WHARTON EXECUTIVE ESSENTIALS

PETER FADER

CUSTOMER CENTRICITY

Focus on the Right Customers for Strategic Advantage

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Chapter 4

Customer Lifetime Value: The Real Worth of Your Customers

In this chapter:

- What is customer lifetime value (CLV)?
- What can CLV do for your company?
- Why are traditional approaches to CLV calculations flawed?
- How can customer segmentation create more accurate CLV calculations?

What Is Customer Lifetime Value?

In the last chapter we looked at the basics of customer equity, explored how it contrasts with the more established notion of brand equity, and examined the kinds of companies that might be most interested in building customer equity.

In this chapter, we are going to discuss one of the bedrock ideas behind customer centricity: customer lifetime value (CLV). Our discussions here—both about what CLV is and how it should be calculated—

will help you better and more accurately assess the value of your customers. By extension, this will allow you to run your company more intelligently and more efficiently than ever before.

CLV is the very unit of measurement upon which customer centricity and customer-centric firms are built. CLV is the unit of measurement that creates customer equity, which in turn creates greater firm value. CLV helps us value our customers individually and collectively, establishes an upper bound on what we should be willing to spend to acquire new customers, and enables us to make better decisions about the allocation of marketing resources across the customer base.

I define CLV as follows:

> *Customer lifetime value is the present value of the future (net) cash flows associated with a particular customer.*

This may seem to be a fairly simple and straightforward definition. But as with many other elements of customer centricity, there is some nuance here—as well as a good bit of confusion out there in the real world regarding what CLV is and what it isn't.

Therefore, before we take a look at how CLV has traditionally been calculated, and how a simple customer-centric tweak can improve upon that traditional method, I should first clarify four key points.

1. CLV is a forward-looking concept. CLV should not be confused with a customer's past profitability. When we calculate CLV, we are not looking backward. We are not concerned with how much value Joe Smith brought to us over the past year (there's another term for that: profit). What we are most concerned with (and rightly so) is how much Joe Smith is going to be worth *tomorrow*. And next week. And next month. And next year. In other words, we are interested in finding out how much money Joe Smith could potentially make for our company from now until eternity, and therefore, how much money we should be willing to spend to keep him. In a sense, this is what CLV gives us.

Unfortunately, countless companies and even many academics make the mistake of viewing past profitability as being the same as CLV or, at the very least, as being very tightly related to CLV. Yes, there is some correlation here. Yes, past profitability can offer you some *indication* of what a customer might be worth in the future. And yes, it can offer you a hint of how a customer *might* act in the future. But it is not CLV. They are different concepts entirely. It's crucial to keep that in mind.

2. It is essential to use only relevant data to calculate CLV. For instance, although a proper calculation of CLV must take into account customer acquisition costs, *only* the most directly applicable of those costs should be considered. Some would propose that companies should consider *all* marketing and advertising dollars when calculating CLV; I happen to disagree. To my way of thinking, only those dollars *specifically* associated with a *specific* customer should be considered when running these calculations. To do otherwise would potentially skew the results and sabotage your CLV efforts.

3. CLV calculations are predictive, not precise. Even if you were to access every data point you desired about customer Joe Smith, and even if you scrubbed that data to ensure pinpoint accuracy, you still wouldn't necessarily arrive at a truly accurate, truly actionable CLV for customer Joe Smith. Although the textbook formula seems to suggest that you can get a precise and true and accurate CLV—for example, that Joe Smith's CLV is $1,500,000—it is actually making a *prediction* for Joe Smith's CLV. We are making a guess—an educated guess, but a guess nonetheless. This must always be acknowledged. There is plenty of variability involved in that guess, and we should never forget it.

4. Different methods are used to calculate CLV in different kinds of business settings. In the previous chapter, I pointed out the important distinction between a contractual and a noncontractual relationship—and this distinction carries all the way through the mathematical calculations associated with CLV. As one example, the terms “retention” and “churn” apply specifically and exclusively to the contractual setting: will we continue to hold this customer’s business when he decides whether or not to renew his contract? But these words make no sense at all in the noncontractual domain. Noncontractual firms (ranging from Amazon to your dentist to a car dealer) should rightfully obsess over repeat purchases, but this is an entirely different concept than retention. If a customer buys from your company one time and another noncontractual vendor next time, that doesn’t mean your company has undergone churn, as it would if that customer drops his or her subscription with your contractual firm.

So with these complications (among many others) in mind, we acknowledge that CLV calculations have their limits. Customer centricity has its limits too. And this is why I believe the naïve thinkers—those who believe their CLV calculations are creating a pinpoint value—are wrong. If we are being completely honest, we will admit that when we calculate CLV we’re actually creating an *expectation* of value.

You may think I’m quibbling here, but this a very important distinction to make because far too many companies have run CLV numbers and leapt to the conclusion that the numbers generated are “the” numbers that will guarantee customer-centric success. They then spend a ton of money to build a system for customer relationship management and expect it to solve all of their problems. As you'll learn in the next chapter, that is simply not how it works.

What Can CLV Do for Your Company?

When we calculate CLV we want to find a data point that we can actually put to use at our companies with confidence. But this doesn't always come easily.

As we have already established, customer-centric firms are committed to creating processes, products, and services specifically geared toward the needs, demands, and projected future whims of their most committed customers, all with the ultimate aim of maximizing the profit of each and every one. To do this, however, these companies need good, solid, actionable data, and CLV—the expected lifetime value of a customer—is the most important data they can have because it gives companies a greater understanding of what their customers (as individuals and as a group) are actually worth; by extension, CLV helps those companies more clearly understand which customers are the right customers and which customers are just along for the ride.

When calculated correctly, CLV can

- tell you what your individual customer is worth;
- allow you to estimate the value of your company's overall customer equity;
- enable your company to divide customers into tangible segments, separating the most valuable and committed customers into different groups and distinguishing them from the less valuable but numerous others;
- create opportunities to help you refine marketing practices and ensure that the right approaches are being made to the right customers;
- allow you to better predict how certain customers in certain situations might act going forward; and
- ensure that resources are used more efficiently in efforts to retain and develop existing customers and acquire new ones.

CLV, quite simply, can be enormously important information. But its importance is directly linked to its accuracy—and unfortunately, most companies today are calculating their CLV in a flawed manner. As it turns out, the reason is that the most widely accepted methods for calculating CLV are flawed as well.

Why Are Traditional Approaches to CLV Calculations Flawed?

These methods are flawed because they violate the cardinal rule of customer centricity. They do not acknowledge (much less *celebrate*) the undeniable reality of customer heterogeneity. These traditional methods were created with the purpose of giving companies the precise CLV of "the customer." In this sense, they assume that, given a certain amount of information (for example, average customer retention rate, discount rate, net cash flow per period, and so on), a marketing manager can simply run some calculations and arrive at "the" CLV for any particular customer at any particular point in time. To this way of thinking, new customers should be treated the same as customers who have been around for years, and it assumes that Customer A will act the same way as Customer B.

For example, some companies might believe that all they need to do in order to calculate their overall customer equity is to take look at *all* of their existing customers as one massive homogenous group, calculate the CLV for "the average customer," then multiply by the size of the customer base. This approach is simple, straightforward, and easily accomplished. It's also completely wrong.

If we are to accept that different customers will act in different ways, then we simply cannot accept the idea that the value of all of those customers—the CLV of each individual and the collective customer equity of all of those individuals put together—can be derived from the same set of data calculated in the same way, no matter their circumstances, their inherent levels of loyalty, their commitment to our firms, or their overall tenure as customers.

These traditional methods for calculating CLV were conceived with good intentions—that is, to help customer-centric firms make more educated customer-centric decisions. Unfortunately, these methods fall short, for the simple reason that they have not been implemented in a customer-centric manner.

In other words, I would argue that CLV can only prove valuable if it remains true at all times to customer-centric principles.

How Can Customer Segmentation Create More Accurate CLV Calculations?

There is no one-size-fits-all solution in CLV, just as there is no one-size-fits-all solution in customer centricity. The most fundamental flaw of traditional methods for calculating CLV (and by extension, customer equity) is the idea that one formula can be applied to all customers and give companies a clear idea of what their customers are worth. This flaw becomes readily apparent if we look at even just one key data point in any CLV calculation: retention rate.

Although we will not dive deeply into the math of CLV in this book, I believe the examples that follow—one hypothetical, the other from the real world—will make clear just how important it can be to treat different kinds of customers in different ways when calculating CLV. They will also reveal how the simple act of customer segmentation can give you a clearer sense of your company's overall customer equity. For the purposes of this book, it is not really important for you to understand the formulas at the heart of CLV; instead, I want you to walk away with an understanding of the pitfalls other companies have faced when trying to put CLV to use—and how some bedrock customer-centric ideas can improve upon the traditional methods for helping companies better understand the behaviors and value of their customer base.

Let's start with the hypothetical.

According to traditional CLV calculations, all customers in a contractual business setting (for example, subscribers to a magazine) essentially carry with them a "retention coin." For each retention period, those customers flip that coin. If that coin comes up heads, the customer stays; if it comes up tails, they leave. So the probability of a customer staying for four time periods, for example, could be represented quite simply as the probability of a customer's coin coming up heads four times in a row. Such math would create a very specifically shaped survival curve that in theory illustrates how many customers will still be around after four years. That survival curve is essentially a slow, consistent decline, as illustrated in figure 1.

The math that created this curve seems reasonable enough. But the reality is that such a curve is almost *never* borne out by the data. A true survival curve, as it turns out, does not gently decline in a steady manner. Rather, these real-world curves show a rather dramatic drop early on—and then a rather surprising leveling off, as illustrated in figure 2.

The lesson here is twofold. Not only is the traditional method the wrong way to value our customers (as you'll soon see, this formula actually *undervalues* customers), it also tells us the wrong story about customer behavior. That second curve, however, tells us the right story. It's a story we can arrive at through a simple tweak to the textbook formula—a tweak based on segmentation. It is an idea that plays directly into the core beliefs of customer centricity and, according to my way of thinking, markedly improves upon the traditional methods of calculating CLV and customer equity.

Figure 1: Textbook Survival Curve

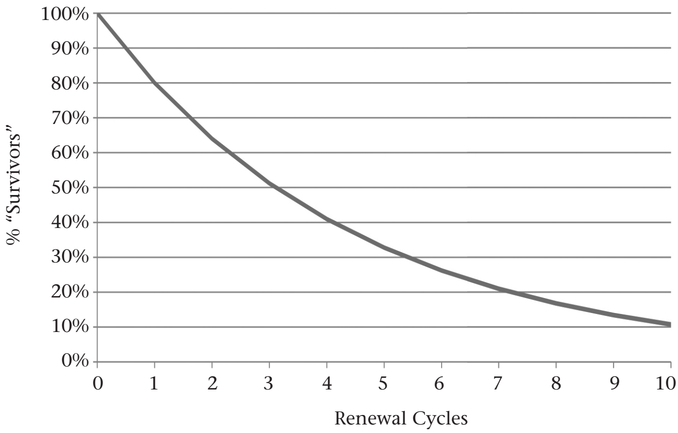
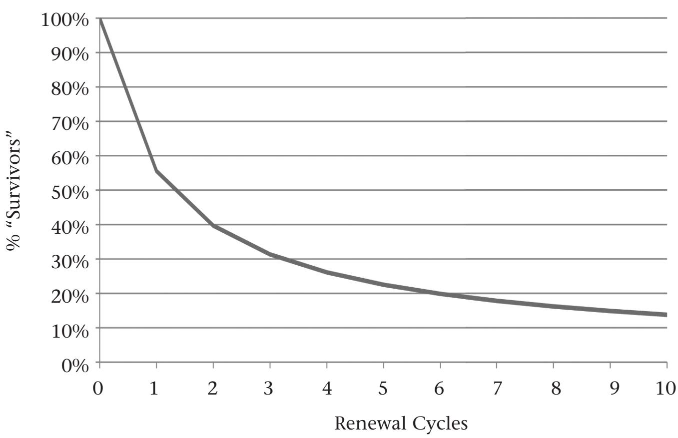


Figure 2: Real-World Survival Curve



Through segmentation, we acknowledge that some customers will have very tails-prone retention coins, which means they will leave us very early in our relationship. Others are much more heads-prone, which we could possible attribute to loyalty or just inertia. But here's the key: when those tails-prone customers start to drop off in the first few periods, we are left with a much more homogeneous group that largely consists of fairly heads-prone customers. This is why the survival curve drops quickly, then levels off.

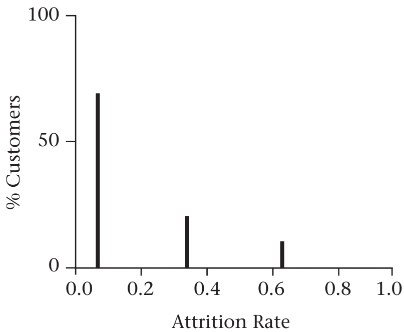
In other words, the retention dynamics that we tend to see in a contractual setting have little or nothing to do with customers becoming more loyal over time (unlike the conventional wisdom that virtually every company on Earth subscribes to). These retention dynamics are primarily due to the shake-out that occurs as the customer base undergoes a natural form of self-selection. This has enormous implications for CLV calculations and for allocating resources across customers.

For example, many contractual companies essentially bribe their customers to stick around, in the hope that they will become more loyal over time; think about the stories you've heard from customers who extract goodies from a cable company or mobile provider when they threaten to leave at the end of a contract. I generally think this is a very bad idea for most companies—especially when it comes to "ordinary" customers. Instead, they should simply count on the natural selection process to weed out the good from the bad and spend their resources finding more new customers who resemble the good ones. This is a major departure from conventional thinking about customer valuation (and customer centricity in general), but it is an important lesson that should not be overlooked.

Now let's turn to our second example, which shows the implications of accounting for heterogeneity in a real-world setting. Vodafone Italia, the mobile powerhouse that recorded revenues of more than $2 billion in 2010, is one of the companies that has taken the first crucial step toward a clearer, more accurate picture of the value of its customer base. The company has taken that step through the smart and completely commonsense use of customer churn segmentation as illustrated in figure 3.

Unlike some of its competitors, Vodafone is smart enough to understand that not all of its customers will renew their subscriptions with the same frequency. Some are more likely to renew, and others are significantly less likely to renew. As a result, when working to understand its overall customer equity, the company doesn't just look at the average renewal rate of all of its customers; instead, it breaks those customers down into three customer segments, each grouped by their propensity to renew. This segmentation may on its face seem to do little to change the average renewal rate, the expected lifetime of a customer, or a predictive CLV. But as it turns out, the difference is a fairly significant one—and quite illustrative, I think, of how segmenting customers can paint a much truer picture of the value of your customer base.

Figure 3: Churn Segments for Vodafone Italia



Cluster	Attrition Rate	% customers
Low risk	0.06	70
Medium risk	0.35	20
High risk	0.65	10

Source: "Vodafone Achievement and Challenges in Italy" presentation (September 12, 2003)

A few years back, when the company first began its use of churn segmentation, it broke its customer base into three cohorts, as the illustration shows. As you can see, if Vodafone had employed a nonsegmented approach to calculate the expected lifetime of its customers—if it had simply taken the average churn rate across all of its customers and plugged into conventional formulas—it would have come up with an average churn rate of 17.7%:

$0.06 \times 0.70 + 0.35 \times 0.20 + 0.65 \times 0.10 = 0.177$ (or 17.7%)

A churn rate of 17.7% should lead to an expected lifetime of 5.6 years:

1/0.177 = 5.6 years

That would be the usual textbook approach—which represents the state-of-the-art valuation methodology for consultants and investment banks that help firms value their customer base for mergers and acquisition purposes.

Now let's do it the *right* way—explicitly taking heterogeneity into account. For each segment, we will calculate expected lifetime in the same way (i.e., 1/churn), but *we'll take the average afterward*. This gives us an expected lifetime of 12.4 years:

(16.7 x 0.70) + (2.9 x 0.20) + (1.5 x 0.10) = 12.4 years

The customer base is suddenly worth more than twice as much simply by doing the calculation correctly. How about that! I'm sure you agree this is a huge difference. And think about the implications for investment professionals who would be undervaluing customer equity (and thus the company as a whole) by more than 50%. (Of course, if you are on the buy side of mergers and acquisition activity, you might want to keep this quiet!) Through simple segmentation, firms like Vodaphone have been able to achieve a much truer picture of the value of their customer base. As a result, these firms are much better prepared to serve those customers—and capitalize upon those it expects to remain for years to come.

It should be noted that this Vodaphone example is no fluke; by no means was this example cherry-picked to overstate this point. Indeed, research has borne out a rather startling truth: when companies fail to apply segmentation to the study of their customer base, they will grossly *undervalue* that customer base. I have seen numerous other cases where the naïve approach to CLV leaves similar amounts of money on the table.

Which brings us back, once more, to the basics of customer centricity. If there's one point that I've attempted to make so far in this book, it is that companies simply cannot afford to hide behind the convenient myth of customer homogeneity. In the old days they didn't know any better because customer-level data were unavailable. But today that excuse is no longer valid—and the perils of ignoring heterogeneity are quite severe.

A Quick Discussion about Noncontractual Businesses

As noted earlier, terms like "retention" and "churn" don't apply in the noncontractual world. Customers do go away in the noncontractual setting, but they do so silently; they have no need to tell the firm they are leaving by walking away from a contractual relationship. This makes for a much trickier CLV calculation. We have to look at the time since a customer's last transaction and ask a question: is the customer alive but dormant, or is the customer "dead"? Some firms use simple rules of thumb to define an active customer from a "dead" one. For instance, Amazon uses a one-year hiatus to define a lapsed customer. But this definition is entirely arbitrary—and it can be quite dangerous. In many cases, firms will write off light-buying customers too prematurely. Maybe we don't care about any one of these customers; it is unlikely that they are the kinds of focal customers who deserve red-carpet treatment. But on the other hand, these light buyers can be a huge chunk of the customer base—the ballast that I referred to in chapter 2.

State-of-the-art CLV models capture this issue by focusing on the interplay between recency and frequency of each customer's transaction history. Along with monetary value (i.e., spend per transaction) the noncontractual firm has three key variables that should drive its CLV calculations. And although such models can indeed be fairly complex, the origins of the recency-frequency-monetary value rubric go back to Lester Wunderman and the other pioneers of direct marketing. (See my paper, "RFM and CLV: Using Iso-

Value Curves for Customer Base Analysis," published in the *Journal of Marketing Research* in November 2005 and available from my website, www.petefader.com.)

We've come full circle.

Thus, at every step in your journey toward customer-centric success, from adoption to implementation, you must always keep in mind the core principles we explored at the start of this book. "The customer" doesn't exist. You must not only accept but celebrate the idea of customer heterogeneity. By putting forth the effort to better understand the habits, tendencies, and *value* of each and every one of our customers, you can build better, stronger, and more profitable companies.

These ideas must be at the forefront as you work on the macro-level scale to retrofit your companies to compete in the post-product-centric world, and on the micro-level scale as you get down into the weeds of CLV, the very building block of customer equity, in the hope of refining as much as humanly possible our understanding of what your customers are really worth—and by extension, how far you should go to keep them, to please them, and to ensure their profitability for years and years to come.

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About the Author

Peter S. Fader is the Frances and Pei-Yuan Chia Professor of Marketing at the Wharton School of the University of Pennsylvania. He is also the co-director of the Wharton Customer Analytics Initiative, an academic research center focused on fostering productive collaborations between data-driven firms and top academic researchers around the world.

Fader's research is based on the analysis of behavioral data to understand and forecast customer shopping and purchasing activities. He works with firms from a wide range of industries, such as consumer packaged goods, interactive media, financial services, and pharmaceuticals; much of his work highlights common patterns that arise across these seemingly unrelated industries.

Fader has been quoted or featured in *The New York Times, Wall Street Journal, The Economist, The Washington Post,* and on NPR, among other media. He has also won many awards for his teaching and research accomplishments. In 2009, Fader was named a "Professor to Watch" by the *Financial Times*, which discussed his interest in "the swathes of hard data consumers generate through their spending habits." He is also on the editorial board of a number of leading journals, including *Marketing Science*, *Journal of Marketing Research*, and *Journal of Interactive Marketing*.

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