CGMA TOOLS

How to manage customer value

CGMA Chartered Global Management Accountant

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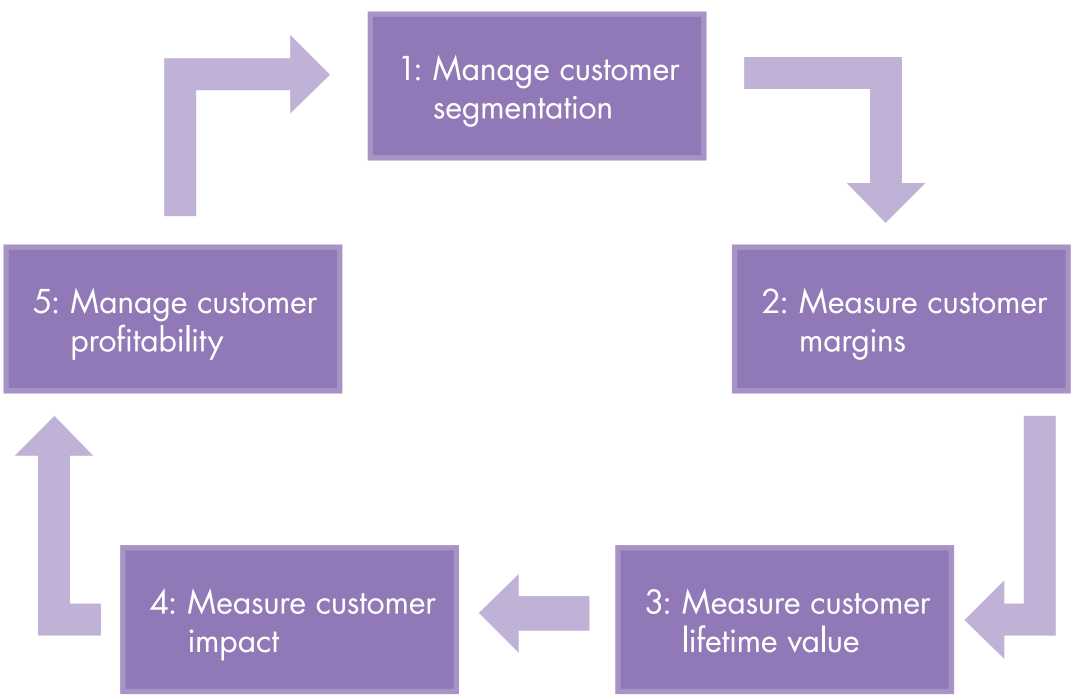
INTRODUCTION AND OVERVIEW

The focus on customer relationship management has become central to all organisations. Companies have increasingly recognised the significant costs related to the loss of customers and are trying to better understand, measure, manage and improve customer retention. Further, these organisations are examining how to measure and improve long-term customer lifetime value.

This tool provides a systematic approach for addressing customer value issues that include: customer segmentation, measuring profitability, estimating customer lifetime value, identifying additional sources of customer value and managing to enhance customer profitability. This tool also demonstrates how organisations can create more value for and derive increased value from customers.

Figure 1: The customer value management cycle



MANAGE CUSTOMER SEGMENTATION

Customer segmentation refers to the process of dividing customers into groups for decision-making purposes. Segmentation allows the company to provide differential advertising or value propositions to different customer groups. The appropriate level of segmentation varies according to (a) the purposes for which segmentation structures will be used and (b) cost and profitability variations between customers within segments.

Segments are often determined on the basis of customer similarities, such as personal characteristics, preferences or behaviours:

- **Demographic segmentation** segments customers based on their observable characteristics, for example, customer demographics like age, geographic area or income level. However, for many products and services, demographic characteristics are not fully representative of buying behaviour and have not been useful in predicting customer behaviour.

- **Psychographic segmentation** builds upon demographic segmentation by including criteria that further categorise a particular group of customers. Segmentation based on psychographic and lifestyle characteristics includes criteria such as attitudes and interests, values and social roles. The psychographics approach assumes that a customer's choices and behaviour are related to the customer's habits and routines.

- **Behavioural segmentation** based on buying behaviour represents the most effective of the current segmentation approaches used today. Customer relationship management software available today enables companies to harness this valuable data.

- **Analytic segmentation** integrates criteria such as cost into the value calculation of a company's customer segments. Analytic segmentation provides the firm with an even more accurate picture of customer profitability and buying behaviour. This, along with psychographic and demographic characteristics, allows companies to more effectively target their most profitable customers.

Box 1: Analytic segmentation examples

BOC, a UK-based supplier of industrial and medical gases, now part of Linde Group, utilises an analytic approach to segmentation. The company's strategy includes identifying the distinct requirements of its customers, such as value placed on service and/or the desire to obtain the lowest price. After identifying its customers' requirements, BOC is able to adapt its business model to maximise the operating performance from serving the requirements, reducing cost and increasing customer value from the customer's perspective.[1]

This is also true for the planning strategies of the American industrial gas market. Air Products & Chemicals seeks out customers who need high levels of technical assistance for their applications (eg, liquid nitrogen freezing of hamburgers or oxygen enhancement of blast furnaces) for which they can charge a high premium price. They spend few resources competing in the area of low-margin commodities such as argon and oxygen used for welding.

MEASURE CUSTOMER MARGINS

Although almost all companies have carefully designed processes for assessing the profitability of their products, most are far behind in assessing the profitability of their customers. Assigning non-product costs allows measurement of customer profitability through systematically measuring customer-related costs and assigning them to the responsible customers.

Many companies have used activity-based costing, or ABC, to assign non-product costs. Activity-based customer costing recognises that costs required to serve customers extend beyond direct costs, and provides a method for identifying and assigning indirect costs to the specific segments or customers responsible for them. Activity-based product costing can also be used to better estimate product costs as well.

Today much available software allows automatic assignment of product costs, and in most companies, information about the relative margins of customers and segments is widely available. As might be expected, the costs driven by a customer or segment extend far beyond the costs of the products they purchase. Service and support requirements can vary significantly among customer groups. See box 2 for examples of cost categories.

Box 2: Assigning non-product costs

One way to identify cost categories and the costs they might include follows:

- **Order-level costs** are costs associated with order placement and processing. These costs include order entry, picking inventory, delivery and billing costs.
- **Customer-level costs** are costs associated with individual customers or segments. They include costs such as acquisition costs, advertising and promotions, selling, sales returns, responding to enquiries, relationship management and managing receivables.
- **Channel-level costs** are associated with distribution channels. They include fixed locations, delivery equipment, information technology and marketing costs.
- **Market-level costs** benefit all channels. These costs include general research and development, branding and other general marketing, market research and other marketing functions.
- **Enterprise-level costs** are high-level organisation costs. They include administrative costs such as administrative salaries, facilities and financing costs.

MEASURE CUSTOMER LIFETIME VALUE

"Customer lifetime value" (CLV) introduces a new dimension to understanding the value a customer provides to the company. The lifetime value of the customer reflects the present value of all future flows associated with the customer. Although the specific formulations vary, CLV calculations all share three essential components: profits, retention rate and discount rate. Box 3 details the specific components of the CLV formula.

Customer retention and customer loyalty are important concepts for companies seeking to effectively measure and manage lifetime value. The retention rate, as included in the CLV calculation, refers to the probability that a customer will continue doing business with the company in future relevant periods. Customer loyalty refers to a customer's level of satisfaction with the company or brand, as well as that customer's intention to make future purchases. Understanding the loyalty of customers in a segment is important for CLV calculations. The profit component of CLV is based on estimates of how much customers will purchase in the future, and how much it will cost to serve and retain these customers.

Companies begin incurring costs when they spend money to acquire customers. As the customer makes purchases, the acquisition costs are recovered, and the company earns increasing profits from customer sales margins as sales recur over time. Additional costs to serve the customer over time include ongoing promotional and service costs and retention costs, which include the costs of maintaining the customer relationship over time. In addition to recurring margins from repeat sales, companies can gain additional profits through selling upgraded or new types of products and services to existing customers.

Together, all of the costs associated with serving the customer over time are netted against the total margins the company expects to gain through sales to that customer. The result is the CLV. It represents the present value to the firm of a customer's lifetime stream of profits. The CLV model thus views the customer as an asset that generates revenues throughout the life of the relationship, and also draws resources as it is acquired, maintained and, possibly, retired.

Box 3: Customer lifetime value formula

The formula for calculating CLV is as follows:
CLV = (profit$_{t1}$ x retention rate$_{t1}$ x discount factor$_{t1}$) + (p_{t2} x r_{t2} x d_{t2}) + … + (p_{tn} x r_{tn} x d_{tn})

- ***CLV*** is the sum of profits earned in time periods 1 through to n, where n represents the last period the company deems relevant for profitability analysis. Expected customer profits in each period are adjusted to reflect the expected customer retention rate during the period and discounted to the present time period, $_{t0}$.
- ***Profit (p)*** is the profit earned during the time period. Profits include gross profit, and take into account lifetime costs and revenues such as acquisition costs and growth in margins over time.
- ***Retention rate (r)*** is the rate at which customers in the segment maintain their relationship with the company and continue future purchases. This could also include the net difference between new customer acquisitions and customer exits within the segment.
- ***Discount factor (d)*** is the multiplier used to discount future profits to their present value. The discount factor is based on the company's hurdle rate (often the after-tax cost of capital).

MEASURE CUSTOMER IMPACT

The final component of value provided by the customer is customer impact. Of course, profits resulting from current or future sales to customers are the most significant source of value for most customer segments. But value can be created (or destroyed) by customers in many other ways that fall outside the reach of CLV and other methods of assessing customer value.

The power of customers is greater than ever and continues to increase due to a variety of factors. In addition to their own value-generating behaviours, customers have the capacity to affect corporate profitability by influencing the perceptions and behaviours of others.

The most widely recognised source of customer influence comes in the form of product referrals. Customers who are satisfied with a product might encourage other customers to try the product, or when dissatisfied, they may dissuade customers from buying it.

Another important source of influence is wielded by customers who possess high levels of power or prestige. These customers may influence others by serving as expert users, legitimising the product's use for other customers. Some customers influence others by serving as a role model. High-profile customers such as celebrity, sports or political figures can serve this function, as can "influentials" – opinion leaders who influence the thoughts and actions of others.

Customers also contribute value by providing useful information to the company and its stakeholders. Customers who post product reviews provide value to potential customers. Other customers may actively share their technical knowledge and expertise, providing tips for effective use of the product and solving problems for other customers. Leading companies are "crowd-sourcing" information from their customers in order to improve their products and services.

MANAGE CUSTOMER PROFITABILITY

By developing a more complete picture of the value of a customer or segment, a company can improve overall profitability by improving profit margins, increasing the lifetime value of customers and enhancing customer impact. Box 4 outlines strategies for managing customer profitability. In summary:

- Customer profit margins in each period during the customer relationship make up the largest share of customer lifetime value for many segments. Thus, improving profit margins on individual transactions is a logical starting point for companies.
- In addition to normal revenues and costs, companies can increase the lifetime value of customers by (a) improving customer retention, (b) reducing the costs of acquiring and maintaining customer relationships and (c) improving customer profitability through expanded purchasing.
- Companies can also take measures to enhance customer impact by (a) increasing customer referrals, (b) cultivating highly influential customers and (c) capturing and using customer knowledge.

To translate these strategies into action, companies must use the information provided by profitability analyses to inform decisions and develop metrics that can be incorporated into incentive programmes.

Box 4: Strategies for managing customer profitability

Managing customer profit margins	**Managing customer lifetime value**	**Managing customer impact**
Re-price products and services	Improve retention and acquisition rates	Increase referrals
Reduce customer costs (reduce cost per service and reduce services available)	Upgrade customer profits (share of wallet, up-selling and cross-selling)	Pursue influential customers
Manage cost drivers (policy changes and charge for services)	Reduce lifecycle costs (acquisition, ongoing promotions)	Enhance data capture (capture every interaction)
	Measuring, improving and managing customer satisfaction	Increase customer participation (communities, direct requests, employees)
		Use data effectively (experimentation, innovation and customisation)

CUSTOMER PROFITABILITY: A COMPREHENSIVE EXAMPLE

In this section, we provide an illustration of how measuring customer profitability can pay off. We apply the customer value management cycle to a fictitious company that will be called "Sagu Systems." A brief description of Sagu Systems is as follows:

> Sagu is a software company located in Dublin. Its primary product, SaguNetwork, is performance monitoring software for corporate networks. Sagu currently sells SaguNetwork and related consulting services to clients. The market for performance management software is expanding rapidly, and Sagu is pursuing an aggressive growth strategy. In an effort to maintain profitability through the growth period, the board of directors has mandated that Sagu analyze the profitability of its customers.

Sagu works through the customer value management cycle in the step-by-step fashion shown in figure 1 on page 2 of this tool.

Step 1: Manage customer segmentation

Sagu begins with an analysis of current customers and their purchasing patterns. The analysis results in three customer segments:

1. In-house support: customers with in-house IT staff capable of supporting the software

2. No in-house support: customers lacking in-house IT staff capable of supporting the software

3. New to software: customers that are first-time users of performance-monitoring software and lack in-house IT staff capable of supporting the software

Basic financial information for the three segments is shown in table 1.

Table 1: Revenue and expenses by customer segment (in millions)

	In-house support	No in-house support	New to software	Total
Software	$60.0	$70.0	$20.0	$150.0
Consulting	5.0	30.0	15.0	50.0
Total revenue	**65.0**	**100.0**	**35.0**	**200.0**
Cost of goods sold	24.0	40.0	13.0	77.0
Gross margin	41.0	60.0	22.0	123.0
Operating expenses	32.5	50.0	17.5	100.0
Operating income	$8.5	$10.0	$4.5	$23.0
Percent of revenue	13%	10%	13%	12%

In the next steps 2, 3, and 4, Sagu will calculate the current and expected future value contributions for each segment. In step 5, Sagu will use the results of this analysis to make changes in the management of customer value in each segment. Finally, Sagu will return to step 1 and begin the cycle again – re-segmenting customers based on profitability-related behaviours.

Step 2: Measure customer margins

Sagu has historically allocated operating expenses based on total revenue of the segment. However, Sagu realises that operating costs vary across segments as a result of different customer behaviours within the segments. In particular, sales commission costs are associated with software and consulting sales, and technical support costs are associated with the number of maintenance requests submitted by a customer. Sagu separates these costs from other operating expenses and assigns them to segments based on the actual commissions awarded and technical requests made by each segment. Results are shown in table 2.

When segment profits are re-calculated using the new operating expense numbers, the results are shown in table 3. With the reallocation of operating expenses, the company's $23 million profit has shifted, increasing the profitability of the in-house support segment, and decreasing the profitability of the other two segments.

Table 2: Operating expenses allocated by customer behaviour (in millions)

Operating expenses	**In-house support**	**No in-house support**	**New to software**	**Total**
Sales commissions	$4.0	$14.0	$2.0	$20.0
Technical support	8.0	21.0	11.0	40.0
Other administrative	16.0	18.7	5.3	40.0
Total	**$28.0**	**$53.7**	**$18.3**	**$100.0**

Table 3: Revised revenue and expenses by customer segment (in millions)

	In-house support	**No in-house support**	**New to software**	**Total**
Software	$60.0	$80.0	$20.0	$160.0
Consulting	5.0	20.0	15.0	40.0
Total revenue	**65.0**	**100.0**	**35.0**	**200.0**
Cost of goods sold	24.0	40.0	13.0	77.0
Gross margin	41.0	60.0	22.0	123.0
Operating expenses	28.5	53.7	18.3	100.0
Operating income	$13	$6.3	$3.7	$23.0
Percent of revenue	20%	6%	10%	12%

Step 3: Measure customer lifetime value

Armed with information about current profitability, Sagu can begin to assess the long-term value of each customer segment. To do this, Sagu will estimate growth in profits for each segment and change in size of each segment as Sagu loses old customers and adds new ones over time. Table 4 shows the CLV calculations for each customer segment during the coming six years. CLV shows the value of a segment's customers to Sagu today, based on the discounted value of anticipated future profits. To calculate CLV, Sagu estimates:

1. Operating income for each segment based on an estimated growth rate applied to current period operating income
2. A retention rate based on the expected difference between customers gained and lost each period
3. A discount factor, which is the net present value (NPV) of $1 in a future time period at 10% interest

Here, to simplify the example, income growth and retention rates are held constant for the coming six year period. Sagu's CLV analysis provides a new perspective on the relative value of the three customer segments. The in-house support segment is expected to grow at a 10% rate, as a result of additions in software users to existing software packages. In addition, the number of clients in this category is expected to grow each year, as the number of new clients entering the segment exceeds the number that exit. Discounting each year's anticipated profits back to the present using a 10% rate results in an expected lifetime value for the segment of $73.1 million. The segment is currently the largest, in terms of profitability, and expected to remain that way for the coming six years.

The CLV analysis, however, tells a different story about the relative value of the no in-house support and new to software segments. Using current period profits alone, these segments showed incomes of $6.3 million and $3.7 million respectively. Analysing profitability over time, however, shows marked differences in the ability of the two segments to generate value for the firm. The no in-house support segment shows a modest growth rate, at 5% and a loss of market size, due to a low customer retention rate. The new to software segment shows rapid growth both among clients who have adopted performance management software for the first time, and in the number of net clients entering the segment. Thus, this segment is expected to achieve rapid growth in profits over time.

Table 4: Customer lifetime value (in millions)

In-house support	1	2	3	4	5	6	
Operating income (5% growth)	$13.7	$14.3	$15.0	$15.8	$16.6	$17.4	
Retention rate	110%	110%	110%	110%	110%	110%	
Discount factor (10%)	.91	.83	.75	.68	.62	.56	
Current value of lifetime profits	$13.7	$13.0	$12.4	$11.9	$11.3	$10.8	
Total CLV							**$73.1**

No in-house support	1	2	3	4	5	6	
Operating income (5% growth)	$6.7	$7.0	$7.3	$7.7	$8.1	$8.5	
Retention rate	90%	90%	90%	90%	90%	90%	
Discount factor (10%)	.91	.83	.75	.68	.62	.56	
Current value of lifetime profits	$5.4	$5.2	$5.0	$4.7	$4.5	$4.3	
Total CLV							**$29.2**

New to software	1	2	3	4	5	6	
Operating income (20% growth)	$4.4	$5.3	$6.3	$7.6	$9.1	$10.9	
Retention rate	130%	130%	130%	130%	130%	130%	
Discount factor (10%)	.91	.83	.75	.68	.62	.56	
Current value of lifetime profits	$5.2	$5.7	$6.2	$6.8	$7.4	$8.0	
Total CLV							**$39.2**

Step 4: Measure customer impact

To supplement the CLV analysis, Sagu estimates the potential impact of each customer segment. Through this analysis, shown in table 5, Sagu realises that a small number of its large clients in the in-house support segment generate half the revenue of this segment, and virtually all of the customer impact. These loyal clients are very well-known and highly respected in the software industry, and Sagu estimates that they are responsible for a significant portion of the client growth that contributes to favourable retention rates—both through reputation and through referrals. In addition, these customers are very knowledgeable, and are used as testing sites for new software enhancements and sounding boards for the technical planning personnel.

The benefits from these high-impact in-house customers referring other customers and testing and improvements prior to release are estimated to be nearly $7 million as shown in table 5.

Table 5: Customer impact for in-house customers (in millions)

High-impact in-house customers

CLV Calculation	**1**	**2**	**3**	**4**	**5**	**6**	
Operating income (5% growth)	$6.5	$7.2	$7.9	$8.7	$9.5	$10.5	
Retention rate existing	110%	110%	110%	110%	110%	110%	
Discount factor (10%)	.91	.83	.75	.68	.62	.56	
Current value of lifetime profits	$6.5	$6.5	$6.5	$6.5	$6.5	$6.5	
Total CLV							**$39.1**

Additional value for high-impact in-house customers

Impact Calculation	**1**	**2**	**3**	**4**	**5**	**6**	
Value of referrals	$1.0	$0.7	$0.6	$0.5	$0.4	$0.3	
Value of knowledge gained	0.8	1.2	0.9	0.8	0.8	0.8	
Discount factor (10%)	.91	.83	.75	.68	.62	.56	
Current value of impact	$1.6	$1.6	$1.1	$.09	$0.7	$0.6	
Total Impact							**6.6**
Total value: High-impact in-house customers							**$45.7**

Step 5: Manage customer profitability

Sagu has learned a great deal about the profitability of its segments through this analysis, and will use this information to more effectively manage the value of these segments. First, through the step 2 analysis of customer margins, Sagu has learned that the no in-house support and new to software segments have higher operating costs than were apparent under the former cost allocation system. In part, this was the result of high maintenance costs for these clients.

To address this issue, Sagu has decided to change the maintenance agreement it provides to customers. In the future, customers will be provided with a limited number of technical support hours, and will be charged for any support hours above this amount.

Through the CLV analysis in step 3, Sagu learned that the no in-house support segment was expected to show profitability losses over time, due to low profitability growth and retention rates over time.

As a result of this analysis, Sagu conducted interviews with key clients in the segment to determine reasons for the decline. These clients suggested that they needed additional consulting support to help them make the best use of their software. Sagu has increased efforts to inform customers about available consulting services, and anticipates both growth in consulting revenues and increased retention in the segment as a result.

Finally, in step 4, Sagu analysed customer impact, and realised that the customers with the greatest impact on both attracting new customers and on gaining valuable knowledge, were a subset of their in-house customers. This group of clients consists of highly knowledgeable users, who both contribute product and service knowledge to Sagu, and also encourage other clients to adopt the software – either through direct referrals or through reputation.

Through the customer impact analysis, Sagu has recognised the high value of these customers to the firm, and has initiated new policies designed to provide special benefits to these customers. They will receive a discounted rate for adding software seats, which is expected to grow profits more rapidly and strengthen customer loyalty. In addition, they will be invited to sit on a newly-formed user advisory board, which will provide them with prestige and the opportunity to interact directly with Sagu and other high-powered users to share insights and strategies.

Repeat: Steps 1 through 5

Sagu has learned a great deal by working through the first round of the customer value management cycle. It will use the knowledge gained through the process as a foundation for continuous improvement in its ability to evaluate customer profitability, and to develop management strategies leading to continual improvements in both the value provided to these customers, and the value delivered by them.

Moving into the next cycle, Sagu plans to re-segment the in-house support customers into high-impact and low-impact segments. In step 2, the company plans to trace a greater proportion of operating expenses to segments, for more accurate estimates of current operating income. In step 3, the company plans to gather more detailed analysis of historical rates of both profit growth over time, and of the actual rates at which clients exit the firm. These can be used to develop more accurate predictions of profit growth and retention. In step 4, the company will begin to more carefully track referrals, through interviews with both high-impact and new clients. In addition, it will ask the R&D department to attach value estimates to software and process improvements suggested by clients. This will allow for more accurate measurement of customer impact over time.

At the same time Sagu gradually improves its capacity to measure, it will also improve its ability to manage profitability. It will carefully monitor the effects of the initiatives introduced in the first round, and make changes to these strategies based both on their effectiveness and on the new information obtained through enhanced measurements in the second round.

Endnote

[1] Oliver, K., Moeller, L. and B. Lakenan. 2003."Smart Customization: Profitable Growth Through Tailored Business Streams". Strategy and Business, Issue 34.

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December 2012

12564-359

Association of International Certified Professional Accountants

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