From Surviving to Thriving: Tools to Maximize Customer Lifetime Value

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The Economic Opportunity for Customer Lifetime Value

Most consumers are likely unaware how extensively their Customer Lifetime Values (CLV) are already being measured and managed across industries, from the airlines they fly and the mobile phone services they use to the razors they purchase and the retail stores they visit. Businesses are increasingly leveraging CLV principles[1] to maximize the total economic value (i.e., profit) they can expect to generate from each of their customers during their tenure as customers, be it in weeks, months or years. As competition intensifies,[2] we are witnessing more businesses implementing loyalty programs, subscription services, auto-replenishment options, grocery pickup, free shipping, even entertainment programming to keep customers coming back. What's more, customer relationship management software is now the largest and fastest growing enterprise software market in the world, a market expected to double in size to $80 billion over the next five years.[3] Customer Lifetime Value is one of the key frameworks of effective CRM.

In the past, measuring CLV was not easy because the data required to calculate CLV resided in different data silos, such as loyalty member data vs. sales and margin data. With integrated information environments like IRI's Liquid Data, it is now easier for users to quantify CLV by customer, and to develop strategies that maximize lifetime value, including:

- Improving customer retention

- Increasing purchase frequency

- Growing basket size and profitability

- Persuading customers to move up the loyalty ladder

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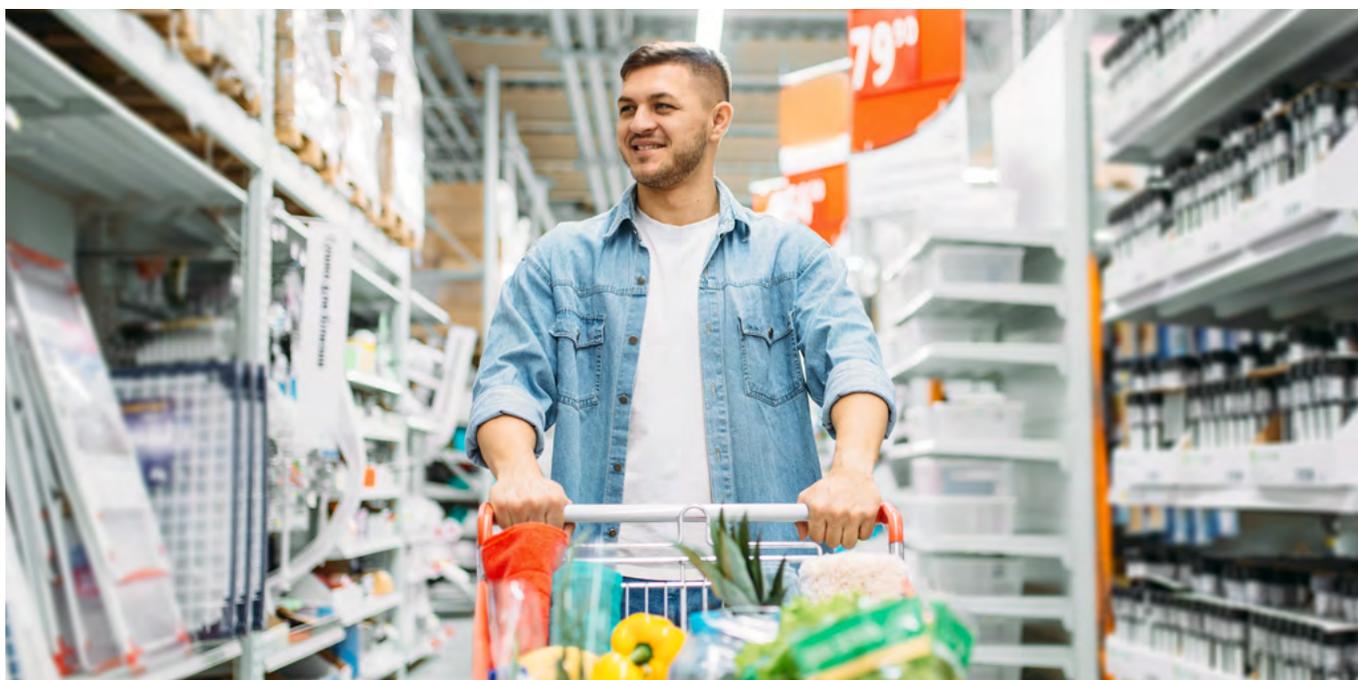
[1] Customer Lifetime Value (CLV) is the present value of the future stream of profits (revenue minus costs) from a customer over an expected time horizon. For more information about CLV, please see the appendix of this article.

[2] Research suggests that the greater the competition in the industry, the more likely businesses will leverage CLV and principles to maximize profitability. See "Customer Lifetime Value Models: A Literature Survey", International Journal of Industrial Engineering & Production Research, Volume 24, Number 4, pp.317-336.

[3] Gartner (June 2019)

With an integrated approach to CLV, retailers, manufacturers and other businesses can not only improve loyalty among their most important customers in the near term, but also drive greater economic value and enterprise growth in the long term. Indeed, we have previously substantiated that capturing greater share of wallet – which is a point in time of customers' lifetime value profit stream – does drive greater long-term enterprise value (see Exhibit 1). **To put this in perspective, our analysis found that a 10% improvement in share of wallet among high-value customers could increase a firm's market capitalization by an average of 12%,** as the market rewards greater profitability and cash flow.

While there are many variations for measuring and predicting Customer Lifetime Value, IRI has begun exploring practical ways to maximize CLV to accelerate growth, profitability and enterprise value. In the following sections, we review established CLV principles, along with observations and statistical testing using real-world data. Please refer to the appendix section for more information about calculating Customer Lifetime Value.

EXHIBIT 1

Winning Greater Share of Wallet from High-Value Customers Improves Enterprise Value

Public CPG Retailer Group
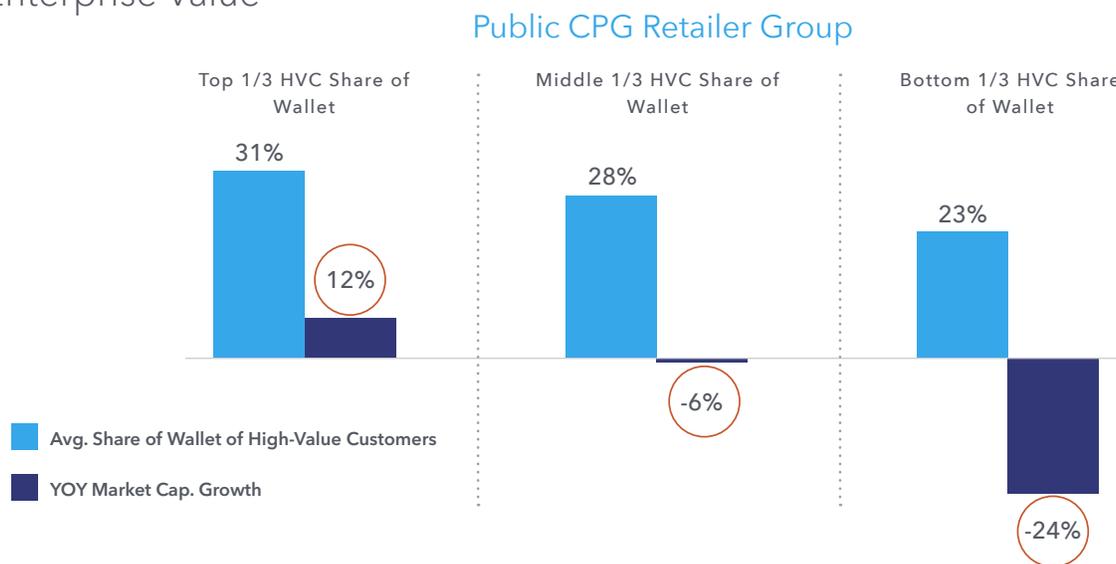
Source: "Delivering Growth Through High-Value Customers," July 2017 (Fletcher, Salido, Winters)

The General Principles of Customer Lifetime Value: Recency, Frequency and Monetization

Today, many businesses segment their customers by their RFM values – their recency, frequency and monetization buying traits – as a way of understanding total customer value. Additionally, recent research has observed binge buying as an important element of total customer value.

- **Recency** refers to the customer's most recent purchase or visit, measuring how long ago the customer last engaged with the business. The more recent the engagement, the more likely the customer is contributing to CLV.

- **Frequency** refers to how often the customer visits or purchases during a specified time frame. Frequency will likely depend on the purchase cycle of the product or service. The higher the purchase frequency (or the greater the trips), the more likely the customer is contributing positively to CLV.[4]

- **Monetization** refers to the customer's average sales and profit contribution per trip. The greater the profit contribution of the product, service or basket, the more likely the customer is contributing to CLV.

- **Binge Buying** refers to how some customers may skip many buying periods (and appear to be lapsed) but then binge buy during a subsequent period, such as buying many books at a bookstore all at once. In short, some customers tend to be hot and cold buyers, while other customers tend to buy more regularly across periods.[5]

In the CPG industry, each of these customer patterns is measurable and has real-world implications for marketers and merchants alike to maximize the lifetime value of their customers.

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[4] We have quantified how products with shorter purchase cycles, such as coffee, drive greater CLV than cleaning products, which have longer purchase cycles and are bought less often. Therefore, it is possible to use a product portfolio to maximize CLV, by understanding purchase cycles. We discuss the topic further later in the article.

[5] To learn more about the phenomenon of binge buying, please see Professor Eric T. Bradlow's article, "Are Your Customers 'Clumpy'? What Binge Buying Means for Marketers" Dec. 17, 2014, Wharton School of Business, University of Pennsylvania.

The Importance of Customer Retention to Lifetime Value

Most CLV calculations include expected customer retention rates based on historical trends. The reason is because **Customer Lifetime Values are significantly impacted by even small changes to customer retention.**[6]

We define retention as the percentage of customers who buy from one period to the next (however a "period" is defined), say, from one month to the next, or one year to the next. In any future period, some of a business's customers will be new, others will be lost (or lapsed), while other customers will be retained from the prior period. IRI regularly measures new, lost and retained buyers for its clients.

For example, let's assume that the average "lost" customers at a fictitious company are 20% per year (from historical rates) — 80% of buyers are retained. Losing 20% of customers per year suggests that just 33 of the original 100 customers in the first year will be around to purchase by the end of year five (i.e., 80 after year 1, 64 at the end of year 2, and so on), which means that the average customer lifetime value will likely be lower for a business with an 80% customer retention rate than a similar business with a 90% retention rate, as 59 of the original 100 customers would still be buying at the end of year five. Of course, customers might inevitably come back, but good CLVs depend on a steady, dependable stream of economic profit from customers.

Historically, businesses might have relied on high levels of customer retention, particularly in industries with less competition (e.g., public utilities). But today's digitally native, omni-channel, convenience-seeking, value-oriented customer has permanently altered retention rates. Even industries that were once virtual monopolies and enjoyed high retention rates are experiencing customer loss, from "cord cutters" in the television industry to Uber and Lyft riders in the taxi industry. E-commerce retention is notoriously low, as customers quickly move from one dot-com to another. The average retention rate at a typical e-commerce site is just 18 months (with notable exceptions). As the maxim goes, "If you want loyalty, get a dog." Professor Byron Sharp, author of the seminal book, "How Brands Grow: What Marketers Don't Know" (2011, Oxford University Press), recently said, "I didn't say there was no such thing as loyalty. I said that loyalty is everywhere. But it's not the sort of loyalty that we thought. We are loyal switchers."[7]

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[6] To see an example of CLV calculations with retention rates, please see the appendix of this article.

[7] https://www.warc.com/newsandopinion/news/byron_sharp_bites_back/35352 9/8/2105

Indeed, a team of business school researchers at Washington University in St. Louis found that customers favor and visit a variety of stores: 83 percent of households regularly visit four to nine stores in a given year just to make their grocery purchases.[8] Imagine loyal switchers across all products and services. If customers have choices and are not predisposed to being loyal, businesses must respond by actively managing customer retention to improve enterprise value in the long run. The alternative is to continually acquire new customers, which is becoming increasingly costly, as direct to consumer brands and digital saturation are driving up customer acquisition costs for everyone. [9]

Of course, not all customers have the same level of retention or CLV contribution. A business we studied had an average retention loss of 25% per year among all its customers, but just 9% loss among its most loyal customers, which the firm had previously identified with RFM scores. Top customers disproportionately contribute to firms' enterprise values through a combination of better period-over-period retention (recency), frequency and margin than the average customer (see Exhibit 2).

CLV by Customer Segment

CLV per Customer

[8] Polygamous Store Loyalties: An Empirical Investigation. Journal of Retailing, Vol. 93, Issue 4, Dec. 2017 pp. 477-492.
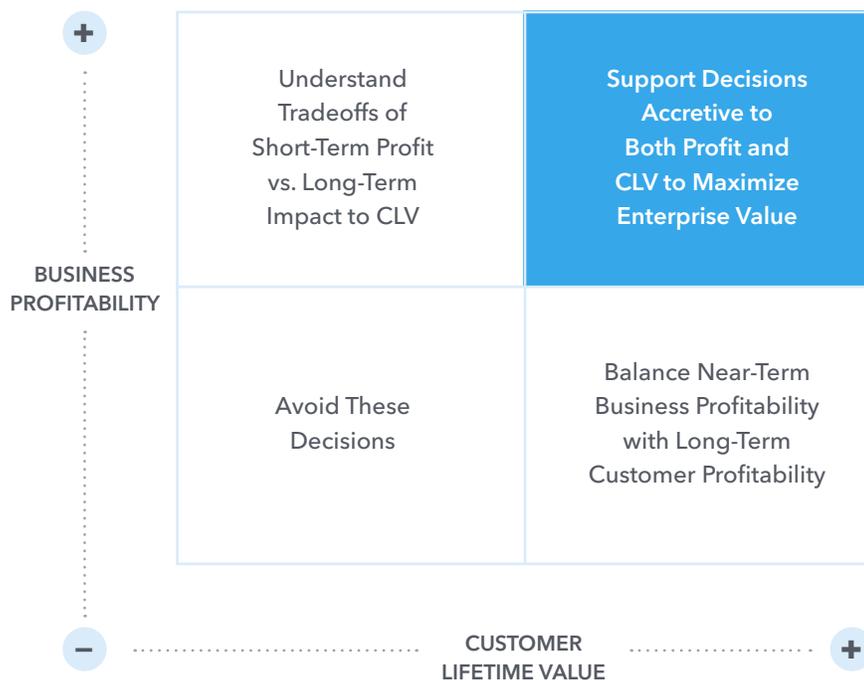
[9] "D2C brands are driving up customer acquisition costs – and it's time to course-correct," July 25, 2019.
https://marketingland.com/d2c-brands-are-driving-up-customer-acquisition-costs-and-its-time-to-course-correct-264293

The goal, then, should be to maximize the economic value of top customers, while investing in other customers to build the next generation of high-value customers. While not all customers will be top customers, it is possible to maximize every customer's CLV contribution. The key to maximizing enterprise value is to understand the promotions, programs, products, customer experiences and other levers that are both accretive to profit in the short term and improve customer lifetime value in the long term (see Exhibit 3).

Maximize Enterprise Value with Decisions Accretive to Profit and CLV

	+		
BUSINESS PROFITABILITY	Understand Tradeoffs of Short-Term Profit vs. Long-Term Impact to CLV	**Support Decisions Accretive to Both Profit and CLV to Maximize Enterprise Value**
	Avoid These Decisions	Balance Near-Term Business Profitability with Long-Term Customer Profitability

−   **CUSTOMER LIFETIME VALUE**   **+**

The key to maximizing enterprise value is to understand the promotions, programs, products, customer experiences and other levers that are both accretive to profit in the short term and improve customer lifetime value in the long term.

From Surviving to Thriving

In the previous section, we discussed the importance of retaining customers to maximize lifetime value. Many in marketing departments have adapted Survival Analysis not only to predict retention rates by customer, but also to identify the levers that maximize customer lifetime value.

Survival analysis predicts the "time until an event," such as the time until a machine part wears out or, in our case, the time until the customer purchases again. Survival methodology, originally developed by E.L. Kaplan and Paul Meijer, was designed for the medical industry to predict patient survival using experimental treatments vs. placebos. Data scientists can conduct similar analyses to predict customer retention rates – that is, the time until the customer's next (and possibly final) purchase – and the "treatments" or levers that persuade customers to return – the promotions, products, programs or experiences that get people to come back.

We studied a random sample of 500,000 customers' purchase data to determine how different customer groups were being retained by a business from one 30-day buying period to the next. As shown in Exhibit 4 below, 92% of Group 1 customers returned for a purchase within 30 days, whereas only 20% of Group 4 customers made a return purchase within 30 days. Other groups' retention rates fell between Groups 1 and 4.

EXHIBIT 4

Cumulative Retention Rates % by Customer Group (in Days)

Customer Retention Rate by Group (in Days)
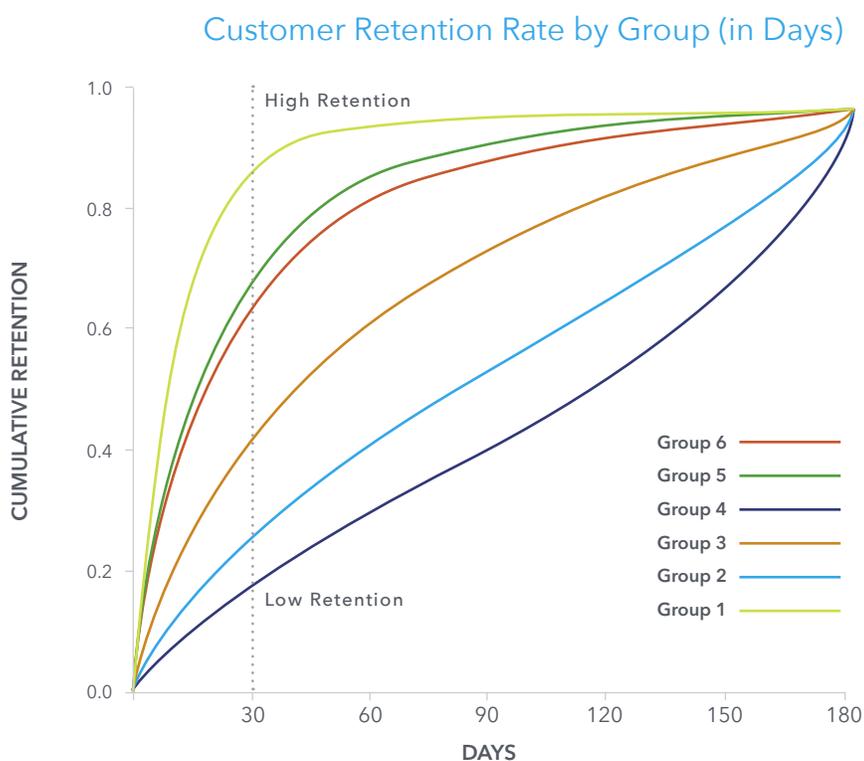
The dependent variable in survival modeling is time-until-an-event. In our test, we are estimating time until the next customer purchase, as the sooner the purchase, the greater the CLV. Practically speaking, survival modeling enables us to understand the levers (i.e., the "treatments") influencing the next customer purchase, and to optimize the levers (e.g., prices, promotions, offers, etc.) that influence customers to purchase sooner. Once we understand the levers that matter to each customer, we can personalize offers, maximize the likelihood of customers returning, and ultimately increase customer lifetime value.

This means knowing that one customer is, for example, sensitive to price and therefore offering a limited-time price discount will likely decrease her time until the next purchase, while another customer might respond to products X and Y bundled together to increase the probability of purchase. Understanding these levers enables retailers and manufacturers to deploy different strategies by customer segments, whether it's to move customers up the loyalty ladder, to win back lapsed buyers, or to acquire new customers. Have you noticed the many ways in which businesses are appealing to you to return for your next purchase (see Exhibit 5)?

EXHIBIT 5

Example: Time-Bound Coupon to Increase Purchase Frequency
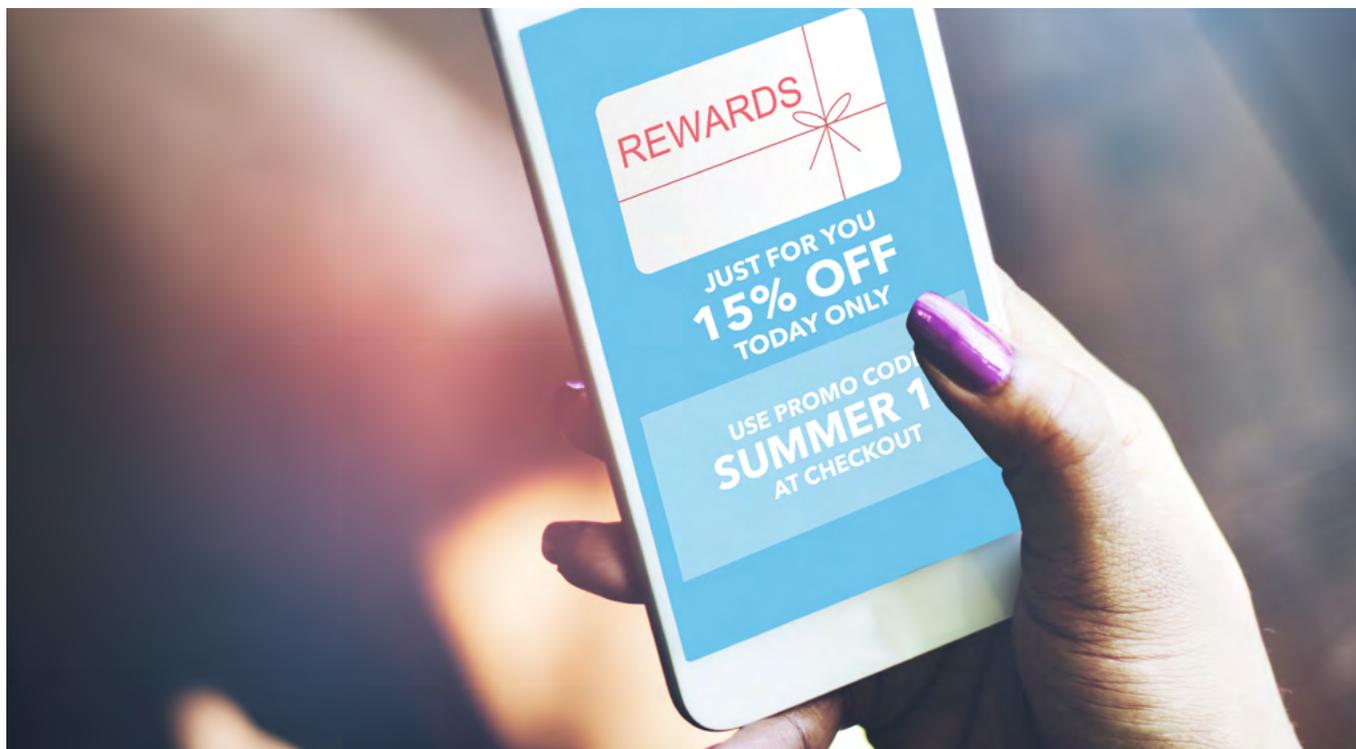
Using the same random sample of customer data mentioned earlier, our team used machine learning techniques to identify potential levers for improving shopping frequency and retention. As expected, the levers and their influence varied by customer group (see Exhibit 6).

- The number of categories purchased across the business was a vital determinant of retention across all shopper groups, but more so for Groups 3 through 6.

- The retailer's over-the-counter department also helped to drive higher retention and frequency among all its customers, but more so with Groups 3, 4 and 6.

- Carbonated soft-drink (CSD) promotions primarily influenced Groups 5 and 6.

- Department D improves retention for Group 4.

- Buying more products on discount increases retention for all groups, but less so for Group 6.

EXHIBIT 6

## Top Levers Driving Customer Retention and Purchase Frequency

Variables		Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Demographics	Age						
	No of Adults in HH						
	Income						
Purchase Behavior	% Bought on Discount						
	CSD Promotions						
	No of Cat. Purchased						
Department Penetration	OTC						
	Dept. A						
	Dept. B						
	Dept. C						
	Dept. D						
	Dept. E						

Average Percent Point Increase in Retention (Estimated)

- < 1%
- 1% to 3%
- 4% to 6%
- 7%+

The exercise shows that quantifying factors that improve retention and purchase frequency are vital to personalizing customer experiences, which ultimately drives greater economic value. Furthermore, applying CLV principles ensures that retailers and manufacturers understand the tradeoffs of different types of customer engagement tactics, whereby some promotions/programs might drive only short-term profits, while others will drive both short-term profits and long-term customer lifetime value.

Another implication from this analysis is that it prompts us to reconsider traditional customer segmentations, as many existing customer cohorts might have high-potential CLV customers that could be overlooked if we're not applying CLV or RFM principles. Going forward, we can create new segmentations based on potential CLV, or based on the levers that improve retention. Then, we can execute tailored customer incentives to maximize retention and purchase frequency.

To develop maximized CLV predictions for your business's customers, we recommend the following steps:

1. Use customers' purchase cycles as dependent variables. This likely shows your customers' natural buying periods for your business, whether it's in days, weeks, months or years.

2. Complete survival testing with independent variables that are most likely to increase purchase retention and frequency, such as product assortment, price points, merchandising activity, campaign offers, and distinct business services like free shipping and returns.

3. Score customers' new potential survival rates with the most important survival variables.

4. Leverage the new CLV scores to personalize the experiences of your customers to maximize economic value.
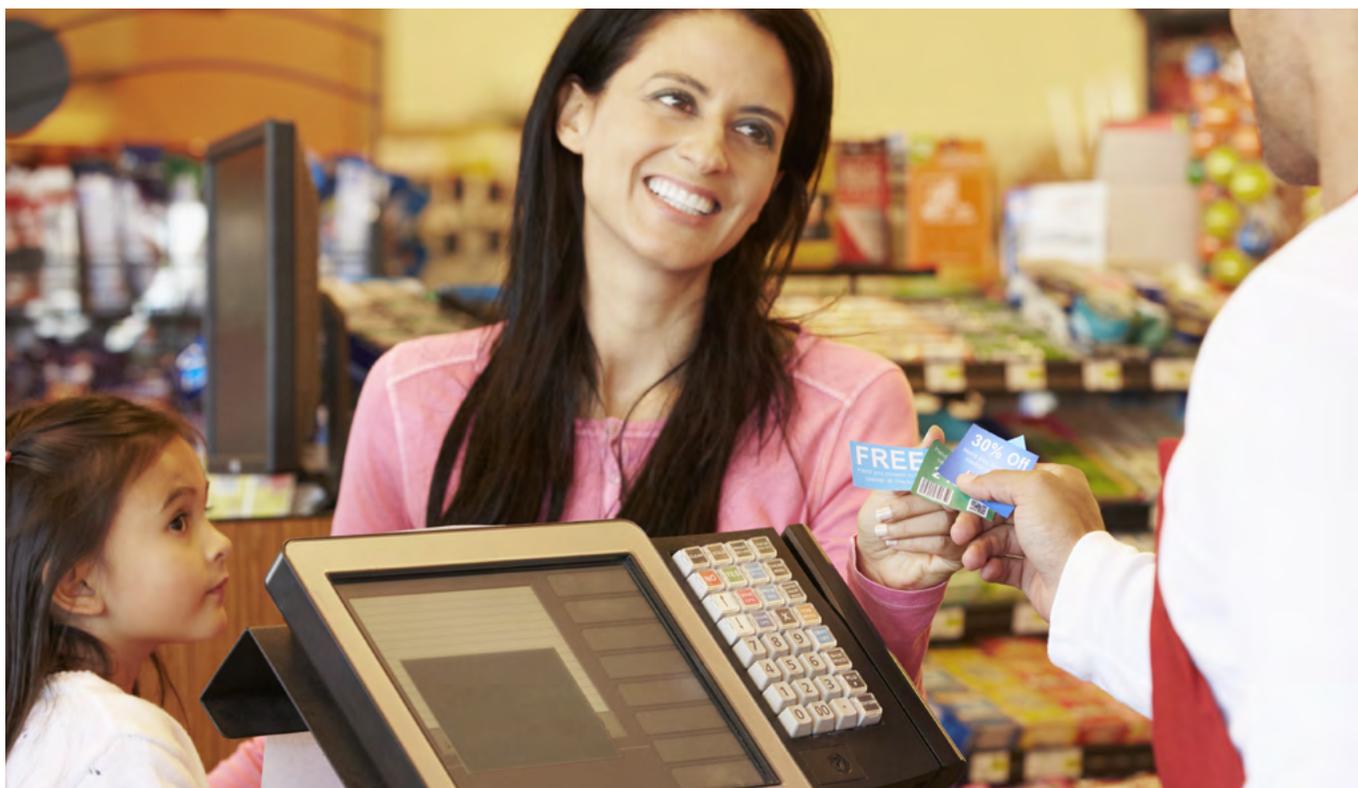
Real-World Paths to Grow Customer Lifetime Value

Once businesses have adopted CLV management principles, there are myriad, real-world paths to growth.
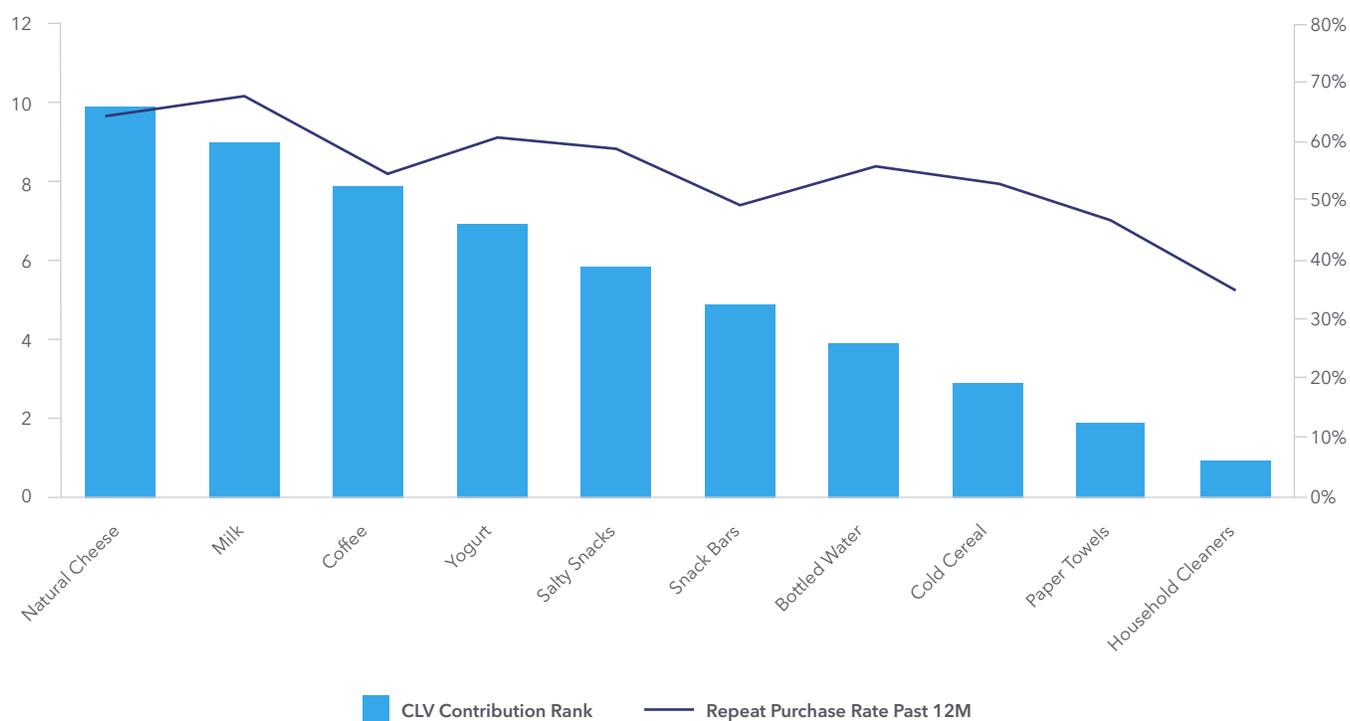
First, promote products or services with short purchase cycles (recency), high repeat rates (frequency) and relatively higher margins (monetization) to improve CLV.

In a study of grocery products ordered online, our team found that categories with shorter purchase cycles, such as cheese and milk, had higher customer retention (i.e., repeat rates from one period to the next), which drove more CLV contribution than categories with longer purchase cycles, such as household cleaners, and correspondingly lower repeat rates (see Exhibit 7). There might be less risk in losing a customer between buying periods if the purchase cycle is shorter, say for buying milk, than for a category with a naturally long purchase cycle, say carpet cleaners, when customers can stray to competitors.

Example: Categories Ranked by CLV Contribution[10]

Legend: ■ CLV Contribution Rank — Repeat Purchase Rate Past 12M

Categories (left to right): Natural Cheese, Milk, Coffee, Yogurt, Salty Snacks, Snack Bars, Bottled Water, Cold Cereal, Paper Towels, Household Cleaners

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[10] Note: The categories included in Exhibit 7 apply only to a specific channel and its specific customer base. This chart does not reflect all businesses and customers.

Second, cross-promote products to high-potential CLV customers.

In Exhibit 8, we see that high-potential CLV customers are highly converting on some products, but not converting as much on other products contributing more profitability (in the shaded box). Therefore, consider cross-promoting these products to maximize CLV. While a typical business might not realistically capture 100% share of wallet, a high-margin category or service is still worth promoting to high-potential CLV customers, as the sale can still be accretive to both short-term profitability and long-term enterprise value.

Or consider a high-potential CLV customer (e.g., Customer 3) who is already buying significantly in one department or product line, but unlike her peers, is not buying certain products that are known to have a high-basket affinity (e.g., Products 4 and 5). To maximize CLV, consider cross-promoting these products to her (see Exhibit 9).

Third, leverage the laws of physics with customers to increase customer lifetime value.[11]

Adapted from another review our team completed, we've found that businesses leveraging the changing laws of retail physics to their advantage are significantly driving customer lifetime value and therefore enterprise value.

1. **Reduce or eliminate the distance to the customer.** As the new arms race in business is convenience, we recommend focusing on services that make the lives of customers easier — being there when, where and how they want to shop, and how they want their orders fulfilled.

2. **Increase the attractiveness of the business.** By improving the actual "wow factor" of the customer experience, businesses can increase their attractiveness and sales growth. Many businesses can confirm that improved buying experiences lead to higher customer satisfaction scores and greater sales growth.[12]
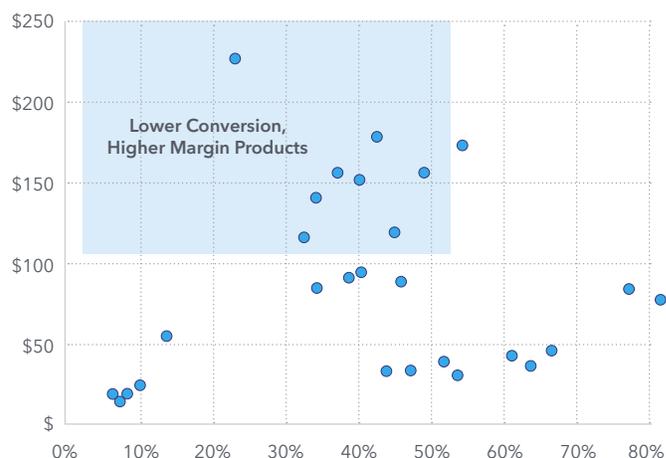
Cross Sell Products Not Bought Today

Cross Sell Products with High Basket Affinity

Dept. A	Prod. 1	Prod. 2	Prod. 3	Prod. 4	Prod. 5
Cust. 1	$23.22	$12.23	$18.01	$11.90	$32.11
Cust. 2	$42.33	$17.17	$19.22	$14.08	$71.23
Cust. 3	$17.22	$45.01	$25.10	Opportunity	

3. **Eliminate friction/barriers to buying.** Advancements in technology are simplifying and personalizing the buying process for customers, such as artificial intelligence, voice technology, virtual reality and mobile commerce — making the buying process more intuitive, immersive, and as customized as the customer wishes. Yet, there are still many basic areas of friction to fix, such as out-of-stocks and poor customer service.

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[11] For more information, please refer to https://www.iriworldwide.com/en-US/Insights/Blog/Follow-the-Laws-of-Physics-to-Reduce-Retail-Disruption .

[12] For more information regarding "Wow" factors, please see a series of North American studies completed by The Verde Group research with the Wharton School of Business.

4. **Use momentum to increase sales.** As the world changes around us, businesses must leverage global trends in their favor to increase gravitational pull, such as the emerging needs of Gen Z and millennial customers for greater product sustainability and transparency, the rise of health and wellness needs across all customers, the addition of new flavors and foods reflecting the increasing diversity of growing populations, the highly personalized digital and physical pathways consumers take to complete their own "buy moments," and the role that businesses play as consumers adopt new technologies to shop, such as 5G and mobile payments.

These and other initiatives are maximizing customer lifetime value and enterprise value.

Walmart, for example, opened its first grocery pickup location in 2014. Two years later, Walmart acquired Jet.com and deployed its e-commerce strategy. In 2018, Walmart hired a chief customer officer to improve the customer experience. As of September 2019, Walmart had more than 2,700 free grocery pickup locations and continues to add locations. Over the past five years (through Q2 fiscal 2020), Walmart has achieved 20 consecutive quarters of positive same-store sales growth, gained market share, and increased market capitalization by $85 billion, a 32% increase since 2014.[13] (See Exhibit 10.)

Walmart Market Cap vs. Grocery Pickup Locations 2014 – 2019 (Sept. 2019)[14]

WMT Market Cap $B — **Approx. Grocery Pick-Up Locations**

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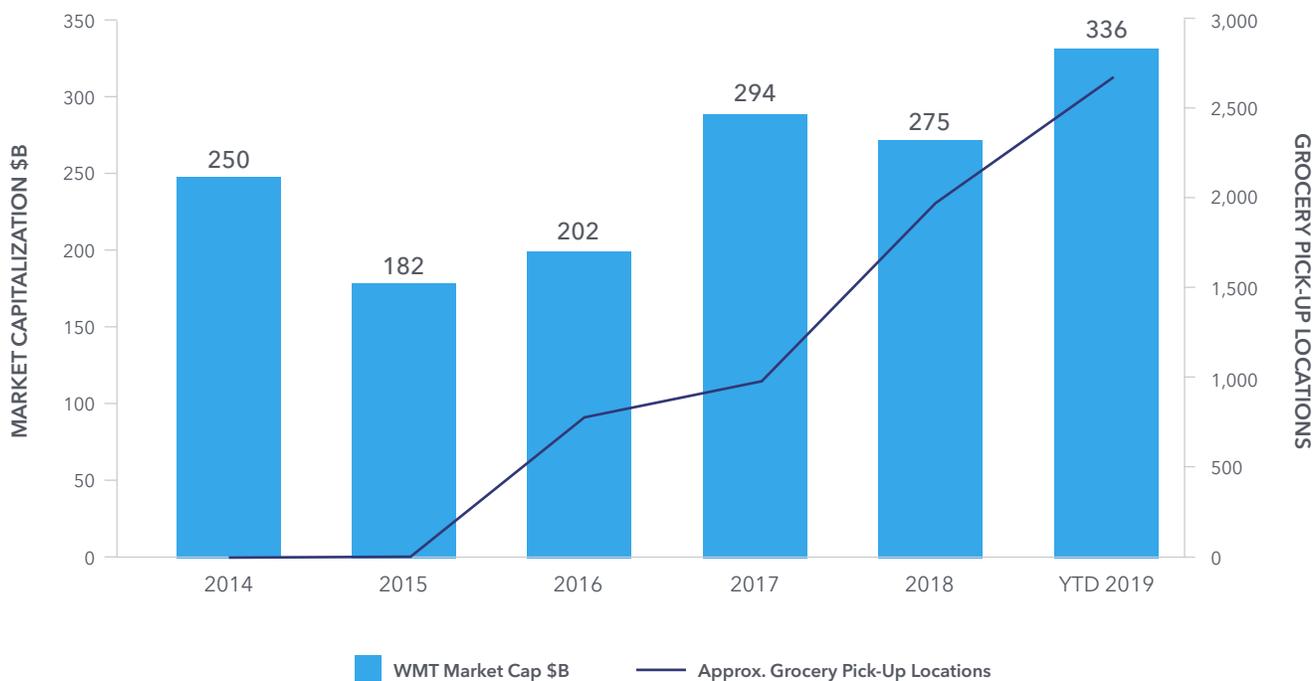
[13] WMT market capitalization past five years through Sept. 2, 2019.

[14] Source: IRI analysis from public news stories for grocery pickup locations and market capitalization from https://www.macrotrends.net/stocks/charts/WMT/walmart/market-cap

Walmart's chief merchandising officer noted at a recent investor conference regarding the retailer's click-and-collect service:

"Online grocery pickup (or click-and-collect as some people refer to it) has been a really big success. And it's one of the reasons we're rolling it out as fast as we possibly can. So, as I said, we'll hit 3,100 stores by the end of this year [2019], and it continues to gain momentum. It's proving to be highly incremental to our business and bringing in new customers with strong repeat. The average basket size is about 2X what a standard grocery basket is, so obviously we're excited about that."[15]

Walmart is not only expanding grocery pickup locations across its stores, but also adding other initiatives, like NextDay Delivery for 75% of the U.S. population, testing Walmart InHome Delivery to 1 million homes, and introducing an unlimited grocery delivery program for $98 per year,[16] all to improve customer recency, frequency and monetization. Other businesses are relentlessly pursuing similar customer-focused initiatives. For those that do not, they risk becoming a legacy business model for the history books.

Conclusion

As maximizing customer lifetime value is vital to enterprise value, maximizing customer recency, frequency and monetization are vital to lifetime value. CLV management principles compel businesses to weigh their decisions against both business profitability and customer profitability. Some businesses use RFM principles to track their customers' behavior, including their most recent purchase, buying frequency and the profit margin they contribute. Other businesses leverage survival analysis to predict customer retention rates and the levers to keep customers returning. Still others are adopting even more advance techniques to manage customers, such as servicing customers when they're profitable and stopping when they're not.

Ultimately, the path to growth relies on some practical steps that adhere to customer lifetime value principles.

- Promote products or services with shorter purchase cycles, high repeat rates, and relatively higher margins to improve CLV.

- Personalize customer offers to maximize retention and frequency, which drives greater CLV and enterprise value.

- Cross promote products that increase profitability per customer.

- Leverage the laws of customer physics in your business's favor, as customers will inevitably reward those that do.

- Make business decisions that are accretive both to business profits and to customer lifetime value, particularly from your most important customers.

- Add CLV measures to improve customer loyalty. Without CLV metrics, traditional segmentations may not reveal the right customer opportunities.

These and other related ideas should help pave your path to growth.

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[15] Walmart, Inc. Goldman Sachs Retailing Conference Sept. 5, 2019. For more information, see "Walmart's grocery pickup is reaching new, high-value shoppers" May 24, 2019. https://www.grocerydive.com/news/walmarts-grocery-pickup-is-reaching-new-high-value-shoppers/555158/

[16] "Walmart's new $98 unlimited grocery delivery program takes aim at Amazon PrimeNow, Target," USA Today, Sept. 12, 2019.

Appendix: Understanding Customer Lifetime Value

Customer Lifetime Value (CLV) is the present value of the future streams of profits (revenue minus costs) from each customer, which can be represented with a set of metrics and levers that businesses can use to engage their most important customers today and in the future.

In the CPG industry, we tend to refer to "loyalty" as consumers' share of wallet at retailers and share of requirement (or loyalty) of manufacturers' products or brands. We use these measures to understand how we're doing with consumers at single points in time or trended over time. Taking this idea one step further, Customer Lifetime Value is simply the present value of future streams of share of wallet margin (i.e., after costs) or share of requirement margin from our customers.

We would normally use a present value (PV) or a net present value (NPV) function (if we had customer acquisition costs in year zero) where:

C= Cash Margin from each customer (Revenue less the cost of goods sold, cost of servicing the customer, etc.), and…

r = Cost of Capital or hurdle rate (i.e., the opportunity cost of making an investment in the business vs. an investment from a weighted average return of stocks and bonds).

For example, in the illustrative calculation below (Exhibit 11), we determine that a customer will likely return for the next five periods (e.g., years). We discount the customer's future net cash contributions to our business using our company's hurdle rate (e.g., cost of capital), for each period where:

EXHIBIT 11

Simple Customer Lifetime Value Calculation Example

$$NPV = C_0 + \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \frac{C_4}{(1+r)^4} + \frac{C_5}{(1+r)^5}$$

"C_0" reflects the cost of acquiring the customer at "time zero," such as giving the customer a free sample product or trial service, followed by the future profit flows from the customer, discounted to present time.

In Exhibit 12a, the net present value of the cash flow is straight forward. We assume a cost of capital of 7% per year, which will vary by industry. The present value or CLV of a customer group that contributes $100 profit margin in each of the next five years is worth $410 today less the cost of acquiring them of $25. Hence, the net present value is $385 (i.e., $410-$25).

A more common calculation of CLV incorporates customers' expected retention rate based on historical or modeled data, which materially changes the final CLV estimate. To integrate retention rates into the original CLV calculation, multiply the customer retention rate against the expected cash contribution (see Exhibit 12b).

In Exhibit 12b, we estimate that the same customers as Exhibit 12a now have an annual retention rate of 80%, which means there will be fewer customers contributing in the outer years. As a result, CLV in net present value terms is $202, or just 52% of the original CLV estimate without retention. The implication is that businesses with lower retention rates must constantly replenish their customer base to grow their enterprise long term.

In addition to retention rates, two other factors materially impact CLV (assuming acquisition costs are reasonable):

1. Product margin is self-explanatory in that lower margins or dollar contributions lead to lower CLV. Of course, there are low margin products that contribute high-cash contribution (e.g., a car purchase), and high-margin products that contribute lower cash contribution (e.g., gum). The best products are those that deliver high dollar margin, high volume and purchase frequency, therefore generating greater customer profit.

2. Purchase cycle also influences CLV. Generally, the longer the purchase cycle between purchases, the lower the contribution to lifetime value. That's because customers might not come back for a repeat purchase if the purchase cycle can be completed elsewhere or with another product during the long period between purchases. In contrast, products with shorter purchase cycles might be habitually repurchased at the same store (and perhaps often the same brand), hence contributing to greater customer lifetime value. Programs like subscribe-and-save (i.e., auto-replenishment) and grocery pickup with saved weekly orders tend to reinforce the purchase cycle and to help maximize CLV.

EXHIBIT 12A

CLV Estimate without Retention Rate

No Growth Cash Flow Example	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Cash Flows & Acquisition Cost	-$25.00	$100.00	$100.00	$100.00	$100.00	$100.00
Cost of Capital		7%	7%	7%	7%	7%
Discount Factor		1.07	1.1449	1.225043	1.31079601	1.402552
Net Present Value	$385.02	$93.46	$87.34	$81.63	$76.29	$71.30

EXHIBIT 12B

CLV Estimate with Retention Rate

No Growth Cash Flow Example	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Cash Flows & Acquisition Cost	-$25.00	$80.00	$64.00	$51.20	$40.96	$32.77
Cost of Capital		7%	7%	7%	7%	7%
Retention Rate Per Period		80%	80%	80%	80%	80%
Discount Factor		1.07	1.1449	1.225043	1.31079601	1.402552
Net Present Value	$202.07	$74.77	$55.90	$41.79	$31.25	$23.36

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