Click and Collect (C&C): Measuring the Effects of an Online Multi-channel Sales Strategy

Abstract

Click and collect (C&C) has become a staple of a successful multi-channel retail strategy in recent years. Consequently, this paper aims to explore and assess the impacts of C&C within a large chain store retailer. We compare how firms have had to adapt their retail methods to encompass omni-channel in order to keep relevant in the modern era. We investigate how these challenges have been addressed by the firms by examining their pick-up delivery decisions and how they have integrated the two methods to work in harmony rather than competition. Our findings discover C&C to be largely advantageous for the bigger retail chain as they experience positive sales growth associated with their click and collect functionality. There is also evidence of a cross-selling effect (i.e. additional store sales from customers who use the C&C pick-up service), in addition to increases in store sales. However, this study highlights, in order for retailers to achieve the desired benefits, careful integrated channel management and measurements are essential.

Key words: Click and collect; Brick-and-mortar; Multi-channel sales strategy; Online sales

Track Retailing and Omni-channel Management

1. Introduction

With the popularity of e-commerce rising annually, and customer demands rapidly evolving, many retail companies have chosen to employ variations of 'click and collect' (C&C) in order to sustain growth and competitiveness, whilst combating the disadvantages that can result from home deliveries. Online consumers are becoming dissatisfied with home deliveries due to lengthy indicative time-slots, postage fees and delayed product gratification (Hsiao, 2009). At first glance, the introduction of click and collect would appear a beneficial solution to all involved; large retailers, small local stores and the customers, in order to facilitate the ever increasing trend toward e-commerce. However, industry leaders and experts have also recognized potential weaknesses for the larger brands as well as the smaller independent shop owners (Deloitte, 2015). Despite these concerns, C&C type services remain a sustainable strategy in order to maintain online growth and satisfy changing consumer expectations. Consequently, the purpose of this study is to explore in greater depth, the increasing variety of C&C services available across the retail industry and discover the effects this innovative service is having upon retail chain stores.

2. Literature review

Despite the initial enthusiasm expressed by customers over the introduction of online shopping, several issues became apparent. Hsiao (2009) clearly identifies the related issues of delivery from online sales. Firstly, customers do not receive their purchased products instantaneously as they would from physical in-store shopping, resulting in delayed satisfaction. Commonly, customers must expect to wait around 3-5 working days to acquire their delivery. Uncertainty over the quality of the goods obtained causes further unpredictability with this shopping method (Hsiao, 2009). The increasing rapid pace of modern life has meant that waiting at home for the arrival of a parcel to be a significant disadvantage. The rearrangement of failed deliveries becomes a hindrance to consumers and can prove immensely costly to organizations.

Previous research on C&C has mainly focused on the benefits of 'buy-online, pick-up-in-store' (BOPS) in terms of reducing availability risk (Ofek et al., 2011). Gallino and Moreno (2014) show that BOPS acts as a mechanism whereby customers can derive more value from the online inventory information. Moreover, their study finds that implementing the BOPS functionality resulted in reduced online sales, increased store sales and greater store traffic (Gallino and Moreno, 2014). These interesting conclusions appear to contradict and disprove prior retail assumptions that suggest offering increased methods of online sales channels would cause a rise in online purchases and enhanced online revenues (Gallino and Moreno, 2014). The importance of cross-channel management receives further attention from Dinner et al. (2014). Their study focuses on the effects of marketing efforts across online and offline platforms, and how they impacted upon cross-channel sales. The effects of online advertising campaigns in particular, may have less of a cross-channel impact, than when customers purchase more standardized products. This consequently raises concerns as to whether the Dinner et al.'s (2014) results can be accurately generalized across other retail sectors with differing products. Despite these limitations, further support concerning the need for multi-channel consideration is depicted by several other studies. Zhang et al. (2010), for example, encourages managers to not only anticipate "the idiosyncratic nature of each channel" (Zhang et al, 2010, p.173), but also the existence of cross-channel effects when making strategic retail managerial decisions.

3. Data description

We use proprietary data from a major brick-and-mortar retail chain, with global operations in countries as far as France, UK and South Africa. The chain offers a large assortment of clothing and home products and operates online and offline stores, experiencing group revenues of $15.6bn in 2014/15. For our analysis of the impact of C&C implementation on both the online and offline channels, we observe the dependent variable dollar sales at the weekly market level. We therefore use both the online channel data and the offline channel data. In relation to the C&C orders, we collected information on the date each C&C order was placed online. We also obtained information about the date and store at which each one of these pick-up purchases were collected by the customer. We gathered weekly data for each one of the 498 stores, including total number of transactions, total dollar sales, and total visitors for each week in 2014/15 (fiscal year). Table 1 offers descriptive statistics. The variables used in the analysis are defined as follows: STORE SALES Log of total dollar sales at BRICKS-AND-MORTAR store *i* in week *t*; ONLINE SALES Log of total dollar online sales in week *t*: $VISITOR_{jt}$ Log of total number of visitors to BRICKS-AND-MORTAR store *j* in week *t*; $FOOTFALL_{it}$ Log of the total footfall at store *j* in week *t*; $TRAFFIC_t$ The number of unique visitors to the website in week *t*; $AFTER_t$ Dummy variable that equals 1 if in week *t* the C&C option was being offered; ADD_PUR_{kt} A dummy indicating that C&C customers made additional purchases; $LARPROM_t$ Total number of individual important promotion days in week *t* (multiday promotions counted as the number of days the promotion runs); $SMAPROM_t$ Total number of individual, minor promotion days in week *t* (multiday promotions counted as the number of days the promotion runs); $CLEAR_t$ Dummy variable for clearance sales in week *t*; CHDUMMY A binary variable that is 1 for weeks between Thanksgiving and the end of the calendar year (i.e., the last six weeks of the year); UNEMPLOY Unemployment rate in each week.

Table 1. Summary Statistics

	M	***SD***		***Percentiles***	
			10th	***50th***	***90th***
Bricks-and-Mortar					
LARPROM	1.39	3.11	1	5	11
SMAPROM	4.56	4.23	1	16	25
CLEAR	.068	.24	1	2	4
CHDUMMY	.12	.31	.11	.22	.33
UNEMPLOY (%)	7.5	6.3	3.0	4.1	7.6
Average Weekly parameters per Bricks-and-Mortar store	***No of stores***	***Footfall (customers)***	***Transactions (number)***	***Revenue (dollars)***	
Before C&C	498	14,578 (12,693)	2,286 (1036)	213,694 (126,752)	
After C&C	498	15,364 (14,168)	2,862 (1541)	248,293 (212,567)	

4. Analysis

Our initial analysis focuses on sales to evaluate Internet enabled retail channel integration. We have taken sales and store figures in order to establish if there is a trend development over the period that would clearly define an online expansion or boost to bricks-and-mortar sales. Toward this end, we implement a difference-in-differences (DiD) approach to evaluate the impact of C&C on the bricks-and-mortar channel. We define two different groups in our population based on the fact that the firm implemented C&C functionality only in its bricks-and-mortar stores that sell clothing and household goods but not in its food stores. The firm operates its food stores as a separate business from its clothing and household goods operations; both types of stores manage their inventory and sales separately. Given this divergence in the firm's business areas, we can identify a treatment group and a control group in our population. The portion of the population that was affected by the C&C implementation was only those customers that bought cloths and other household items (the treatment group) – as purely in the clothing and household goods stores, customers were given the opportunity to order their assortment online and collect in-store, free of charge. The portion of the population that was not affected by this decision was the food store customers (the control group): we thus use the food store customers as the control group as they were entirely unaffected by the deployment of the C&C functionality. Our analysis must also control for the factors that drive our dependent variables. The present study's focal firm implements a large number of promotions, ranging from in-store discount sales to nation-wide promotional events involving significant giveaways. On the other hand, small promotions involve minor price discounts on some of the merchandise or a new product launch. The retailer also implements biannual clearance sales involving price discounts on much of the merchandise. $LARPROM_t$ is operationalized as the sum of all large promotion days during the given week *t*. For example, a week would have 10 large promotion days if holiday dresses are promoted for 5 days, women's night dresses are promoted for 3 days, and designer shoes are promoted for 2 days. We operationalize the smaller promotions ($SMAPROM_t$) in the same way. Our calculations show that the average week had 1.3 large promotion days and 4.5 small promotion days. $CLEAR_t$ is a dummy for clearance periods, which occur in just over 6% of the weeks. We also include controls for seasonality, trend and economic environment. Specifically, we use a Christmas season dummy variable (CHDUMMY) to account for purchase increases between Thanksgiving and the end of the year. A trend variable (TREND) is included to account for systematic changes that occur during the research period. As a proxy for the macroeconomic conditions, we use unemployment at the market level (UNEMPLOY). Our analysis also accounts for store-level fixed effects.

We first examine the impact of C&C functionality on store sales. The following is our model specification:

$$STORE\_SALES_{it} = \mu_i + \beta_0 BMORTAR_{it} + \beta_1 AFTER_t + \beta_2 BMORTAR_{it} * AFTER_t + \beta_3 CONTROLS_{it} + \varepsilon_{it}, \quad (1)$$

where μ_i and β_0 are not separately identified.

Our dependent variable is $STORE\_SALES_{it}$, which is the log of the total dollar sales at $store_i$ during $week_t$. Our independent variables include a dummy variable that indicates if store *i* is the bricks-and-mortar ($BMORTAR_i$) store, a dummy variable that indicates if the observation corresponds to the period after C&C implementation ($AFTER_t$), and the interaction between these two terms ($BMORTAR_i$

* $AFTER_t$). $BMORTAR_i$ * $AFTER_t$ indicates whether a bricks-and-mortar store belongs to the group of stores where C&C program was implemented and that whether the observation corresponds to the period after the store-pick-up implementation ($AFTER_t$). The set of controls includes weekly dummies as well as Christmas season, small and large promotions, trend, clearance and unemployment. To measure the impact of C&C on store sales that does not purely arise from a change in footfall levels, we also add the total footfall at store *i* in week *t* ($FOOTFALL_{it}$) as a control variable in some of our specifications. This is motivated by the assumption that changes in the store visits might affect conversion rates, that is, more C&C related sales occur due to the high levels of footfall. In Table 2, Column 1 and 2 present our findings. To assess the face validity of the model, we first discuss the impact of the control variables on sales. Christmas season, small and large promotions, trend and clearance take significant values in the way they impact store sales. Moreover, we find a negative and significant effect on sales of unemployment. As we find, there was an increase in bricks-and-mortar sales ($BMORTAR_i$ * $AFTER_t$ = 1) compared to the control group (i.e., food stores) after the C&C implementation. Importantly, the relevant coefficient is positive and significant in both specifications with and without footfall control, suggesting that this improvement did not occur merely because of some changes in store visits. The estimate of the magnitude of this effect is equivalent to around 17% of total store sales.

Table 2. C&C implementation impact on store performance

	log(SALES)	**log(SALES)**
BMORTAR * AFTER	0.17***	0.11**
	(0.04)	(0.03)
log(FOOTFALL)		0.56***
		(0.09)
LARPROM	0.11	0.12
	(0.03)	(0.02)
SMAPROM	0.07	0.08
	(0.02)	(0.03)
CLEAR	0.05	0.04
	(0.01)	(0.01)
CHDUMMY	0.08	0.08
	(0.02)	(0.02)
TREND	0.02	0.02
	(0.00)	(0.00)
UNEMPLOY	-0.16**	-013**
	(0.07)	(0.04)
Fixed effects	Yes	Yes
Time effect	Week	Week
N	17,894	17,884
R^2	0.83	0.87

Note. Robust standard errors in parentheses. **$p < 0.01$; ***$p < 0.001$.

4.1 C&C and cross-selling effect

The multi-channel sales strategy is underpinned by the belief that interventions such as C&C will likely have an impact on other sales channels. Accordingly, some level of cross-selling will be observed in the stores with C&C customers. For

example, one can assume that some of the C&C customers will decide to buy extra items during their pick-up visit to the store. Such visits will thus generate a positive externality from C&C to store sales, suggesting that there will be incremental sales overall. As a next step in the research, we will therefore undertake an investigation of this effect and test out the hypothesis that a cross-sell occurs either during or immediately after a C&C related purchase. To do this, we need to identify purchases made by customers when they visit the store to pick up an item they ordered online using C&C facility. We use the total number of additional purchases made by customers who had picked up items at a store k in week t (ADD_PUR_{kt}) and test whether these additional purchases affect store sales. ADD_PUR_{kt} is a dummy indicating that C&C customers made additional purchases. Our model is as follows:

$$STORE\_SALES_{kt} = \mu_k + \beta_1 ADD\_PUR_{kt} + \beta_2 FOOTFALL_{kt} + \beta_2 CONTROLS_{kt} + \varepsilon_{kt}, \quad (2)$$

where $STORE\_SALES_{kt}$ is the total dollar sales at store k during week t.

The model includes as independent variables total number of store visits at each store ($FOOTFALL_{kt}$), store fixed effects, and week dummies. We also include other previous controls (These variables are in log form, as in the previous estimations). We use the FOOTFALL control because we want to mitigate any potential bias that may arise when people with particular characteristics may choose to pick up items at certain times. It is important to remember that these are unplanned, impulse sales: customers initially merely intend to pick up their C&C items from a store but then make a purchase of some additional items on the go. There is no prior period and therefore this analysis concerns the period that follows the C&C implementation. Table 3 presents the results. Column 1 shows the relationship between the number of additional purchases and total number of purchase transactions. As we find, the number of additional purchases made by C&C customers positively affect the total number of purchase transactions. The analysis of the impact of additional purchases on store sales is presented in Columns 2 and 3 in Table 3. We find a positive and significant relationship between the two: the number of C&C related additional purchases and total sales. We thus find the evidence that while in the store some C&C customers also buy other products that they would not have otherwise bought. Customers who go to the store to pick up their C&C orders take the opportunity to make additional purchases, thus engendering a cross-selling effect. Our results thus demonstrate the existence of such an effect as the overall net effect of the program is positive.

Table 3. Cross-Selling Effect

	Log(ADD-PUR)	**Log(SALES)**	**Log(SALES)**
Log(PICKUP_VISITS)	0.09***	0.03*	0.08**
	(0.04)	(0.01)	(0.03)
Log(FOOTFALL)	0.51***		0.26***
	(0.16)		(0.13)
LARPROM	0.16	0.13	0.15
	(0.07)	(0.04)	(0.05)
SMAPROM	0.07	0.09	0.08
	(0.02)	(0.03)	(0.03)
CLEAR	0.04	0.06	0.07
	(0.02)	(0.03)	(0.02)

CHDUMMY	0.07	0.09	0.06
	(0.03)	(0.05)	(0.02)
TREND	0.01	0.01	0.01
	(0.00)	(0.00)	(0.00)
UNEMPLOY	-0.11**	-0.13**	-012**
	(0.04)	(0.05)	(0.04)
Time effect	Week	Week	Week
N	18,362	18,748	18,341
R^2	0.76	0.77	0.78

Note. Robust standard errors in parentheses. **$p < 0.01$; ***$p < 0.001$.

5. Conclusion

In conclusion, it is evident that click and collect does have positive effects for many firms within the retail sector and also for the customers. This research depicts that retailing brands are experiencing advantages from this service. The customer uptake of in-store collections was witnessed as improving over the study period. With the employment of this service and its gradual expansion, the bricks-and-mortar saw continuous improvements in online sales revenues. These results contrast to those concluded by Gallino and Moreno (2014). Part of the increase in C&C sales can be explained by the positive externality generated by customers picking up their online orders at the stores and purchasing additional items they otherwise would not have bought. We can thus argue that a cross-selling effect exists. An insightful area for future research would be to evaluate how click and collect is developing across markets. Both American and European companies are gradually offering contrasting varieties of this service. It would therefore be of interest to discover how these progressions compare and which are proving most constructive.

References

Deloitte LLP (2015) *Technology, Media & Telecommunications Predictions* 2015. London: DTTL.

Dinner, I., Van Heerde, H. and Neslin, S. (2014) Driving Online and Offline Sales: The Cross-Channel Effects of Traditional, Online Display, and Paid Search Advertising. *Journal of Marketing Research,* 51 (5), 527-545.

Gallino, S. and Moreno, A., (2014). Integration of Online and Offline Channels in Retail: The Impact of Sharing Reliable Inventory Availability Information. *Management Science,* 60 (6), 1434-1451.

Hsiao, M. H., (2009). Shopping mode choice: Physical store shopping versus e-shopping. *Transportation Research Part E,* 45 (1), 86-95.

Ofek E, Katona Z, and Sarvary M (2011) "Bricks and clicks": The impact of product returns on the strategies of multi-channel retailers. *Marketing Science*. 30(1):42–60.

Zhang, J., Farris P. W., Irvin, J. W., Kushwaha, T., Steenburgh, T. J. and Weitz, B. A. (2010), Crafting Integrated Multi-channel Retailing Strategies. *Journal of Interactive Marketing,* 24 (2), 168-80.