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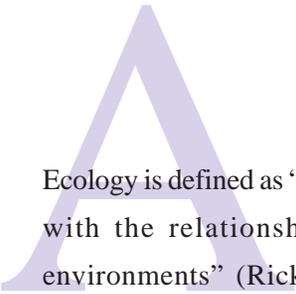
Dave J. Nash

APPLYING CUSTOMER ECOLOGY TO MAXIMIZE CUSTOMER VALUE

William L. Shulby

David J. Nash

Customer ecology explores the relationship of customers with a business enterprise where the customer is the focal point around which all organizational activity is focused, executed and measured. Customer ecology's underlying assumption is that customers are a finite resource that must be managed carefully to avoid waste. This article explores the concept of customer ecology and how it can maximize the lifetime value of a customer.



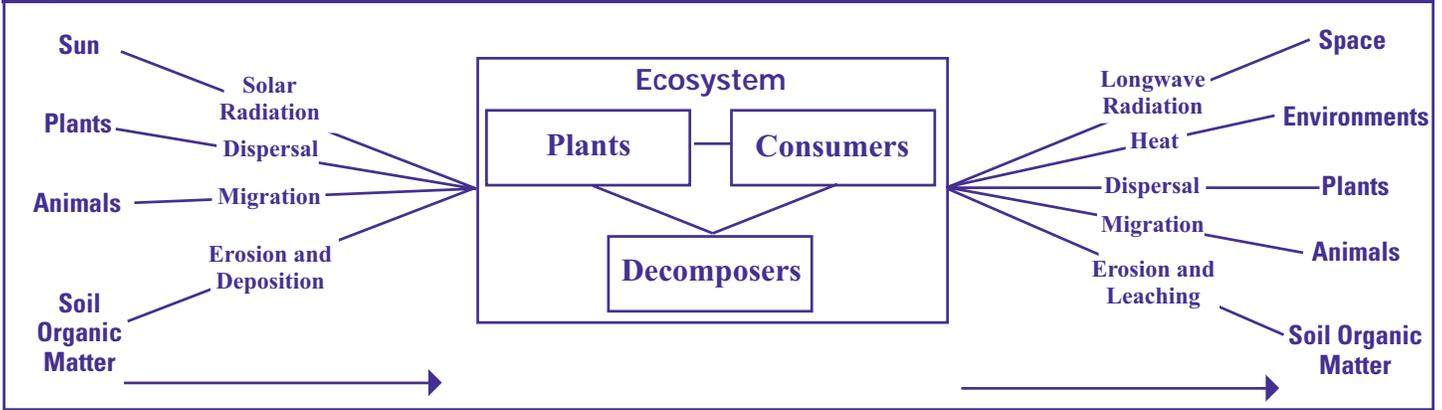
Ecology is defined as “the branch of science that is concerned with the relationship between organisms and their environments” (Ricklefs and Miller, 2000). Much like environmental ecology, customer ecology systematically explores the relationship between customers and a business enterprise. In such a framework, the customer is the focal point around which all organizational activity is focused, executed and measured — with the goal of improving customer relationships by leveraging technical and human capital. The system in which ecology “happens” is called an ecosystem, which is generally understood in terms of how energy flows through ecosystems (O’Neill, DeAngelis, Wade and Allen, 1986).

One framework for understanding the energy flow

through an ecosystem is called an Eltonian Pyramid. Here, a large number of “primary producers” — primarily plant life transferring stored energy from solar radiation and soil nutrients — begin the flow of energy to other individual organisms within that ecosystem. Primary consumers (herbivores) feed on the plants; secondary consumers (first-level carnivores) feed on the primary consumers; tertiary consumers (second-level carnivores) feed on the secondary consumers (Mueller, 1992; Ricklefs and Miller, 2000).

Nevertheless, in this transfer of energy from one organism to another, not all of the energy at each level is transferred to the next level. The organism uses some of the energy, but much of it is lost in the transfer (e.g., solar energy not transferred into chlorophyll, soil nutrients not absorbed by

Figure 1



plants, plants not captured by herbivores, herbivores not captured by primary carnivores, etc.).

Customer ecosystems can similarly be understood in terms of the flow of value through these ecosystems. In such an ecosystem, the business enterprise is the primary producer; however, the flow of customer value occurs in the opposite direction. The universe of prospective customers has a theoretical lifetime value to the enterprise that is limited only by its market size, accessibility and ability to purchase products or services from the enterprise. Inability to convert prospective customers into first-time buyers, first-time buyers into repeat customers, repeat customers into high-value customers and lost customers into re-activated customers reduces the value realized by the enterprise. This unrealized value, much like energy in the previous example, remains

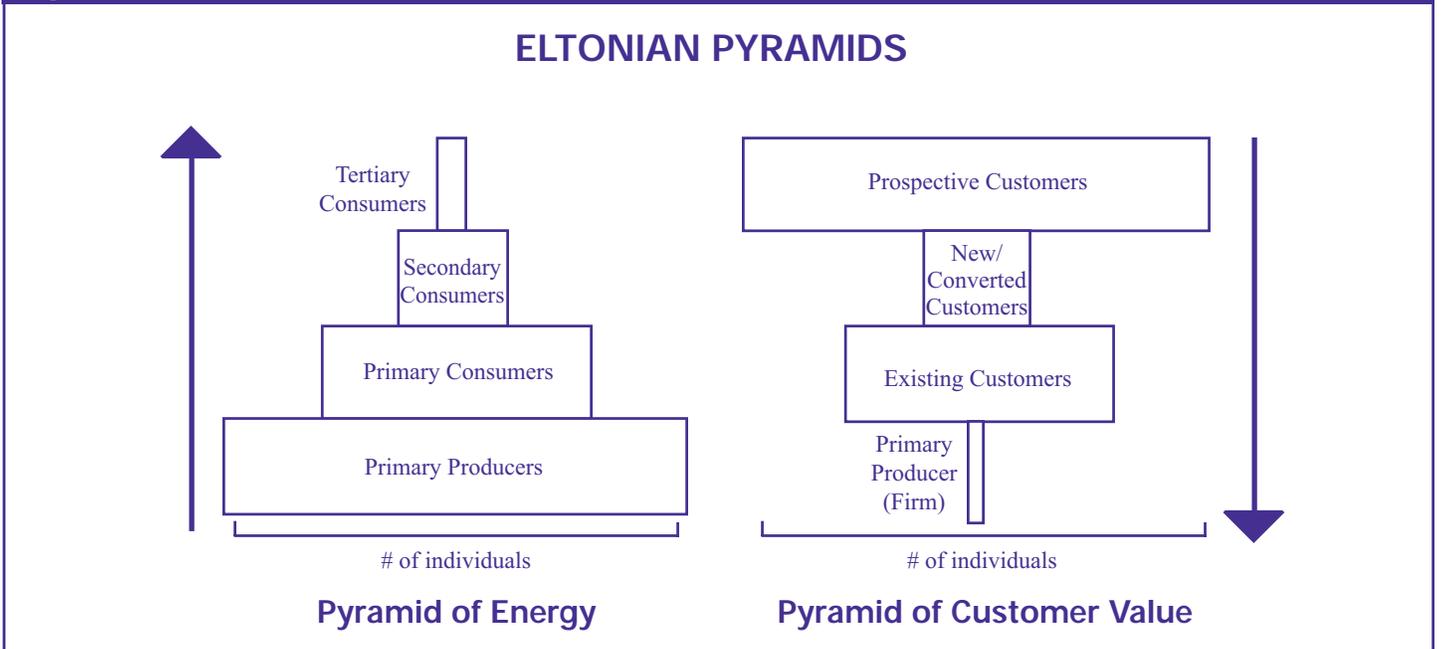
within the customer ecosystem but is not converted into realizable customer lifetime value by the enterprise.

Core Activities for Sustainable Customer Ecology

Customer ecology significantly parallels agricultural ecology. Agricultural ecology tells us that there are several core activities necessary for sustainable agriculture: reclamation, conservation, cultivation, conversion and crop rotation. Similar processes are necessary to sustain and grow the customer franchise.

Ecological reclamation is the conversion of wasteland into land suitable to inhabit or cultivate. Lands and waterways lost to or endangered by pollution are frequently the focus of intense ecological reclamation efforts. Customer reclamation is similarly the process of converting previously lost

Figure 2



customers to new customers. This process, known as “win-back,” is in some industries the focus of intense enterprise-wide efforts.

Cultivation is the process of promoting the growth of crops. Cultivation includes applying specific fertilizers, pesticides and herbicides at certain times and in certain measured quantities. Customer cultivation is the process of encouraging new and current customers to realize their full potential value (i.e., customer growth via cross-selling and up-selling). Customer cultivation includes understanding customers’ needs and buying patterns (Coyles and Gokey, 2004) and using this information to tailor and personalize product offers, communications and services (Peppers and Rogers, 1997).

Conservation is the protection, preservation, management, or restoration of natural resources such as forests, soil and water. Erosion control and water-management projects are but a few examples of such efforts. Customer conservation focuses on the activities and enablers that allow the enterprise to prevent the loss of customers and thus minimize their reclamation efforts. Renewal programs targeting customers with impending expirations are standard business processes at subscription media companies and at term-based insurance companies. Analytics in the form of attrition models, liquidation models and defection detectors are now being used as triggers for conservation efforts at other companies in other industries.

Conversion is the acquisition of a new property by a living organism that changes the nature of that organism. Conversion in a customer ecosystem changes the nature of an individual, for example, from that of a suspect or a prospect to that of a first-time buyer. Conversion is also the process of transforming a repeat purchaser into a high-value customer, that is transforming unrealized to realized customer value. Another core component of agricultural ecology is the practice of crop rotation. Crop rotation is a planned order of specific crops planted on the same field. Some of the general purposes of rotations are to improve or maintain soil fertility, reduce erosion and increase net profits. One immediate economic benefit of crop rotations is improved yields. The

Guardian Financial Services Inc.

Environmental scientists use kilocalories per square meter as a key measure in analyzing the longitudinal performance of an ecosystem. Similarly, the performance of customer ecosystems needs to be gauged in order to determine the success of improvement initiatives that focus on improving the efficiency and/or effectiveness of customer interactions. A key measure in this regard is customer profitability.

Guardian Financial Services, a New York-based insurance and investment company, is committed to growing its business and shareholder value in a converging and increasingly competitive market. Guardian’s business strategy is based on four key elements reminiscent of a balanced scorecard. One of these elements centers on increasing customer profitability. Guardian is doing this by:

1. Working across business units and support organizations to reach agreement on the definition of customer profitability and developing the calculations to measure it.
2. Identifying high-value customers through economic segmentation.
3. Listening to high-value customers and identifying ways to improve the customer experience.
4. Improving the customer experience and reducing value leakage by better aligning sales and service with the desires of high-value customers.
5. Measuring the impact of these alignment efforts on customer profitability.

Guardian is practicing customer ecology by listening to the suggestions of its high-value customers and improving their sales and service experiences. This is not only a conservation effort, but is also a means of cultivating value among its customers. Guardian assesses the health of its customer ecosystem by measuring the impact on customer profitability from the improvements it makes to the customer experience. This allows Guardian to determine if and to what extent the improvements it has made conserved and/or cultivated value.

concept of crop rotation can be applied to customer ecology as well. If an enterprise does not adequately manage and cultivate the customer relationship, the relationship yields will be compromised, thereby adversely affecting customer lifetime values. Investing in customer-level marketing when necessary, without violating privacy issues or depleting relationship goodwill, can prevent these negative effects.

Thus at the highest level, customer ecology is similar to the types of ecology practiced in agriculture, forestry and other industries. Farmers, foresters and environmentalists offer interesting lessons and metaphors to marketers. Marketers focus on conditioning the marketing environment, seeding, cultivating, conserving and recovering customers. Therefore, customer ecology's underlying assumption is that customers are a finite resource that must be managed carefully to avoid waste.

Managing the Value of the Customer Franchise

Customers are assets. In fact, they are the core assets that generate revenue for a firm. Without customers, our products, services, advertising time and space, real estate, machinery and investments are without value and are simply unnecessary costs. We invest in our assets to produce returns on our investments — returns that are provided by customers. Strategies that consider the infinite potential of customers can produce value. But such strategies can sub-optimize the value derived because of higher acquisition costs and the

opportunistic nature of the exchange (Reichheld, 1996).

Customer ecology is an approach to maximize the value of the customer franchise by managing prospects and customers as limited and precious natural resources. Customer ecology focuses on the ways in which we transition customers from state to state: from prospect to shopper/inquirer; from shopper/inquirer to first-time buyer; from first-time buyer to repeat buyer; from repeat buyer to brand advocate. It is measured by the value that is transferred from the prospect universe to the firm.

Customer ecology does not discount the importance of the product or service offering to customers and its impact on the bottom line. Rather, customer ecology complements the market offering and seeks ways in which to optimize the value of the customer franchise by attempting to manage the purchase activities of those customers.

The Customer Ecology Process

Environmental ecologists look at the transfer of energy among the various layers of the biosphere. The sun, plants, animals and organic matter combine to create energy that is subsequently transferred from producers to consumers. However, only some of the energy in the system flows from producers to primary consumers. For example, less than three percent of all sunlight that reaches the Earth is used (or fixed) for photosynthesis, the process through which plants transform sunlight into energy. This energy is released in

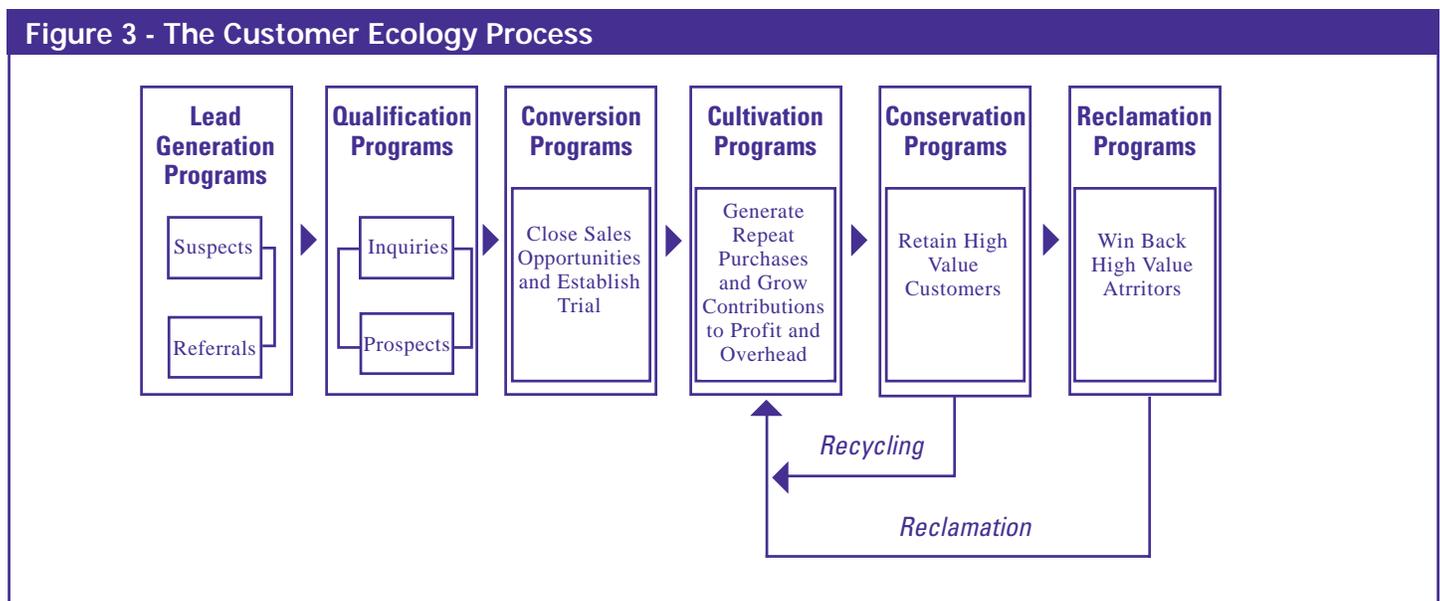
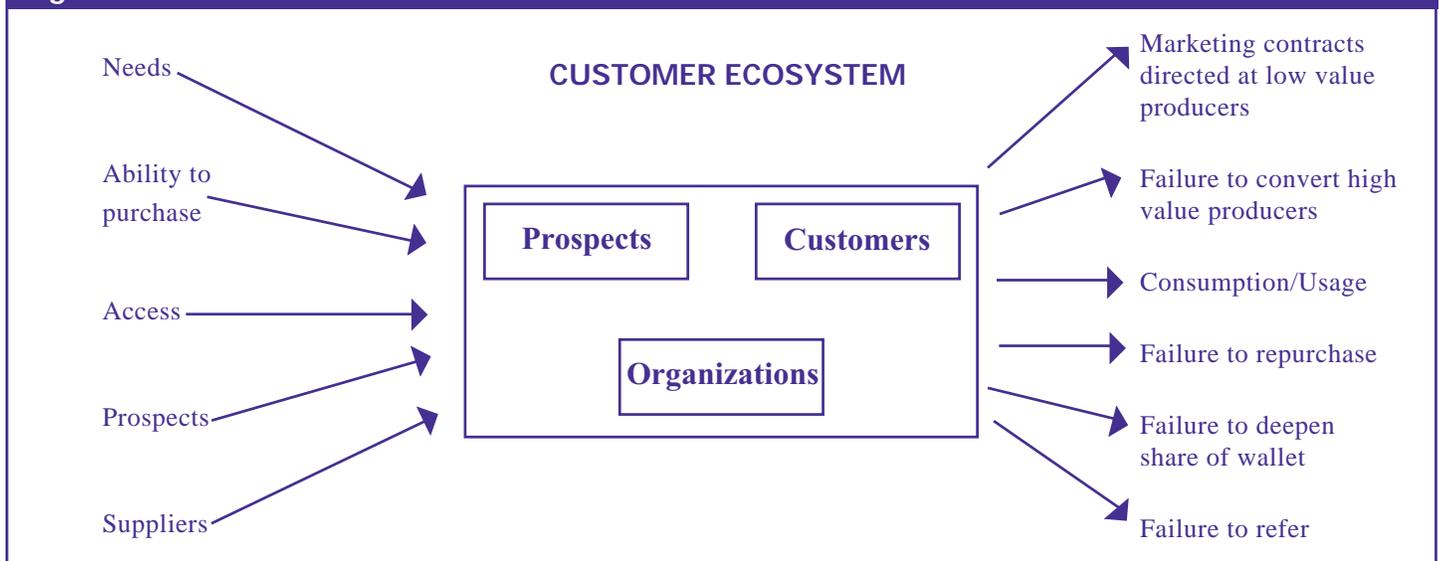


Figure 4



plants (autotrophs) and animals (heterotrophs-herbivores, carnivores and detritivores) through cellular respiration. The 97 percent or more of sunlight left is not lost, but spent elsewhere in the form of long-wave radiation and heat (Mueller, 1992; Ricklefs and Miller, 2000).

In much the same way, we can look at the customer ecosystem as one in which value is realized and transferred. Value is the “energy” of the customer ecosystem. Without value, there is no transfer and no system.

We do not try to define value here. Other authors have done an outstanding job defining and measuring value (Rust, Zeithaml and Lemon 2000; Berger, 1998; Hughes, 1994; Jackson, 1989; Schell, 1990). Authors such as Blattberg, Thomas et. al. (2001), have argued that value should be measured in terms of contribution profit; and still others have argued for use of operating profit as the operationalization of value. We have used all of these various metrics at one time or another and suggest that for purposes of customer ecology, all that is needed is a systematic and methodologically rigorous approach to value measurement. Most authors conclude that the importance of the measure is less about the precision of the metric than it is about its ability to provide relevant and actionable insight that can be effectively implemented within the organization. With this in mind, we will refer to lifetime value (LTV) as the measure of value in the customer ecosystem. This does not mean LTV is the only measure of value, but it does serve as an effective

directional measure for customer-centric firms looking to optimize firm profitability and cash flow.

Thus, potential value comes from five customer need dimensions: unsatisfied needs; the number of people with those unsatisfied needs (e.g., the size of the prospect universe); the ability, or inability, of prospects to purchase a product to satisfy those needs; the existence and number of suppliers that can satisfy those needs; and prospects’ access to communications and points of sale for products that satisfy those needs (see Figure 4 above). All of these five elements combine within the ecosystem to create value and that value is transferred from level to level within the ecosystem.

Sources of Value Leakage

Just as sunlight not absorbed by producers in the biosphere is not transferred and is lost in the form of radiation and heat, the value transfer that occurs in the customer ecosystem is most often incomplete. Some of that value is never realized nor transferred because communications and promotions reach individuals that are already satisfying their needs (redundancy of effort). Value is also lost when that communication reaches individuals that do not have the need (poor targeting) or when communication reaches individuals that do not perceive the market offering as a solution to their need. Value is additionally lost when individuals with the need fail to become aware of the product that would satisfy it, fail to become converted to the product from another

Anthem Inc.

Losing customers to competitors is one way that value is lost from customer ecosystems. Some companies respond to such pressures by reducing their prices. Unfortunately, this remedy may be as bad, or worse, than the problem itself. As price decreases, so does the value of the customer franchise.

Anthem Inc., the fourth largest publicly traded health benefits company and an independent licensee of the Blue Cross and Blue Shield Association, provides health care benefits to approximately 13 million people in the United States. Anthem's innovative web-based wellness program focuses on conserving value — not only the value of its own customer ecosystem, but also the value found in the ecosystems of the employers and members they serve.

It used to be that the cost of providing health benefits to employees rose at a rate close to that of general inflation. Employers regularly renewed their health benefits contracts with their providers and rarely changed carriers.

During the latter part of the 1990s, however, health care costs started to increase at double-digit rates, putting significant pressure on the cost structures of employers. Today, employers aggressively manage the rising costs of health care benefits by annually seeking out the health benefits company willing to provide the most services for least amount by putting the contracts up for bid. Such practices force carriers to annually compete for the business of their current clients and expend greater resources to renew contracts and retain their customers.

Anthem's wellness program, called "Anthem Rewards," systematically rewards participants for living healthy and active lifestyles. According to the U.S. Department of Health and Human Services, such lifestyles moderate obesity and the occurrence of diseases associated with obesity, smoking, drinking, etc.

"By offering members who participate in the program a broad range of rewards from T-shirts to tents," says Anthem Rewards program manager John Holland, "We encourage our members to live healthy lifestyles and assist our employers in their efforts to better manage costs."

Anthem Rewards creates a pull for Anthem's core products and services, thus increasing the likelihood of conserving employers currently under contract. Additionally, the program has generated testimonials from participants who say they have quit smoking or lowered their cholesterol by participating in the program. By encouraging members to live healthy lifestyles and, in turn, reducing medical costs, Anthem minimizes value leakage in its customer ecosystem of employers through effective conservation and conversion.

As indicated by the scores of testimonials and referrals from the more than 60 employers and 15,000 members currently participating in the program, the strategy is working. Employers have chosen to stay with Anthem and have even begun to sign longer-term contracts with the carrier, even when presented with attractive offers from competing carriers.

product or fail to re-purchase the product that satisfies their need. Some of this leakage is a consequence of the inefficiencies of the system itself. However, much of the remaining value is not transferred simply because of poor execution (Kestnbaum, Kestnbaum and Ames, 1998; Schultz, Tannenbaum and Lauterborn, 1994).

Calculating and Reducing Customer Value Leakage

Management's job is to maximize shareholder and customer

value within a series of constraints (including ethical and moral definitions). Thus, the value in the customer ecosystem may be thought of in terms of the following equations:

$$\text{Min}_{x=1}^n \sum \Delta CV_{1 \text{ to } 2} + \Delta CV_{2 \text{ to } 3} \dots + \Delta CV_{(n-1) \text{ to } n}$$

and

$$\Delta CV_{(n-1) \text{ to } n} = LTV_n - LTV_{(n-1)}$$

Where LTV_x equals the lifetime value of a customer at a given

level and $\Delta CV_{(x-1) \text{ to } x}$ equals the change in lifetime value as a customer moves from one level to the next.

Constraints:

$LTV_0 = f\{\text{market size, accessibility, ability to purchase}\}$

$LTV_{1,n} = f\{\text{relative attractiveness/appeal of value proposition/market offering}\}, f\{\text{budget \$, resources,}$

$LTV_0\}, f\{\text{existing capital structure of the firm}\},$

$f\{\text{effectiveness and efficiency}\}$

$LTV_n < LTV_{(n-1)}$

Thus, the overriding goal is to minimize the change (or loss) of customer value as a customer moves through each level of the process.

Managerial Implications

Value leakage occurs at and between each of the levels of the customer ecosystem. Various other authors have extensively discussed the topic of customer retention, but lack of retention is only one source of value leakage. From a recent study, the management consulting firm McKinsey & Co. observed that changing patterns of organizational spending may account for more value leakage than customer defection (Coyles and Gokey, 2004). If you only focus on reducing leakage from defectors, you may ignore other opportunities to stem value leakage and increase the value of the ecosystem.

Seek to increase value where productivity is already high and reduce wasted efforts in unproductive customer ecosystems. Swamps and marshes are among the most productive environments in the world because of the sheer number of producers supported by these types of ecosystems. Deserts, on the other hand, contain the fewest producers and thus have the lowest productivity (Ricklefs and Miller, 2004; Odom, 1957). Prospects and customers may be thought of in a similar vein. For example, price-conscious “cherry-pickers” may offer little value to the ecosystem and pursuing these customers might in fact allow more value leakage. Alternatively, prospects that share demographic, behavioral and attitudinal traits with high-value customers are often good targets for increasing value. Estimate the value of the

ecosystem in which you prospect, convert, cultivate, recycle and reclaim. Monitor the value derived and the processes you are using to derive value.

Once you find the ecosystems of high producers, build around them. Identify your top customers and give every employee a list of them. Top customers should get priority in treatment and services, including in the shipping and receiving departments, finance/accounting departments and repair services. Identify customers who are both net producers and net consumers of energy. Net producers can be thought of as a “queen bees,” emitting energy and helping to “show the enterprise the way.” Cultivate relationships with these customers and leverage their expertise to guide product/service development. Net consumers are those customers who suck up more energy than they transmit. Most companies have customers with constant demands, who always want what amounts to “special service.” Yet their value does not justify it. Regardless of how it looks on paper, companies lose money on them over the long term as they siphon resources that could be better used on net producers. Help net consumers find a better supplier to satisfy their needs. Your credibility can remain sufficiently high with these customers and they can continue to be a customer for the part of the relationship the firm can serve profitably — thus turning a headache into a profit.

Everybody within the organization must be ecologically conscious, not only the marketing communications and sales departments. It is necessary that marketing be in the vanguard of building awareness of customer ecology, but it is not sufficient to produce results. Results are produced when everyone in the company sees customer ecology as of primary importance and the functional areas are aligned. Sales, manufacturing, operations, finance, dispatch/repair, customer service, shipping/receiving and finance all need to recognize the importance of stopping value leakage and perform their jobs accordingly.

Develop rewards for performance. Measure the value of your customer ecosystem and establish targets for growing it. Work with each functional area and business unit to develop “stretch” goals in their areas (i.e., no repair for a top

customer will take longer than two weeks). What gets done is what gets measured and rewarded. Only then can an organization truly achieve a reduction in value leakage by utilizing customer ecology.

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William L. Shulby is the president of Customer Asset Management Company Inc., a consulting firm that designs and deploys practical and measurable strategies and programs that assist clients in profitably developing, acquiring and retaining customers. Bill has served as consultant to companies in insurance, financial services, health care, consumer products, retail, manufacturing and telecommunications. Bill is also an adjunct professor at the Kenan-Flagler Business School at the University of North Carolina at Chapel Hill, where he teaches courses in brand and product management. Bill holds a master's of business administration and a master's of science in marketing from Louisiana State University. He and his family reside in Raleigh, N.C. Bill can be reached at 919-882-2054 and at wshulby@ca-mgt.com.

David J. Nash is a senior consultant at CSC Consulting in the customer intelligence practice, which focuses on helping clients achieve customer-centered growth via information management, analytics and process design and execution. His list of consulting clients includes numerous Fortune 1000 clients in the financial services, health care, technology, telecommunications, transportation, and distribution and manufacturing industries. Dave earned a master's of science in integrated marketing communications from Northwestern University. He also holds a master's of business administration in finance and bachelor's of science in management, summa cum laude, from Case Western Reserve University. Dave is also a member of the B2B Committee of the Chicago-American Marketing Association. He resides with his wife and newborn daughter near Chicago, Ill. Dave can be reached at dnash3@csc.com.