

**CUSTOMER LIFETIME VALUE, CUSTOMER PROFITABILITY, AND THE  
TREATMENT OF ACQUISITION SPENDING**

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# CUSTOMER LIFETIME VALUE, CUSTOMER PROFITABILITY, AND THE TREATMENT OF ACQUISITION SPENDING

## ABSTRACT

We observe inconsistencies in the use of two of the most important terms in interactive marketing: *customer lifetime value* and *customer profitability*. The major purpose of this article is to create and clarify differences between these two terms by offering concise definitions for both. Our definition of *customer lifetime value* connects the word *value* in customer lifetime value to the word *value* in “present value” and “valuation” as used in finance theory. Our definition of *customer profitability* connects the word *profitability* in customer profitability to the concept of accounting profitability. The differences between present value and accounting profit are well understood in both finance and accounting. We propose the same distinctions be applied to *customer lifetime value* and *customer profitability*. The usefulness of our definitions will be demonstrated by considering the treatment of acquisition spending under both constructs.

Schultz addressed the importance of good definitions in an editorial calling on marketing academics and practitioners to define *direct marketing*.

If we don't [establish precise definitions], I fear we will find that what *you* are talking about when you say *direct marketing* may have absolutely no relationship to what *I* consider *direct marketing*. And, for an academic discipline, that is the worst of all possible worlds (1995: 9).

Whereas the confusion in 1995 was over the meaning of *direct marketing*, we believe there is an unhealthy amount of confusion today over the meanings of two of the most important terms in interactive marketing: *customer lifetime value* and *customer profitability*.

The terms *customer lifetime value* and *customer profitability* are important to interactive marketing because they are both used to talk about and measure customer differences. As Peppers and Rogers stated, "some customers are more equal than others," and firms can prosper by learning how to "identify and capitalize on customer differences" (1997: 30). Given the importance to interactive marketing of recognizing customer differences, it is critical to use precise language to talk about those differences and thereby avoid Schultz's "worst of all possible worlds."

Instead of using precise language when discussing customer differences, however, it appears some researchers are doing just the opposite. In a recent article surveying customer profitability measurement and research, Mulhern (1999) lists *seven* terms the literature uses to refer to *customer profitability*. *Customer lifetime value* is included in the list. Mulhern goes on to use the two terms interchangeably. His "general formulation for customer lifetime value" is an equation with a left-hand-side variable defined as "the profit of customer *i* to the firm" (1999: 30). So clearly, Mulhern sees no difference in the meanings of *customer lifetime value* and *customer profitability*.

The purpose of this article is to improve the precision of our language in this area by focusing on the difference between *customer lifetime value* and *customer profitability*. If you agree with Mulhern (1999) that there is no difference in the meaning of these two terms, then our purpose is to **create** a difference. If you are uncertain of the difference between the meanings of these two terms, then our purpose is to attempt to **clarify** the difference for you. Finally, if you have a clear understanding of the differences in meanings, our purpose is to **verify** that we share the same understanding.

As an example of how imprecise language has led to confusion in this area, consider how Heskett, Sasser, and Schlesinger describe the results of an important study conducted by Reichheld and Sasser (1990):

...a 5 percentage point increase in average customer retention of credit card customers....would increase a credit card service company's profits by 75 percent (1997: 61).

This statement suggests that the 75% increase reported by Reichheld and Sasser applies to *company* profits. However, a careful reading of Reichheld and Sasser (1990) shows that the reported increase refers instead to "customer value," described by Reichheld and Sasser as "the net present value of the profit streams for the average customer life" (1990: 110). Contributing to the confusion is the title of the main chart in the Reichheld and Sasser article: "reducing defections 5% boosts profits 25% to 85%" (1990:10). "Customer value," "net present value of profit streams," and "profit" were all used to label the same metric, leading others to misinterpret the metric as referring to company profits.

As another example of confusion, we point to the discussion in Jain and Singh (2002) of whether acquisition costs should be included in measures of *customer lifetime value*. Jain and Singh argue that acquisition costs should be included in *customer lifetime value* and suggest that Berger and Nasr (1998) are incorrect to leave them out "in order to get their interpretation" of *customer lifetime value* as "the maximum profitable

acquisition cost” (2002: 16). “In short,” say Jain and Singh, “CLV is a concept that is forward looking, and the right definition ... should consider the essence of the concept as against rigid definitions” (2002: 16). Jain and Singh appear to be saying that any rigid definition of *customer lifetime value* that allows acquisition costs to be excluded goes against their understanding of the essence of the concept of *customer lifetime value*. Since Berger and Nasr are content to leave out acquisition costs when modeling customer lifetime value, Jain and Singh (2002) say they do not share Berger and Naser’s (1998) understanding of the meaning of customer lifetime value.

These examples illustrate the confusion that exists surrounding the terms *customer lifetime value* and *customer profitability*. On one hand, many people use these terms interchangeably and loosely. “Customer value” becomes “profit,” which becomes “company’s profit.” On the other hand, authors of a recent survey article on *customer lifetime value* take exception to how others have interpreted the term. And if you will allow us one more hand, we find Rud (2002) suggesting that “the definition of lifetime value is industry specific” (2002: 64).

We will attempt to eliminate this confusion by offering “good” definitions of the two terms. By “good” we mean concise, acceptable, inclusive, and consistent. The definitions will be short and to the point and will match as best as possible the current understanding of interactive marketing practitioners and academics. Thus, for example, the definitions will capitalize on an area of agreement articulated by Knie-Andersen (2001) who suggested that everyone agrees that customer lifetime value is a discounted measure of future dollar amounts but with differences in how to define those future amounts.

By “inclusive,” we mean the definitions will attempt to capture the general essence of the concepts with the expectation that users can add more specificity when appropriate. As an example, our definition will refer to “the customer relationship” with the idea that it will apply to an individual customer. If users want to talk about groups of customers, they can talk about the “average customer lifetime value for the group.”

Finally, we want the definitions to be “consistent” with generally-accepted definitions of the component words: *value* and *profitability*. We seek this consistency both with dictionary definitions and, more importantly, with academic definitions from the host disciplines from which they come—finance and accounting.

## DEFINITIONS AND DIFFERENTIATION

Fortunately, two academic disciplines contribute to our understanding of *customer lifetime value* (CLV) and *customer profitability* (CP). As articulated by Knie-Andersen (2001), most (but not all) authors agree that CLV takes into account the time value of money using discounting and traditional *present value* techniques. We argue that the use of the word *value* in CLV should match the use of the word *value* in finance, as in the *valuation* of an asset by determining its net present *value*.

The conceptual “common characteristic of all assets” is “future economic benefit...[which] eventually results in net cash inflows to the enterprise” (FASB, 1985: para. 28). From finance, the proper valuation of an asset that provides future economic benefits is the asset’s present value of all future period’s net cash inflows. Under the assumption that a customer relationship meets the conceptual notion of an asset, it should be valued at its present value where cash flows over the projected life of the relationship are discounted at the appropriate discount rate. Note that value is the discounted value of each cash flow and not profit. So if the *value* in CLV is to match the *value* in present value, and if the definition of CLV is to be consistent with the fundamental principles of finance, then CLV should be the present value of the cash inflows and outflows (not profits) accruing to the firm over the lifetime of the customer relationship.

The word *profitability* in CP should match the meaning of the word *profitability* in the discipline of accounting. Thus, we turn to the discipline of accounting for assistance in understanding the concept of profit as it applies to an individual customer

relationship. The accounting construct of profit is: (1) the arithmetic difference between earned revenues and associated costs—where revenues and costs are measured on an accrual basis, not a cash basis; (2) the profit measure applies to a discrete time period such as a quarter or a year. Customer profitability will be defined in such a way that it will be the concept of accounting *profit* applied to an individual customer relationship.

Consequently, the distinction between CLV and CP will be a distinction between *value* and *profit* in the financial sense. Roughly speaking, *value* is what something is worth (the cash-equivalent price today that a buyer would be willing to pay to own the future cash-flow benefits springing from that asset) and *profit* is the difference between accrual-based revenues and accrual-based costs incurred in generating those revenues for a given period such as a quarter or a year. It is sometimes the case that unprofitable firms carry high valuations (under the expectation the company will generate a future stream of positive cash flows). (It can also be the case that a profitable firm has negative cash flow, but that is another story.) And, for similar reasons, it may also be the case that a customer who is currently unprofitable can have a positive CLV.

Let us also point out that the meaning of the word *value* as the financial worth of an asset is consistent with the use of the terms *total customer value* and *perceived value* by Kotler (2002) and others to refer to a customer's maximum willingness to pay for a given product or service. A customer's perceived value for a product is how much (in monetary units) the product is worth to the customer. This is the same notion of value inherent in CLV—how much the customer relationship is worth in the judgment of the firm (see Berger *et al.*, 2002). Thus, we disagree with the opinion expressed by Mulhern (1999) that the use of the word *value* in CLV is inconsistent with the use of the word *value* in *perceived value*.

## DEFINING CP

Our definition of *customer profitability* is as follows:

**Customer Profitability (CP) is the difference between the revenues earned from and the costs associated with the customer relationship during a specified period.**

This definition grounds CP in the generally-accepted accounting profit notion applied to the individual customer relationship. As articulated by Foster, Gupta and Sjoblom, the basic reason to care about customer profitability is a recognition that “each dollar of revenue does not contribute equally to net income” (1996: 5). Some dollars (and thus, some customers) contribute more than others to the net income of the firm. It is important to distinguish high-profit relationships from low- or negative-profit relationships in order for the firm to react appropriately and improve overall firm profitability. This is entirely consistent with the Peppers and Rogers’ (1997) idea that some customers are more equal than others.

It is by design that our definition is not specific with respect to what categories of costs should be included in CP. Neither does the definition offer guidance as to how to assign costs in a specific category to customer relationships. No matter what categories of costs are chosen for inclusion and no matter how the included costs are assigned to relationships, the resulting difference between revenues and costs for a customer relationship will qualify as CP. Thus, there will be many different “implementations” of CP depending on what the user decides to include and how the user assigns the included costs to customer relationships.

At one extreme will be CP implementations that include all revenues and costs accounted for in the firm’s publicly-reported operating profit for a specified period. To illustrate, we use a numerical example from Foster, Gupta, and Sjoblom (1996) of a firm with eight large customers. Table 1 shows the revenue and CPs from each, sorted by CP.

The CP numbers in this example were constructed in such a way that the sum of the CPs over all customers equaled the firm's reported operating profit. Thus, \$102,662 is the firm's operating profit from the large customers. When added to the operating profit from medium and small customers, the total will equal the operating profit reported by the firm to its shareholders for the period in question.

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Table 1 about here

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The results of such an analysis are often summarized in something called a "whale curve" (see, for example, Kaplan and Narayanan, 2001). The whale curve is a graph of cumulative CP (either in dollars or as percentage of total customer profit) versus the cumulative number (or percentage) of customers, where it is understood that the customers are sorted in decreasing order of CP. Figure I charts the whale curve for the data in Table 1.

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Figure I about here

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For the more comprehensive CP implementations that include all revenues and costs accounted for in the firm's publicly-reported operating profit, customer profits will be as comparable across firms as is operating profit. For less comprehensive CP implementations where no attempt is made to match the sum of individual customer CPs to a particular line item in a company's published income statement, across-firm CP comparisons will be problematic, and CP will be used mostly to compare customers within a firm.

The example in Figure I illustrates the idea that each dollar of earned revenue does not contribute equally to the firm's reported operating profit. Although customer A is the largest in terms of revenue, customer B is the largest in terms of CP. Understanding these differences in customer profitability can help the firm figure out what to do to improve its profitability. Foster *et al.* (1996) list 9 options the example firm has to improve profitability.

At the other extreme of CP implementations is one in which cost of goods sold is the only category of costs included. Because the difference between revenue and cost of goods sold is also known as *gross margin*, the results of such an implementation of CP could also be referred to as *customer gross margin*. Thus, we view customer gross margin as a special case of the more general concept of CP.

Foster, Gupta, and Sjoblom (1996) provide a hypothetical example of a customer-cost hierarchy:

- Revenues
- Customer-specific costs  
Customer-specific contribution
- Customer-line costs  
Customer-line contribution
- Company enterprise cost  
Operating Profit

Using this hierarchy, users must decide how many levels of costs to include in CP for the particular purposes at hand.

For cost management purposes, customer-line costs and company enterprise costs need not be assigned to individual customers. Consequently, the company's total operating income will be less than the sum of total customer specific contributions (Foster *et al.*, 1996: 14).

In summary, all the costs accounted for in the firm's operating profit (income) may or may not be included in a particular implementation of CP. But no matter what categories of costs are included, the results will satisfy our definition of CP as long as the focus is

on earned revenues and associated costs, regardless of whether or not they involve cash flows in the focal period.

As mentioned above, our definition is also silent with respect to how to assign included costs to customer relationships. This will be challenging when, in fact,

many costs of interest are common costs—i.e., not specific to individual customers. For example, costs such as advertising are not customer-specific. These costs must be allocated rather than traced to individual customers (Foster *et al.*, 1996: 11).

Although many readers will take exception to the notion that advertising costs are not customer-specific, we can agree that there are many costs that must be allocated rather than traced to individual customers if they are to be included in CP. Again, by design, our definition is silent with respect to how to assign costs to customer relationships.<sup>1</sup>

## DEFINING CLV

Our definition of *customer lifetime value* is as follows:

**Customer Lifetime Value (CLV) is the present value of the future cash flows attributed to the customer relationship.**

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<sup>1</sup> The accounting literature describes three methods firms use to allocate common costs to customers: (1) equally under the assumption there is no discernable differential benefit provided by the common resources, (2) in proportion to a customer's ability to bear a portion of the common costs (e.g., higher sales levels, regardless of profitability, can shoulder a higher share of common costs), and (3) in proportion to some objectively determined benefit received from use of the common resource (e.g., activity-based costing methods). Conceptually, we subscribe to the later approach.

For the reasons stated above, the definition connects the *value* in CLV to the finance concept of present value. In so doing, we are consistent with other definitions of *customer lifetime value* that mention “discounted,” “present value” or “taking into account the time value of money.”

In keeping with the principles of finance, the term “cash flows” is used to refer to what gets discounted. Most other descriptions of CLV do not use the term “cash flow.” (Pfeifer and Carraway (2000) and Berger and Nasr (1998) are notable exceptions.) Instead, they tend to spell out components of cash inflows and outflows that are attributed to a typical customer relationship. We use *cash flow* as the most useful term here and leave it to the user to add the necessary specificity (i.e., to decide what are the specific cash inflows and outflows attributed to the relationship in question).

Examples of descriptions of CLV that would not be totally consistent with our definition include those put forth by Jain and Singh (2002), Niraj, Gupta, and Narahimhan (2001), and Hughes (1997) that all use “net profit.” We say this because net profit can account for costs that are not cash flows (e.g., depreciation on a fleet of delivery trucks). There are numerous other examples where a cost is not a current or future cash flow (see Brealey *et al.*, 1995). So even though customer cash flows and customer profits will often be close, we prefer to allow for the cases where they are not. In addition, both the finance and accounting disciplines assert that only cash flows (and not arithmetic profit numbers) have a time value ascribable to them.

Indeed, the idea that cash flows can sometimes be different from customer profits was recognized by Reichheld: “First, to find the value of new customers, you have to know the annual profit pattern (or cash-flow pattern, if cash flow differs significantly from profits) that customers typically generate through the years.” (1996: 50). We agree with Reichheld that it is always correct to discount cash flows and that cash flows from customers may not differ significantly from customer profits. To reiterate, we choose to use “cash flow” in our definition so that it will always be correct and to highlight an important distinction between CLV and CP.

Where we disagree with Reichheld (1996) is in what to call the present value of cash flows from the customer relationship. Reichheld prefers the term net present value (NPV) to the term customer lifetime value: “(Admittedly, *customer NPV* doesn’t roll off the tongue as easily as the more common term, *lifetime customer value*, but that term has been used most often to mean lifetime revenue stream, as opposed to the discounted stream of profit net of acquisition investment)” (1996: 224). As argued earlier, if the word *value* in CLV is to match the meaning of the word *value* in present *value* and financial *valuation*, then CLV is the perfect term for the present value of future cash flows attributed to the customer relationship. Conversely, CLV should not be used to refer to the undiscounted sum of future revenues. (Nor should CLV be used to refer to the undiscounted sum of customer profitability as advocated by Ness *et al.*, 2001.) We would like to think this article will help eliminate the use of the term CLV when referring to undiscounted sums.

We want to be clear that it is not always easy to decide what to include in the “cash flows attributed to the customer relationship.” For example, consider general overhead. Overhead is usually a cash flow (supervisors get paid in cash, for example) that is mostly fixed in the short run and variable in the long run. So what portion of general overhead does one attribute to customer relationships? For another example, consider network effects. With network effects, the cash flows expected from one customer depend on how many other customer relationships the firm has. Network effects create dependencies among the firm’s customer relationships that will make it difficult to attribute the firm’s cash flows to individual customer relationships. The point here is to recognize that attributing cash flows to the customer relationship can be a difficult task. By design, our definition leaves the attribution task to the user.

In addition to referring to “cash flows,” our definition refers to “the” customer relationship. As such, the definition applies to an individual customer relationship. To extend the CLV concept to a group of customers, the user can talk about the average CLV for the group.

In this same vein, because our definition uses “future cash flows,” CLV will be uncertain whenever those future cash flows are uncertain. Thus, it makes sense for CLV to be a random variable in some contexts (see, for example, Pfeifer and Carraway, 2002) and to talk about the expected value of CLV (or the expected CLV) in others. (By “expected CLV” we mean the present value of the probability-weighted average of the set of potential cash flow outcomes.) Because the present value (using an appropriate risk-adjusted discount factor) of expected future cash flows is the financial value of any risky asset, *expected CLV* will be the financial value of the customer relationship. In instances where the uncertainty in CLV can be ignored, “expected CLV” might be referred to as simply “CLV” with the understanding that the user is talking about the present value of *expected* cash flows.

Let us also highlight the implications of CLV being the *present* value of *future* cash flows. To make sense, the user must specify when “now” is. Not only does “now” determine how many periods to discount each cash flow, but “now” also determines which cash flows are in the future (and to be included) and which are in the past (to be excluded). This becomes particularly important with respect to acquisition spending. A small change in the specification of “now” can push acquisition spending from the future to the past (from included in the present value to excluded from it). We will have more to say about the treatment of acquisition spending in the next section.

Finally, let us explain our choice of the term “present value” as opposed to “net present value.” According to Brealey *et al.* (1995), the net present value of a project is the present value of project cash flows minus the initial investment. The word “net” is a signal that an initial investment (at time zero) has been subtracted from the present value of the future cash flows. When applying CLV to an ongoing customer relationship, there may be no initial investment to net against the present value of future cash flow—in which case it makes little sense to talk about *net* present value. In contrast, if there *is* an initial cash outflow in the immediate future, treating it as a negative cash flow at time zero in a present value calculation is equivalent to netting it out.

## THE TREATMENT OF ACQUISITION SPENDING

As mentioned in the introduction, Jain and Singh (2002) address the treatment of acquisition spending in a recent review article on CLV. They argue that if a firm “spends a million dollars to attract customers [who] may never make a purchase after their first purchase” of a few dollars, then “clearly the lifetime value of such customers can not be positive” (2002: 16). Jain and Sing conclude that acquisition costs must be included in CLV. They go on to say that because Berger and Nasr (1998) did not include acquisition costs in CLV, Berger and Nasr “have an alternate interpretation of CLV as the maximum profitable acquisition cost” (2002: 16). In short, Jain and Singh suggest that because Berger and Nasr do not include acquisition costs, Berger and Nasr have a different (and less correct) meaning for CLV.

Although the implementation of CLV requires some judgment, we believe the meaning of CLV should not. Instead, we argue that the precise definition of CLV offered here captures the essence of this important concept. The broad adoption of a common definition should help resolve the apparent disagreement Jain and Singh have with the Berger and Nasr construction of CLV.

To illustrate how our CLV definition answers the question of whether acquisition spending should be included in CLV, consider a situation described in Blattberg and Deighton (1996). A firm plans to spend  $A$  dollars on a prospect in an attempt to acquire her as a new customer. The firm will be successful with probability  $a$ . If successful, the firm will immediately receive a cash inflow of  $M$  dollars from the new customer and will spend  $R$  dollars one period later to attempt to retain the customer. The firm will be successful with probability  $r$  in its retention attempt. If successful, the firm again receives  $M$  dollars (one period from the initial outlay of the  $A$  dollars) and will spend another  $R$  dollars one period later (two periods from the initial outlay of the  $A$  dollars). The process will continue until the event the customer is not retained. Let  $\beta$  be the

discount factor (the inverse of one plus the discount rate) the firm will use to evaluate this investment.

All the elements needed to calculate the present value of expected future cash flows are in place, except for a specification of “now.” We can think of at least four interesting specifications of “now”:

- (i) Right before the firm spends  $A$  on the prospect.
- (ii) Right after the firm spends  $A$  on the prospect and right before the firm receives  $M$  from the about-to-be-acquired customer.
- (iii) Right after the firm receives  $M$  from the newly acquired customer.
- (iv) Right after the firm spends  $R$  to retain the newly acquired customer and right before the firm receives  $M$  from the successfully retained customer

Notice that (i), (ii), and (iii) all happen in a very short period of time. For the purposes of our analysis, assume (i), (ii), and (iii) all occur in quick succession at time  $t = 0$ . Thus for (i), (ii), and (iii), we will discount future cash flows an identical number of periods. The differences among the CLVs associated with (i), (ii), and (iii) will be in what is included in the first cash flow. In contrast, (iv) occurs one period later, at  $t = 1$ . Consequently the present values associated with (i), (ii), and (iii) all refer to a common time point, whereas the CLV associated with (iv) refers to a present value at a time point one period later.

Blattberg and Deighton (1996) provide the equation for the expected lifetime value for (i). It is a simple matter to derive the equations for the expected lifetime values for (ii), (iii), and (iv). These equations are given in Table 2 along with an appropriate label for what these expected lifetime values represent. The point here is that all four equations are present values of expected cash flows attributed to a customer/prospect relationship. Thus, they all conform to our definition of expected CLV but differ with

respect to when is “now.” Of course the nature (and value) of the relationship also changes with the specification of “now.”

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Table 2 about here

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Expected lifetime value [1] applies to the prospect. That is why we prefer to call this the expected Prospect Lifetime Value (PLV) to distinguish it from CLV. So if “now” is before the firm spends  $A$ , then  $A$  should be included and the resulting expected value refers to the prospect, not the customer. The firm should spend  $A$  on the prospect if [1] is greater than zero.

Expected value [2] applies to a new customer because “now” is specified as right before the receipt of  $M$  from the new customer. The firm should spend  $A$  on the prospect if  $a$  times the expected value of the new customer given by [2] is greater than  $A$ . (Equivalently, the firm should spend  $A$  if the expected value of CLV given by [2] exceeds  $A/a$ .) This decision rule is consistent with the earlier rule based on whether [1] was greater than zero.

To summarize, acquisition spending needs to be considered to make informed prospecting decisions. There are at least two ways to do this. Either do not include acquisition spending in the specification of CLV (and compare the expected value of CLV to  $A/a$ ) or include acquisition spending in the specification of CLV, correctly label it as PLV, and compare the expected value of PLV to zero.

Thus, for the Jain and Singh (2002) example of a firm spending a million dollars to attract a few customers who each spend a few dollars initially and none thereafter, our first approach would identify those prospects as having a negative expected PLV. Our second approach would acknowledge a small positive expected CLV, but not positive enough to offset the large  $A/a$ . (Spending a total of \$1 million dollars to attract, say, 10 customers implies an  $A/a$  value of approximately \$100,000.) So we agree with Jain and Singh (2002) that the million dollars should not be spent. We might disagree, however,

on whether the expected CLV is positive. We would say expected CLV is positive if “now” is specified as right before the customer makes her first purchase. If “now” is specified as right before the firm spends the million dollars, then the million-dollar spending applies to prospects, and the expected PLV will be negative.

Expected Value [3] applies to a just-acquired or current customer—someone from whom the firm has just received  $M$ . Notice that [3] equals [2] minus  $M$ . The firm could also use [3] to make the prospecting decision with the rule to prospect if [3] is greater than  $A/a - M$ . One might think of this rule as comparing the expected “future” lifetime value of the new customer to the average “net” cost per acquisition.<sup>2</sup> So this gives us a third way to make informed prospecting decisions based on specifying “now” to be after the receipt of the initial  $M$  from the new customer.

The point of specification (iv) is to show that the constant margins, retention spending, and retention probabilities inherent in the Blattberg and Deighton (1996) model mean that the expected value of a retained customer is equal to the expected value of a new customer. A new customer and a retained customer are identical in the Blattberg and Deighton (1996) model.

Let us now turn to the treatment of acquisition spending with respect to CP. Consider again the million-dollar spending by the firm in the Jain and Singh (2002) example, and assume for convenience it results in 10 new customers who each spend \$5. The construction of CP for each of the 10 customers for the initial period would start with the \$5 revenue amount and then subtract a series of costs. The variable costs associated with the product/service itself and those incurred in providing the product/service would all be cash flows and appropriately included in both CLV and CP. Fixed costs for the period (those that did not vary with respect to the number of customers) may or may not be cash flows to the firm, but would not be included in CLV in either case. These fixed

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<sup>2</sup> Although one might think of  $A/a$  as the expected cost per acquisition, it is not entirely correct to do so. In return for spending  $A$ , the firm acquires 1 customer with probability  $a$  and 0 customers with probability  $1-a$ . Consequently the cost per acquisition is  $A$  with probability  $a$  and  $\infty$  with probability  $1-a$ . Thus, the expected cost per acquisition does not exist.

costs, however, might be allocated to customers in the construction of CP. For example, costs such as depreciation of delivery vehicles and amortization of product patents are not future cash flows and would never be included in CLV, but might be assigned to customers in the construction of a CP figure.

Almost certainly the \$1 million acquisition spending will be allocated to the 10 customers in the period they were acquired. The \$100,000 allocated acquisition cost per acquired customer would mean the CP for these ten customers in the initial period would be a large, negative number. The ten customers would be deemed highly unprofitable in the initial period.

This represents an important difference between CLV and CP. For CP, the initial-period profitability number is likely to account for total acquisition spending allocated to the customers acquired. The acquired customers are burdened with acquisition spending “wasted” on the  $1-a$  fraction of the prospects who did not respond. Just as the profitability of productive oil wells are burdened with the costs incurred from drilling dry holes (under the “full-costing method” of generally accepted accounting standards), so too are acquired customers burdened with spending directed at non-responding prospects in a measurement of profitability.

As illustrated in Table 2, however,  $A/a$  (loosely interpreted as the average cost per acquired customer) is not included in any of the four expected lifetime value formulas. This is because  $A$  is a cash flow attributable to a prospect. It is included in [1], the expected PLV. But  $A/a$  is not a cash flow attributable to an acquired customer. Although  $A/a$  is certainly relevant to the prospecting decision (we should prospect only if expected CLV according to [2] exceeds  $A/a$ ), it is never included as a component of expected CLV.

## SUMMARY

The major purpose of this article is to make a clarifying distinction between two of the most important terms in interactive marketing: *customer lifetime value* and *customer profitability*. Both of these terms are used to talk about one of the major advantages of interactive marketing: the ability to identify and capitalize on customer differences. Unfortunately, in the enthusiasm for identifying customer differences, interactive marketers have neglected to create a clear distinction in the meanings of these two terms.

We offer concise definitions of the two terms with the intention of creating and clarifying the distinction between the two. Our definition of CLV connects the word *value* in customer lifetime value to the word *value* in present value and *valuation* as used in finance theory. Our definition of CP connects the word *profitability* in customer *profitability* to the concept of accounting *profitability*. The differences between present value and accounting profit are well understood in both finance and accounting. We propose the same distinctions be applied to CLV and CP.

Customer lifetime value is the present value of future cash flows, whereas customer profitability refers to an arithmetic calculation of revenues minus costs for a specified period of time. Thus, CP is usually an accounting summary of events from the present and past, whereas CLV is forward looking. Moreover, CLV relies on cash flows whereas CP relies on revenues and costs—neither of which may involve a cash flow in the period for which CP is measured.

Cash flows must be attributed to the customer relationship in order to estimate CLV, whereas revenues and costs must be associated with the customer relationship in the construction of CP. The former requires judgment as to what cash flows are relevant for the decision at hand, whereas the later requires judgment as to which costs to include and how to assign the included costs among the firm's customer relationships so as to give the most accurate breakdown of total profit.

A frequent goal in the construction of CP is to assign revenues and costs to customers in such a way that the sum of the CPs of the firm's customers equals one of the firm's reported profit figures (e.g., operating profit, earnings from continuing operations) for the period in question. In contrast, the sum of the expected CLVs of the firm's current customers is called the "value of the extant customer assets" by Hogan, Lemon, and Rust (2002). When this amount is added to the "value of potential customer assets" (the expected value of the firm's current and future prospects), Hogan, Lemon, and Rust (2002) call the resulting sum "customer equity." If customer relationships are the only source of the firm's cash flows, then customer equity so defined will equal the present value of the firm's expected future cash flows—that is, the value of the firm.

Finally, the article discusses the treatment of acquisition spending. In particular, we address the issue raised by Jain and Singh (2002) of whether acquisition costs should or should not be included in CLV. Using our definitions, acquisition spending will almost certainly be included in CP but will not be included in expected CLV. This does not mean that acquisition spending should be ignored when making prospecting decisions. The firm should prospect only if the acquisition probability times the expected CLV exceeds the acquisition spending directed to the prospect, a decision rule equivalent to prospecting only if the expected PLV is positive.

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**Table 1. Revenues and Profits for the Firm's Eight Large Customers**

<b>Customer</b>	<b>Revenues</b>	<b>Cumulative</b>	
		<b>CP</b>	<b>CP</b>
B	\$64,531	\$37,616	\$37,616
D	\$39,521	\$23,407	\$61,023
A	\$71,632	\$21,662	\$82,685
C	\$44,153	\$15,707	\$98,392
F	\$25,627	\$13,654	\$112,046
H	\$14,104	\$5,699	\$117,745
E	\$30,915	-\$4,209	\$113,536
G	\$18,279	-\$10,874	\$102,662

**Table 2. Expected Lifetime Values for Four Possible Specifications of “Now”**

	<b>Description of Now</b>	<b>Expected Lifetime Value</b>	<b>Appropriate Label</b>
(i)	Right before $A$ ( $t = 0$ )	$-A + aM + a(M - R/r) \left[ \frac{br}{1-br} \right]$ [1]	Expected Lifetime Value of a Prospect
(ii)	After $A$ and before $M$ ( $t = 0$ )	$M + (M - R/r) \left[ \frac{br}{1-br} \right]$ [2]	Expected Lifetime Value of a New Customer
(iii)	After $M$ ( $t = 0$ )	$(M - R/r) \left[ \frac{br}{1-br} \right]$ [3]	Expected Lifetime Value of a Just-Acquired Customer
(iv)	Before $M$ at $t = 1$	$M + (M - R/r) \left[ \frac{br}{1-br} \right]$ [4]	Expected Lifetime Value of a Retained Customer

**Figure I. The Whale Curve: Cumulative Profit versus Number of Customers**

