to use the Internet channel than the call center. The *Value* coefficients for the Internet and VRS are negative and significant, but that for the call center channel is positive and significant. This result supports Hypothesis 3. When the value of the basket is higher, the consumers are more likely to use the call center than the Internet. Finally, the *First* coefficient for the Internet and the call center are both positive and significant. As the coefficients for both channels are positive, it is likely that the consumers use both channels for gathering information when the purchase is a new experience for them. They may gather product information from the Internet channel and also ask the call center associates for questions about the product. However, the magnitude of coefficient for the call center is much larger. The consumers are more likely to choose the call center than the Internet channel when the products are new to them. This supports Hypothesis 4.

The situational factors are included in the model for control for seasonality and time trend, but there are still two noticeable results. First, the consumers are more likely to use the call center channel in January purchases. It is when many consumers return their products and look for post–holiday deals

Table 3: Estimation results

	Estimate	Std Error
Channel access cost		
Internet	2.842	2.2340
Mail	1.799*	0.4943
Call center	27.810*	4.6580
VRS	3.200*	0.5088
Basket-related costs		
Basket size		
Internet	5.947*	1.3760
Mail	0.486*	0.1575
Call center	1.020	0.5450
VRS	3.536	1.0110
Value		
Internet	−0.517*	0.1542
Mail	0.091	0.0944
Call center	0.931*	0.0745
VRS	−1.140*	0.4742
First		
Internet	4.447*	1.3780
Mail	0.942	0.6740
Call Center	10.470*	3.4080
VRS	5.547	3.7200
Situational factors		
Jan		
Internet	1.561	2.6210
Mail	0.235	0.6822
Call center	12.880*	4.8700
VRS	0.901	3.4050
July		
Internet	0.125	2.4840
Mail	0.071	0.4354
Call center	1.894	3.6300
VRS	0.381	3.1420
Time		
Internet	0.369*	0.1014
Mail	−0.060*	0.0159
Call center	−0.420*	0.1100
VRS	−0.479*	0.1097

*The estimates are statistically significant at $\alpha=0.05$.
Abbreviation: VRS, voice response system.

and they probably need more information from the call center associates. Second, there is a clear time trend that the Internet usage increases over time when the usage of other channels decreases (Table 3).

Managerial implications

It would be costly to build the Internet website but once it is set up and running, the cost of maintaining the website would be relatively cheaper than the cost of
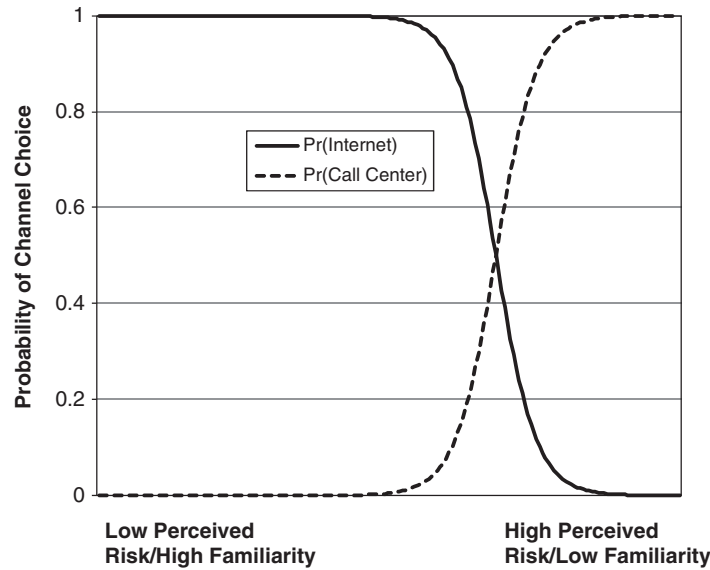
Figure 1: Illustration of internet versus call center usage.

running a call center. Training and retaining the sales associates for the call center would be costly and challenging for the direct marketing retailer. Hence, the direct marketing retailer might try to encourage the customers to use the Internet channel more than other channels.

However, the results of the current study show that there are different relative benefits of using channels, and that the consumers would need the channels in different problem–solving situations. When there are many products to order in the shopping basket, the consumers are more likely to use the Internet channel, but in an extended problem–solving situation the consumers are more likely to use the call center. When the value of the shopping basket is high and there are products being ordered for the first time, they are more likely to use the call center than the Internet channel. Figure 1 shows the predicted probability of choosing the Internet and call center channels. When the consumers are in a routine problem–solving situation (Low Perceived Risk/High Familiarity), the predicted probability of using the Internet is very high, but as

their situation becomes an extended problem-solving (High Perceived Risk/Low Familiarity) the predicted probability of using call center increases.

It is found from this study that it is not the best interest of the direct marketing retailer to encourage their customers to use the Internet channel more than other channels for cost saving purpose. For different problem-solving situations of the consumers, the direct marketing retailers are recommended to keep both the Internet and the call center channels and to cater to the individual needs.

CONCLUSION

The current study investigates the relative benefits of using channels for a direct marketing retailer, and studies whether encouraging the customers to use the Internet channel more than call center would be beneficial to the firm and the consumers. We set up hypotheses about the perceived channel access cost and shopping-basket-related costs. The results from a transaction database of a direct marketing retailer support our hypotheses, and suggest that there are relative benefits

of using the Internet versus the traditional call center channels. Although keeping the call center seems much costlier than the Internet channel for the direct marketing retailer, it is recommended for the retailer to maintain the call center channel for extended problem-solving situations of the consumers and to help the consumers use proper channels for different problem-solving situations.

For further research, it would be managerially relevant to study the channel usage behavior for multiple product categories. For different product categories in the shopping basket, the effect of the value of and the familiarity to the products might show different results. Then the direct marketing retailer would be able to encourage the consumers to shop certain categories of products at a certain channel. In addition, decomposing the purchase process into information gathering and ordering stages would provide further and deeper insights about the channel usage behavior.

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