When Acquisition Spoils Retention: Direct Selling vs. Delegation Under CRM

Yan Dong
Robert H. Smith School of Business, University of Maryland, College Park, Maryland 20850, yandong@rhsmith.umd.edu

Yuliang Yao
College of Business and Economics, Lehigh University, Bethlehem, Pennsylvania 18015, yuy3@lehigh.edu

Tony Haitao Cui
Carlson School of Management, University of Minnesota, Minneapolis, Minnesota 55455, tcui@umn.edu

The widespread implementation of customer relationship management technologies in business has allowed companies to increasingly focus on both acquiring and retaining customers. The challenge of designing incentive mechanisms that simultaneously focus on customer acquisition and customer retention comes from the fact that customer acquisition and customer retention are usually separate but intertwined tasks that make providing proper incentives more difficult. The present study develops incentive mechanisms that simultaneously address acquisition and retention of customers with an emphasis on the interactions between them. The main focus of this study is to examine the impact of the negative effect of acquisition on retention, i.e., the spoiling effect, on firm performance under direct selling and delegation of customer acquisition. Our main finding is that the negative effect of acquisition on retention has a significant impact on acquisition and retention efforts and firm profit. In particular, when the customer acquisition and retention are independent, the firm’s profit is higher under direct selling than under delegation; however, when acquisition spoils retention, interestingly, the firm’s profit may be higher under delegation. Our analysis also finds that the spoiling effect not only reduces the optimal acquisition effort but may also reduce retention effort under both direct selling and delegation. Comparing the optimal efforts under direct selling and delegation, the acquisition effort is always lower under delegation regardless of the spoiling effect, but the retention effort may be higher under delegation with the spoiling effect. Furthermore, when the customer antagonism effect from price promotions is considered, our main results hold regarding the firm’s preferences between direct selling and delegation, which demonstrates the robustness of our model.

Key words: customer acquisition; customer retention; customer value; customer relationship management; incentive mechanism

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1. Introduction

For decades, firms have focused their marketing strategies on acquiring new customers to enhance their market share. Since the 1980s, however, firms have gradually realized the importance of retaining existing customers. They have therefore begun to measure customer defection rates and to identify high-value customers, with a view to preventing the defection of such customers (Coyles and Gokey 2005). These efforts have been strengthened by recent developments in the field of customer relationship management (CRM), of which customer acquisition and customer retention are at the heart (Bowman and 1

1 Reichheld et al. (2000), for instance, find that small changes in loyalty and retention can lead to large changes in profitability.

Narayandas 2004, Gupta et al. 2004, Musalem and Joshi 2009, Verhoef 2003). CRM improves a firm’s knowledge and management of individual customers

2 Thomas (2001, p. 262) defines customer acquisition as “part of the customer–firm relationship that begins with the consumers’ first interaction with the firm and proceeds through the first purchase until the first repeat purchase.” McGahan and Ghemawat (1994) argue that customer retention occurs when price-sensitive switchers (defined as new customers and disloyal former customers) are retained by a firm’s investment in customer service. Bendoly et al. (2005) study a multiple-channel structure in which customers can be retained by an alternative channel when a product or service is unavailable in one channel. Others have defined customer retention more generally as activities that prolong relationships between firms and customers—such as loyalty programs, direct mailing, and other programs that enhance the perception of a relationship (Hauser et al. 1994, Reinartz et al. 2005, Thomas 2001, Verhoef 2003).
through the gathering, processing, and sharing of consumer information, and thus enhances the acquisition of new customers and the retention of existing customers. In the retail sector, for example, most retailers have established call centers that support their CRM efforts and have implemented data-gathering CRM software and analytics. Using the subsequent analyses of customers’ buying habits, retailers can thus segment their customer bases and channel special offers and incentives to specific individuals (Collett 2004).

Although customer acquisition and customer retention are separate tasks, they are nonetheless related in that both activities should work together to increase a firm’s market share (McGahan and Ghemawat 1994, Thomas 2001). Efforts made in customer acquisition and retention must be applied in a team fashion across functional areas such as marketing, sales, and customer service (Verhoef 2003). Because of the cross-functional nature of these areas and the overlapping job responsibilities of the personnel involved, efforts in one activity are likely to have a substantial effect on the outcome of the other activity. More specifically, effort made to increase customer acquisition may inadvertently reduce effectiveness of customer retention, that is, a spoiling effect. This spoiling effect may be caused by aggressive pursuit of new customers with attractive, nonprice deals unavailable to current customers, as observed in the cable industry, for example: “the acquisition marketing was increasing customer defection rates” (Novo 2005). Similarly, in the banking industry, although investment in digital services such as online new account opening “will go a long way toward getting more low-cost deposit accounts,” such customer acquisition effort may actually reduce customer satisfaction (DeCastro 2009) and thus reduce customer retention. In fact, a study of the UK financial services finds customer acquisition strategies undermine the attempts at customer retention (Farquhar 2005).

In carrying out customer acquisition and retention tasks, firms can choose to control and perform the tasks in a centralized setting or, alternatively, to delegate some of these tasks to customer representatives (Bhardwaj 2001; Lal 1986; Mishra and Prasad 2004, 2005). For example, companies such as cell phone service providers, cable companies, and commercial banks may centralize efforts to attract new customers with national advertising plans (i.e., customer acquisition) while leaving retail stores with the responsibility of service related issues (i.e., customer retention); that is, the firm sells directly to new customers but leaves customer retention to retail stores. Or, the firm could encourage employees at the retail stores to actively engage potential customers to convert them into future new customers, in which case the firm delegates customer acquisition to retail stores. The firm’s choice between direct selling and delegation of customer acquisition often affects customer retention and firm performance, which may be complicated by the existence of the spoiling effect.

The challenge the retail banking industry is faced with is a case in point. Whereas some argue that Internet banks such as HSBC Advance, ING Direct, etc., offer great growth opportunities as direct selling, others believe that delegated customer acquisition at bank branches provides face-to-face communication, one stop shopping, and localized marketing that are essential for new customers (Durkin et al. 2003, Viveiros 2007, Campbell and Frei 2010). On one hand, Internet banking centralizes such customer acquisition activities as branding and advertising that create broad and effective awareness of the firm and its products, particularly for banks focusing on savings and mortgages (Farquhar and Panther 2008). On the other hand, centralized customer acquisition may have complicated effect on customer retention. For example, when a bank in the United Kingdom directly drove the product, i.e., selling direct, the management were paying lip service to retention, leading to roughly 10% of effort being spent to retain existing customers while 90% to acquire new customers (Farquhar 2005).

Alternatively, as an example of delegating customer acquisition in retail banking, front-line employees at local branches play an important role in customer acquisition, and are given sales targets and provided sales incentives (Farquhar 2005). Furthermore, decisions of selling processes are often delegated to branch managers, who then receive more incentive-based pay as a result of increased authority (Nagar 2002). The value of delegation may come from increased coordination between tasks and potential efficiency gains when transferring tasks to capable and skilled customer representatives, but these gains will need to be traded off with higher costs from the tasks being performed by customer representatives under delegation. Empirical results (e.g., Slade 1996) show that such relationships between tasks may

5 For example, a national wireless communication carrier uses advertising on local billboards, sponsors local youth sports teams, sends brand ambassadors to shopping malls, etc., for customer acquisition.
directly affect incentives and efforts associated with the tasks. In fact, delegation may create synergy by allowing different tasks to be coordinated under the control of customer representatives, but a multitasking representative may require a more costly and higher-powered incentive than a single tasking representative (Slade 1996). Such trade-offs become more complicated when acquisition effort spoils retention, because the incentives allocated between tasks and the way the firm assigns acquisition tasks (e.g., under direct selling and delegation) need to fully reflect the spoiling effect.

Customer acquisition and retention tasks may also interact with each other at a pricing level. It is common for firms to use targeted pricing and price promotions to acquire customers from competition (Feinberg et al. 2002, Gupta 1988, Narasimhan 1988, Raju et al. 1990). Such an acquisition approach, however, may come at the cost of “antagonizing customers” (Anderson and Simester 2010). For example, the promotions used by a cellular phone company to attract new customers can increase dissatisfaction among certain existing customers because they may feel they are not being treated fairly. Through a large-scale 28-month randomized field experiment involving over 50,000 customers, Anderson and Simester (2010) found that existing customers make fewer purchases of both the same and other products by a firm subsequent to the firm reducing prices.

Although customer acquisition and retention are nevertheless two of the most important components of CRM, previous literature on CRM has mostly focused on the assessment of CRM performance (Bowman and Narayandas 2004, Crosby and Stephens 1987, Lewis 2004, Mittal and Kamakura 2001, Reinartz et al. 2005, Thomas et al. 2004), evaluation of drivers of customer satisfaction and retention (Gounaris 2005, Heim and Sinha 2001, Shankar et al. 2003), allocation of resources within a CRM system (Reinartz et al. 2005), structural design of a CRM system and impact of customer value on the design and implementation of effective CRM strategies (Blattberg and Deighton 1996, Chen 2005, Chu and Desai 1995, Gupta et al. 2004, Hauser et al. 1994, Kalra and Shi 2001, Kalra et al. 2003, Lim et al. 2009, Venkatesan and Kumar 2004, Villanueva et al. 2007), and the long-term versus short-term perspective of CRM under competition (Villanueva et al. 2007). Among them, only a few studies have examined customer acquisition and customer retention issues. For example, Hauser et al. (1994) elegantly showed how the precision of measuring consumer satisfaction could affect the design of the incenting system and thus affect customer satisfaction. Park and Fader (2004) developed a bivariate timing model to empirically examine the correlation between acquisition and retention, called “linked propensities” in their paper, and Schweidel et al. (2008a, b) examined the implications of such a correlation on the value of prospects and customers. A very interesting study by Simester and Zhang (2010) considers how a firm should design the rewarding system when managers, who are rewarded by product success, may choose to invest in projects that show little potential of success. They show that the firm should appropriately design the rewarding system to solve the tension that rewarding killing bad products may undermine the rewards for success and find that the timing for the manager to learn demand is crucial for the design of the rewarding system. To our best knowledge, however, little research has specifically studied the development of appropriate sales force incentives with respect to intertwined customer acquisition and retention and the delegation of acquisition to customer representatives.

The present study aims to fill these gaps in the literature. We develop incentive mechanisms that simultaneously address acquisition and retention of customers with an emphasis on the spoiling effect of acquisition on retention. In particular, we compare incentive designs and the firm’s profit between direct selling and delegation in the presence of the spoiling effect. Our main finding is that when customer acquisition and retention are independent, the firm’s profit is higher under direct selling than under delegation; however, when acquisition spoils retention, the firm’s profit may be higher under delegation, suggesting that delegation can be an effective mechanism in mitigating the spoiling effect. The intuition is that, under delegation, the multitasking agent is able to coordinate the tasks to contain the negative effect of the conflict by shifting effort from customer acquisition to retention. As a result, when acquisition spoils retention to a great degree, the firm may be better off delegating customer acquisition activities to take advantage of the coordination effect. In addition, our analysis finds that the spoiling effect not only reduces the optimal acquisition effort, but may also reduce retention effort under both direct selling and delegation. Comparing optimal efforts under both schemes, the acquisition effort is always lower under delegation regardless of the spoiling effect, but the retention effort may be higher under delegation with the spoiling effect. Furthermore, when the customer antagonism effect from price promotions is considered, our main results hold regarding the firm’s preferences between direct selling and delegation. This demonstrates the robustness of our model.

The present study is distinct from previous research mainly in the following two ways. First, it is the first study to develop sales force incentive mechanisms for customer acquisition and customer retention as potentially conflicting CRM activities. Similar models
have been adopted to study related issues, such as customer service and satisfaction, but none for customer acquisition and retention. Hauser et al. (1994) presented a customer incentive scheme to improve customer satisfaction and services by separating customers into groups according to the marginal effort it takes to acquire or retain them. The authors noted that customer satisfaction should be measured differently for various groups and that customer satisfaction among existing customers (leading to retention) should be given a different weighting from that among noncustomers (leading to acquisition). Joseph and Thevaranjan (1998) examined the role of monitoring and incentives in providing customer services and found that monitoring allows a firm to decrease the incentive paid to salespersons. Other related research has analyzed the strategic use of targeted promotions for customer retention and customer acquisition in a dynamic and competitive environment (e.g., Fruchter and Zhang 2004, McGahan and Ghemawat 1994). The present study extends this stream of research by specifically modeling customer acquisition and customer retention and, more importantly, their interactions as the main components of incentive mechanisms.

Second, this study compares two commonly used incentive contracting mechanisms, direct selling versus delegation of customer acquisition, with and without spoiling effect. Our study compares two second-best solutions, one from a double moral hazard problem (direct selling) and the other from a multitasking framework (delegation), in terms of efforts and firm profits. By comparing the two mechanisms, this research highlights a potential benefit of delegating conflicting tasks that may have a broad range of application within and beyond CRM. To our best knowledge, this research is the first such effort in marketing to study these issues.

The rest of this paper is organized as follows. Section 2 presents the model setup and development. Section 3 presents the analyses and results. Section 4 draws conclusions from the research and discusses managerial implications, limitations, and future research. Proofs of the lemma, proposition, and all corollaries are provided in the online technical appendix, which can be found at http://www.csom.umn.edu/marketinginstitute/tcui.

2. The Model
This study models customer acquisition and retention in a principal-agent framework, in which the firm acts as the principal and the firm’s customer representative as the agent. The risk-neutral firm sells a single product either directly, or through its customer representative, to customers. The customer representative is risk averse with a constant absolute risk-aversion utility function given by \( U(\omega) = 1 - e^{-r\omega} \), where \( r \) is the coefficient of absolute risk aversion, and \( \omega \) is the customer representative’s income (Bhardwaj 2001, Hauser et al. 1994, Joseph and Thevaranjan 1998, Lal 1986). In the direct-selling model, the firm makes efforts to acquire new customers, whereas in the delegation model, customer acquisition tasks are delegated to the customer representative (Bhardwaj 2001). In both models, the customer representative performs the retention task. This assumption is based on the interactive nature of many customer retention activities that can be better performed by frontline representatives. For frontline representatives, the existing customer base is known, and face-to-face interaction is more effective to retain the existing customers, particularly when existing customers experience service issues and consider moving their business elsewhere (Farquhar 2005). The total demand of the firm’s product consists of three components: the base demand \( n \), the demand through customer acquisition \( D_A \), and the demand through customer retention \( D_R \). The based demand can be equivalently considered as the long-term demand from established customers of the firm that is not affected by acquisition or retention efforts. Thus, the total demand is given by \( D = n + D_A + D_R \), in which

\[
\begin{align*}
D_A &= e_a + e_s, \\
D_R &= (e_r - \lambda e_s) \cdot n + e_s.
\end{align*}
\]  

For the demand through customer acquisition, \( e_a \) refers to the acquisition effort made by either the firm (in direct selling) or the customer representative (in delegation) and is not contractible. The customer representative’s retention effort is denoted as \( e_r \), and is not contractible either. So the firm’s demand can be increased from either acquiring new customers or retaining current customers or both. The term of \( e_r - \lambda e_s \) can be considered as customer retention rate \( \theta (0 \leq \theta \leq 1) \), which is the ratio of the expected retained customers to the base demand \( n \) (Rao 1990). Without loss of generality, we assume \( n = 1 \). Both \( e_a \) and \( e_r \) are independent of each other and normally distributed with mean zero and respective variances \( \sigma_a^2 \) and \( \sigma_r^2 \). Such a formulation will bring similar insights but the analysis will be much more complicated. The assumed retention demand \( D_A = \theta \cdot n + e_r \) in the model represents the situation where both the principal and agent agree on the base of the retention (i.e., \( n \)); \( 0 \leq \theta \leq 1 \) can be relaxed without changing the main results.

We consider the cases where the retention demand is positive and smaller than the base demand, i.e., \( 0 \leq e_r - \lambda e_s \leq 1 \). The explicit expressions of the feasible conditions are given in the online technical appendix.

\[ \text{Another way to model retention is to assume that the retained customer is given by } D_A = \theta(n + D_s) + e_r, \text{ which will bring similar insights but the analysis will be much more complicated. The assumed retention demand } D_A = \theta \cdot n + e_r \text{ in the model represents the situation where both the principal and agent agree on the base of the retention (i.e., } n) \text{; } 0 \leq \theta \leq 1 \text{ can be relaxed without changing the main results.} \]
and \( \sigma_e^2 \), i.e., \( e_e \sim N(0, \sigma_e^2) \) and \( e_r \sim N(0, \sigma_r^2) \). Parameters \( \sigma_e \) and \( \sigma_r \) represent the accuracy of acquired and retained sales as indicators of the customer representative’s respective efforts (Hauser et al. 1994). Parameter \( \lambda \) captures the spoiling effect of acquisition effort \( e_e \) on retention, and such an effect is not higher than the direct effect of retention effort \( e_r \) on retention, i.e., \( 0 \leq \lambda \leq 1 \).

Under direct selling, the costs for acquisition and retention efforts are given by \( (1/2)c_e e_e^2 + (1/2)c_r e_r^2 \), respectively. Under delegation, the total costs for acquisition and retention are given by \( (1/2)c_e e_e^2 + (1/2)c_r e_r^2 \). We assume that the two tasks do not present any forms of technological dependency (i.e., interdependence between the marginal costs of customer acquisition and customer retention efforts; Holmstrom and Milgrom 1991). Because acquiring a new customer usually is more costly than retaining an old customer, we further assume \( c_e = kc_r \), with \( k > 1 \).

The firm provides the following linear incentive scheme to the customer representative (Bhardwaj 2001, Hauser et al. 1994, Joseph and Thevarajan 1998):

\[
y = \begin{cases} 
\alpha + \gamma \cdot D_r & \text{in direct selling,} \\
\alpha + \beta \cdot D_a + \gamma \cdot D_r & \text{in delegation,}
\end{cases}
\]

in which \( y \) is the total payment from the firm to the customer representative. The payment consists of three components: (1) \( \alpha \) is a fixed salary that is independent of performance in customer acquisition and retention; (2) \( \beta \) is the commission rate, in the case of delegation, for total acquired demand; and (3) \( \gamma \) is the compensation for the total number of retained customers. In the direct-selling model, because the customer acquisition effort is made by the firm, the compensation for customer acquisition is not relevant. If the customer representative successfully retains a customer, the firm gains the long-term customer value \( l \cdot p \) associated with this customer (Bendoly et al. 2005). Such a value is often termed the “customer lifetime value” (CLV) (Collett 2004, Dwyer 1989, Fader et al. 2005, Pfeifer and Carraway 2000). The parameter \( p \) is the long-term price that is assumed to be fixed in the model, and \( l \) is a multiplier, \( l > 1 \). The production or purchase cost of the product is normalized to zero. Therefore, price \( p \) can be considered as the gross margin of the product. CLV increases in the gross margin of the product.

The firm’s profits from direct selling (denoted with superscript DS) and delegation (denoted with superscript DL) are respectively given by

\[
E_{\pi}^{DS} = pe_a + lp(e_r - \lambda e_e) - \frac{1}{2}kc_e e_e^2 - [\alpha + \gamma e_r - \lambda e_e],
\]

\[
E_{\pi}^{DL} = pe_a + lp(e_r - \lambda e_e) - [\alpha + \beta e_a + \gamma (e_r - \lambda e_e)]. \quad (3)
\]

The first term in each profit function is the firm’s net sales profits from the new demand generated by the acquisition effort. The second term is the contribution of the long-term customer value from retained customers. The third term in direct selling is the firm’s direct cost for customer acquisition effort. The last term is the incentive payment transferred to the customer representative. Because the firm does not make direct effort for customer acquisition or customer retention under delegation, the firm’s profit function contains no effort costs but only the payment for the acquisition and retention activities.

The incentive mechanism in the direct-selling model is stated as follows:

\[
\max_{\gamma} E_{\pi}^{DS} = pe_a + lp(e_r - \lambda e_e) - \frac{1}{2}kc_e e_e^2 - [\alpha + \gamma (e_r - \lambda e_e)] \quad (4)
\]

subject to

IC(A): \( (e_e) = \arg\max_{e_e} E(U(e_a, e_e)) \),

IC(P): \( (e_a) = \arg\max_{e_a} E_{\pi}^{DS}(e_a, e_e) \),

IR: \( E[U(e_a, e_e)] \geq 0 \),

where the certainty equivalent (CE) of the customer representative’s expected utility is given by

\[
CE = \alpha + \gamma (e_r - \lambda e_e) - \frac{1}{2}c_e e_e^2 - \frac{r}{2} \gamma^2 \sigma_r^2.
\]

In a similar fashion, the incentive mechanism for delegation is stated as follows:

\[
\max_{\beta, \gamma} E_{\pi}^{DL} = pe_a + lp(e_r - \lambda e_e) - [\alpha + \beta e_a + \gamma (e_r - \lambda e_e)] \quad (5)
\]

subject to

IC: \( (e_a, e_e) = \arg\max_{e_a, e_e} E[U(e_a, e_e)] \),

IR: \( E[U(e_a, e_e)] \geq 0 \),

We consider only CRM-related profits for the firm. Incorporating the profit from base demand, \( p \times n \), will not change the main results.
where the CE of the customer representative's expected utility is given by

$$
CE = \alpha + \beta e + \gamma(e, -\lambda e) - \frac{r}{2}(\beta^2 \sigma^2 + \gamma^2 \sigma^2).
$$

The direct-selling model is a double moral hazard problem (Demschi and Sappington 1991) with acquisition and retention efforts made by separate parties. The delegation model is a multitasking problem (Holmstrom and Milgrom 1991, Hauser et al. 1994, Dearden and Klotz 2002), where both customer acquisition and retention efforts are made by the representative. The objective function is the firm's expected profits over uncertainties in customer acquisition and customer retention outcomes. The incentive compatibility (IC) constraint states that the firm and the customer representative will choose the effort level that will result in their greatest profits and utility, respectively. The individual rationality (IR) constraint reflects the minimum utility required by the customer representative to accept the incentive contract. The detailed analyses of both models are given in the online technical appendix. In the next section, we will provide main results and discuss the implications.

3. Analyses and Results

In what follows, we focus our analyses on studying how the spoiling effect of acquisition effort on retention outcome ($\lambda > 0$) affects firm profitability and efforts under direct selling and delegation. We then extend our models to include promotion and consumer antagonism effects.

3.1. The Spoiling Effect of Acquisition ($\lambda > 0$): Direct Selling vs. Delegation

Under both direct selling and delegation, acquisition and retention tasks are balanced such that the firm’s profit is maximized. Under direct selling, the balance of tasks is established between the firm and the representative, whereas under delegation, it is done by the representative under the multitasking contract designed and offered by the firm. The optimal outcomes under both direct selling and delegation are presented as follows.

Under direct selling, we have

$$
\begin{align*}
\epsilon^D_a &= \frac{p(1 - \lambda)}{kc} + \frac{\lambda \rho p}{c(k + \lambda^2 + kc, r \sigma^2)}, \\
\epsilon^D_r &= \frac{klp}{c(k + \lambda^2 + kc, r \sigma^2)}, \\
\gamma^D &= \frac{klp}{(k + \lambda^2 + kc, r \sigma^2)}.
\end{align*}
$$

Under delegation, we have

$$
\begin{align*}
\epsilon^D_a &= \frac{p[1 - \lambda(k + k \sigma^2) + (1 - \lambda)(c, r \sigma^2 + \lambda^2 c, r \sigma^2)]}{c, k(k + k \sigma^2)(1 + c, r \sigma^2)}, \\
\epsilon^D_r &= \frac{p[1 + \lambda(k + k \sigma^2) - \lambda(p - \lambda)(c, r \sigma^2)]}{c, k(k + k \sigma^2)(1 + c, r \sigma^2) + \lambda^2 c, r \sigma^2}, \\
\gamma^D &= \frac{p[1 + \lambda(k + k \sigma^2) - \lambda(p - \lambda)(c, r \sigma^2)]}{(k + k \sigma^2)(1 + c, r \sigma^2) + \lambda^2 c, r \sigma^2}.
\end{align*}
$$

Given the optimal efforts under direct selling and delegation, the following lemma depicts the impact of the spoiling effect on the optimal efforts.

**Lemma 1.** The spoiling effect of acquisition on retention ($\lambda > 0$) reduces the acquisition and retention efforts under direct selling. It reduces the acquisition effort and may reduce (increase) the retention effort when $\lambda$ is sufficiently small (large) under delegation.

The spoiling effect of acquisition leads to a lower acquisition effort under both direct selling and delegation because the firm naturally tries to reduce acquisition effort to mitigate the negative impact on retention. But interestingly, a lower retention effort can also be a result of the spoiling effect under direct selling, and even under delegation when $\lambda$ is sufficiently small. As the firm becomes reluctant to allocate its compensations toward acquisition with the concern of the spoiling effect, conventional wisdom may suggest that the firm should shift compensations toward retention, leading to a higher level of effort regardless of who performs the retention task. This is possible under delegation when the spoiling effect is sufficiently large, such that acquisition becomes highly inefficient and retention becomes very effective in protecting the firm’s long-term profit. In this case, the firm rebalances the two tasks to adjust to the more expensive tasks, and indeed more is allocated toward retention. However, when the spoiling effect is not as overwhelming and such an adjustment is mild, the total reduction of compensations allocated to both tasks, because of the higher marginal costs of the tasks with the spoiling effect, dominates the adjustment of compensation allocation between the tasks and the optimal retention effort can be lower. The ability of the firm to make such adjustment under delegation is a result of the role of the multitasking representative to coordinate the conflicting tasks and absorb the negative effect of the conflict, which, when the spoiling effect is intense, may have a significant impact on firm profit.

Given the above discussion, the role of the spoiling effect in the total compensations committed to the acquisition and retention tasks and in the allocation...
of compensations between the tasks has direct implications to firm profit. How this role differs between direct selling and delegation is critical in understanding the impact of the spoiling effect on the firm’s profit under direct selling and delegation.

Under delegation, the firm pays a risk premium to the risk-averse representative for the acquisition task, which is performed by the representative under delegation. With the more expensive acquisition, the firm reduces its corresponding compensation, leading to a lower acquisition effort. When the tasks are independent, delegating acquisition to the representative only causes acquisition activities, which are separate from retention activities, to be carried out differently to account for the risk averseness of the customer representative. The unchanged retention effort under delegation is very much expected because of the independence between the two tasks. The allocation of compensations by the firm between the tasks remains the same under direct selling and delegation, and the reduction in acquisition effort is entirely the result of the increase in acquisition cost due to the risk premium the firm has to pay under delegation.

With the spoiling effect, however, the acquisition task becomes even more expensive under delegation, because of the additional risk premium to induce the task as well as the negative effect of acquisition on retention. More importantly, the balance in compensations allocated to acquisition and retention is different under the spoiling effect, because the firm is less efficient in inducing acquisition effort than retention under delegation. When \( \lambda \) is sufficiently large, the acquisition effort becomes so expensive to the firm that it is more efficient for the firm to increase compensations allocated to retention to balance the reduced acquisition effort. However, when \( \lambda \) is sufficiently small, the retention effort may be greater under direct selling than that under delegation, which is consistent with the findings of Campbell and Frei (2010) that the use of online banking, which is a form of direct selling, is associated with greater retention.

This shift of balance between acquisition and retention under delegation and with the spoiling effect helps establish our main result, the impact of \( \lambda \) on firm profit, which is summarized as follows.

**Proposition 1.** The firm profit under direct selling is higher than that under delegation without the spoiling effect (\( \lambda = 0 \)). However, the firm profit under delegation is higher than that under direct selling when the spoiling effect is present (\( \lambda > 0 \)) and sufficiently large.

When the tasks are independent (i.e., no spoiling effect), the firm prefers direct selling to delegation. With both tasks performed by the risk-averse customer representative under delegation, the firm is less efficient overall because of the higher compensation required to induce the best acquisition effort. Under direct selling, however, the risk-neutral firm faces only the single-tasked customer representative, while enjoying the leverage of controlling the acquisition effort. Therefore, the firm loses in transferring customer acquisition to the representative under delegation because of the risk premium required by the representative to perform the additional task. Combining the independent tasks of acquisition and retention under delegation, the representative gains little in efficiency against the higher total risk premium. As a result, the firm has a lower profit under delegation because of both the loss in control of the acquisition effort and the associated risk premium necessary to induce the effort. This finding is in line with marketing and economic literature of delegation (Bhardwaj 2001; Joseph 2001; Lal 1986; Mishra and Prasad 2004, 2005).

Surprisingly, for \( \lambda > 0 \) the firm may prefer delegation to direct selling. The negative effect of acquisition on retention reduces the optimal acquisition effort under both direct selling and delegation, but the spoiling effect impacts the retention effort differently under direct selling and delegation when \( \lambda > 0 \) (Lemma 1). Furthermore, as discussed above, when \( \lambda \) is sufficiently large, retention effort under delegation becomes greater than it is under direct selling. This indicates that the relationship between acquisition and retention under direct selling is fundamentally different from that under delegation, and this difference may allow the firm to actually gain from delegation. From a theoretical point of view, the firm and the customer representative make effort in a double moral hazard fashion under direct selling, whereas the firm contracts with the representative as a multitasking agent who could coordinate the two tasks under delegation. Therefore both direct selling and delegation represent a second-best solution for the firm.\(^{11}\) The firm assumes control of acquisition under direct selling but the balance between the tasks is not coordinated, whereas under delegation, the firm pays a higher cost for acquisition when losing the control but may benefit from the representative’s ability to coordinate the tasks.

More specifically, when the tasks are independent (\( \lambda = 0 \)), delegating the acquisition task has little direct impact on the retention task, and therefore the risk-neutral firm needs only to trade off between efficiency loss to the double moral hazard scheme (under direct selling) and loss of control plus added risk premium to the risk-averse representative for customer acquisition (under delegation). Direct selling dominates because of the firm’s risk neutrality that limits the

\(^{11}\) We thank an anonymous reviewer for this point.
loss to moral hazard. When the tasks are conflicting \((\lambda > 0)\), however, the trade-off in acquisition is spilled over to retention. Under direct selling, because of inducing retention effort is relatively more expensive with the risk premium, compared with acquisition effort, the firm may expend more effort directly into acquisition, leading to less effective customer retention because of the effect of \(\lambda\). Under delegation, the role of \(\lambda\) is neutralized to a certain degree by the customer representative, who could better allocate resources between the tasks to optimize the efforts because both tasks are under the control of the representative. The representative may not expend the acquisition effort to the level the firm would under direct selling because some of the acquisition benefits will be offset by the reduction in retention because of the spoiling effect. Under delegation, the trade-off between the added risk premium in inducing acquisition effort and the efficiency gains from coordination of the two tasks determines whether the firm benefits from delegation. This result contributes to the marketing literature by identifying an important benefit of task delegation with multitasking agents: The coordination of conflicting tasks could minimize the negative effect from the conflict, leading to better firm performance.

Although the spoiling effect of customer acquisition, \(\lambda\), is the same between direct selling and delegation as assumed in this research, it is possible that the spoiling effect is greater under delegation, because the multitasking representative is the focal point of customer encounter. In such cases, the benefit from the coordination between customer acquisition and retention under delegation may be reduced by the increased negative spoiling effect under delegation.

In the next section, we extend our base model to study a problem that involves an alternative way to acquire new customers through promotions and the likely antagonism effect from the existing customers.

### 3.2. Model Extension: Promotions and Customer Antagonism

Although long-term pricing decisions are usually outside the responsibilities of CRM programs, firms routinely use short-term price promotions to acquire new customers (Anderson and Simester 2004, 2010; Farquhar and Panther 2008). Price promotions may be effective in attracting price conscious customers but may also have a negative effect on the existing customers who are not covered by the promotions—an effect called customer antagonism (Anderson and Simester 2010). The role of promotions, in acquiring new customers and discouraging existing customers, resembles that of the spoiling effect, except that the decision authority of promotions is controlled by the firm and is not delegated. In this section, we extend our model to include promotions and the customer antagonism with acquisition and retention tasks. Our focus remains on the comparison in firm profits between direct selling and delegation of acquisition.

Define \(z\) as the price promotion for the firm to acquire customers. The new demand becomes \(D_a = e_a + \varphi z + \varepsilon_a\), where \(\varphi > 0\) measures the customer reaction to the promotion. Further denote \(\eta > 0\), which captures the customer antagonism effect (i.e., the negative effect of price promotion on customer retention) (Anderson and Simester 2010). In addition, it is assumed that \(\varphi > \eta\), meaning that the price promotion \(z\) has a larger positive effect on acquiring new customers than its antagonism effect on retaining existing customers. Therefore, we have \(D_R = (e_c - \lambda e_a - \eta z) + e_c\).

Most of our base models remain the same, except that the firm’s profit functions are modified to incorporate the promotion and its antagonism effect on retention:

\[
\begin{align*}
E\pi^{DS} &= (p - z)(e_c + \varphi z) + lp(e_c - \lambda e_a - \eta z)\\
&\quad - \frac{1}{2}k\epsilon e_a^2 - [\alpha + \gamma (e_c - \lambda e_a - \eta z)];
\end{align*}
\]

\[
\begin{align*}
E\pi^{DL} &= (p - z)(e_c + \varphi z) + lp(e_c - \lambda e_a - \eta z)\\
&\quad - [\alpha + \beta (e_c + \varphi z) + \gamma (e_c - \lambda e_a - \eta z)].
\end{align*}
\]

The first term of each equation is the revenue from the newly acquired customers, with a reduced margin due to the promotion. The second term is the long-term value from the retained customers, after accounting for the spoiling effect and the antagonism effect of the promotion. The rest of the profit functions are the same as in the base model. Note that the long-term value of retained customer does not reflect the short-term promotion. This is because the promotion is applied only to the new customers who understand that this promotion does not have a long-lasting effect to their future purchases.

We first analyze how promotions and customer antagonism affect acquisition and retention efforts for any \(\lambda \geq 0\).

**Corollary 1.** When the firm uses promotions, the acquisition effort is higher with customer antagonism \((\eta > 0)\) than that without antagonism \((\eta = 0)\) under both direct selling and delegation. The retention effort is the same under direct selling with and without customer antagonism, but is lower with customer antagonism under delegation.

Because promotions can be used alongside the acquisition task, and the customer antagonism negatively affects retention, as does the spoiling effect, promotions can function as a substitute for the acquisition effort. When the customer antagonism is present, promotions become less efficient compared to the
acquisition effort because of the negative effect of the antagonism on retention. Increasing acquisition effort to balance the promotions and the antagonism, even with the spoiling effect, allows coordination between these two ways of generating new customers. This coordination between promotions and the customer acquisition is fully capitalized by the firm under direct selling because the firm internalizes and controls both promotions and the customer acquisition task. As a result, the customer antagonism has little impact on the optimal effort level in the customer acquisition—the negative effect of promotions is completely absorbed by the increase in the customer acquisition task. However, under delegation, the representative’s ability to coordinate acquisition and retention tasks enables the representative to make a quick adjustment to the antagonism effect of promotions, that is, to lower retention effort while increasing acquisition effort.

To examine the robustness of our main result (Proposition 1), we next consider the impact of promotion $z$ on the firm’s profit under direct selling and under delegation when promotions are used. We first consider the case where the spoiling effect is absent ($\lambda = 0$), which focuses on the effect of promotions and the related antagonism without spoiling effect. We then consider the general case where the spoiling effect is present ($\lambda > 0$), which combines both the effect of promotions and antagonism and the spoiling effect. The following corollary summarizes the results.

**Corollary 2.** When the firm uses promotions in the absence of the spoiling effect ($\lambda = 0$), its profit is higher under direct selling than that under delegation, regardless of customer antagonism ($\eta > 0$). However, when the firm uses promotions in the presence of the spoiling effect ($\lambda > 0$), its profit may be higher under delegation than that under direct selling.

The results show that using promotions with the acquisition task but without the spoiling effect does not change the firm’s preference of direct selling to delegation. More importantly, the firm prefers direct selling even when customer antagonism of the promotion exists. This result indicates that promotions provide an alternative to customer acquisition, and customer antagonism creates a negative impact on customer retention, similar to the spoiling effect. However, this alternative way of generating new customers does not change how the customer acquisition task interacts with the retention task. The firm’s choice between direct selling and delegation still depends on the spoiling effect that directly connects the tasks. When the tasks are independent, promotions, as effective as they are in generating new customers, do not change the firm’s choice of direct selling, with or without customer antagonism.

This result is consistent with the main finding in Proposition 1.

When promotions are used with antagonism and spoiling effects, the comparison between firm profit under direct selling and under delegation is more complicated. The result depends on the effectiveness of the promotions in generating new customers, the intensity of the customer antagonism, and the degree of the spoiling effect. However, because the addition of promotions and the existence of customer antagonism do not change the ability of the multitasking representative to coordinate conflicting acquisition and retention tasks, the fundamental trade-off between the benefit from the coordination and the higher risk premium due to the delegation of the acquisition task remains unchanged. This shows that our main results with regard to the firm’s choice between direct selling and delegation with spoiling effect are robust when promotions, which have a negative effect on retention because of customer antagonism, are included as another measure to acquire new customers.

Although adding promotions and customer antagonism to the model does not change our main results, this is not to suggest that promotions and customer antagonism have no impact on the comparison between firm profit under direct selling and under delegation. In fact, in this case the condition under which the firm may prefer delegation for a higher level of profit is different. Specifically, when promotions and customer antagonism are not considered, the firm prefers delegation when $\lambda$ is sufficiently large such that $1 - \lambda \lambda$ is sufficiently small. However, when promotions and the customer antagonism are included, the effectiveness of the promotions ($\varphi$) and the intensity of the customer antagonism ($\eta$) may both be so strong that controlling and managing both promotions and acquisition effort under direct selling provides a different type of coordination whose value may outweigh the value from coordinating the two tasks under delegation. Therefore, for the firm to have a higher profit under delegation, not only does the spoiling effect have to be sufficiently large, but the effects of promotions and customer antagonism need to be at a level such that the benefit from coordination of the two tasks still dominates.

### 4. Conclusion

Most of the previous research on customer acquisition and customer retention has studied acquisition and retention as independent tasks (Hauser et al. 1994, Joseph and Thevaranjan 1998) or has been of an empirical nature (Reinartz et al. 2005; Schweidel et al. 2008a, b; Thomas 2001), although recognizing that customer acquisition and customer retention can
be related in different ways (Blattberg and Deighton 1996, Hauser et al. 1994, Venkatesan and Kumar 2004). In addition, although customer acquisition and retention activities are sometimes both performed by customer representatives who interact directly with customers, customer acquisition may be centralized at the firm level in a direct-selling fashion. Thus, customer acquisition and retention are sometimes in conflict with each other—increasing one may lead to lower performance of the other—and such conflicts are further complicated by who performs the tasks, the firm or the representative. Different interests and incentives by customer representatives and firms make managing customer acquisition and retention complicated and challenging.

However, it remains unclear in the marketing literature how firms should structure their sales force and efficiently allocate incentives to carry out customer acquisition and retention based on the interactions between both activities. Specifically, how does the spoiling effect of customer acquisition affect firm decisions and performance? Should a firm centralize its acquisition or delegate it to a multitasking customer representative? And does the spoiling effect have any impact on the firm's choice? These are significant questions to marketing researchers as well as practitioners. Our research investigates these issues by applying a principal–agent framework that allows for direct interactions between customer acquisition and retention and by modeling two commonly used governance schemes, direct selling and delegation of customer acquisition. We also extend our model to examine promotions and customer antagonism and their effects on firm profit under direct selling and delegation.

We find that the interdependency between customer acquisition and customer retention has significant impacts on the incentive contracts and the corresponding decisions in acquisition and retention efforts. The nature and degree of this interdependency determine the firm's choice between keeping acquisition in-house (i.e., direct selling) or delegating it to customer representatives. When the acquisition and retention tasks are independent, the firm chooses direct selling by controlling its customer acquisition program. When the acquisition effort has a spoiling effect on the outcome of customer retention, the firm may prefer delegation. In addition, the presence of the spoiling effect reduces acquisition effort and leads to a lower level of effort under delegation than under direct selling. However, the reduction of acquisition effort does not necessarily translate to an increase in retention effort; rather the spoiling effect may also reduce the optimal retention effort under both direct selling and delegation. Interestingly, retention effort is the same under direct selling as under delegation when the tasks are independent, but it may be higher under delegation than under direct selling when the spoiling effect exists.

By extending the model and analysis to include promotions and customer antagonism, we find that, despite the similarity of the customer antagonism to the spoiling effect, using promotions without the spoiling effect, regardless of customer antagonism, does not alter the firm's preference to favor direct selling. This suggests that using promotions when the spoiling effect is absent, with or without customer antagonism, does not lead the firm to choose delegation. In other words, the firm prefers direct selling when the spoiling effect is not present regardless of customer antagonism effect, but may prefer delegation only when the spoiling effect is present. This interesting result indicates that the key role of the spoiling effect in determining the firm's preference between direct selling and delegation is consistent with or without the introduction of promotions.

Our results have important managerial implications to customer relationship managers. Marketing managers should recognize and understand the existence of the spoiling effect between customer acquisition and retention, thus taking it into their decision-making process. The existence of the spoiling effect poses a challenge to maintaining a balance in marketing resources allocated to compensate between customer acquisition and retention. Because it may be a first response to move marketing dollars away from acquisition toward retention, our results show that it is best to reduce marketing spending in both areas in response to the spoiling effect. In the cases where such effect is severe, delegation of acquisition to the customer representative may actually increase retention effort more than direct selling does. More importantly, the spoiling effect directly influences the firm's design strategy in sales force and customer services. When the spoiling effect is nonexistent, the firm should use a direct-selling approach to control the acquisition task, whereas when such effect is sufficiently strong, the firm should delegate the acquisition task to the customer representative to benefit from the coordination of the acquisition and retention tasks. Our extended results also indicate that the existence of customer antagonism from promotions does not change the firm's preference to use direct selling in the absence of the spoiling effect. However, the firm may prefer delegation when the spoiling effect exists.

This research has several limitations that can be addressed in future research. First, the effects of customer acquisition and customer retention can be studied under competitive conditions (McGahan and Ghemawat 1994, Villanueva et al. 2007). For example, Villanueva et al. (2007) indicated that price...
competition may shift the long-term focus of customer value to a period-by-period basis in managing CRM programs. The model could therefore be extended to include competing firms, such that decisions on customer acquisition and retention are determined strategically in a competitive context.

Second, the model assumes the same cost efficiency for direct selling and delegation. We made such an assumption to directly compare the efficiency between the two governance frameworks beyond cost efficiency. Relaxing the assumption, however, may allow the model to capture a wider range of acquisition and retention activities. In addition, the tasks of customer acquisition and retention are assumed technologically independent to each other; that is, increasing one task does not increase or decrease the marginal cost of the other task. Allowing technologically dependent tasks, which significantly increases the complexity of the problem, may create additional insight of this research.

Third, as discussed, the model can be extended to a multiperiod or repetitive model of decisions of customer acquisition and retention to further examine the dynamic aspects of such decisions. By doing so, retention effort can also be extended to cover newly acquired customers.

Fourth, the current model analyzes the optimal effort allocation for customer acquisition and retention assuming a given governance framework, direct selling or delegation. Although it makes sense to consider a fixed governance framework because the decision of direct selling or delegation is usually a long-term strategic decision for firms, endogenizing such a decision may provide additional insights. It is also important to recognize that, although the main issues discussed in this research apply to many industries, they are not necessarily universal—there might be industries where no spoiling or customer antagonism effects exist. In these industries, as our results indicate, direct selling outperforms delegation of customer acquisition. All of these issues are worthy of deliberate considerations for marketing managers, and we leave the analyses of these issues for future research.

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