

CUSTOMER DATA INTEGRATION

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Reaching a Single Version of the Truth

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Executives Flying Blind

- You can't understand the future without knowing something about the present. Knowing the characteristics of your customers, partners, and suppliers—who they are, where they are, how they interact with your company, and how you support them—can shape every aspect of your company's strategy and operations, right down to the individuals you target and the products you pitch.

As customer relationship management (CRM) enters the mainstream, companies continue to struggle with finding, gathering, and integrating information about their customers. Unlike other business challenges that require automation, integrating customer data isn't an obvious call for brute force programming—it's clearly a problem for management.

What executives don't know can not only hurt them, it could send them to jail. In the "information age," there are fewer excuses for ignorance, especially when it comes to corporate performance. But there are also significant barriers to knowledge, and these barriers haven't been toppled by the latest juggernaut of packaged software solutions like CRM. In this chapter, we examine what's holding companies back from understanding their customers at a holistic level. Customer information isn't destiny, but it's close. ■

SLOUCHING TOWARD CUSTOMER FOCUS

Nothing has as much impact on a company's operations as an executive who declares a new strategic direction. Such declarations were common in

the early 2000s, when many CEOs proclaimed that their companies would henceforward become “customer focused.”

Of course, major strategy shifts invited analysis of how the company did business prior to its becoming customer focused. Many companies paid large consulting firms big bucks to help them migrate from a state of “customer aware” to the nirvana of being “customer intimate.” While the distinction itself was up for debate, what was clear was that executives had to reexamine how their firms were building products, managing business operations, and interacting with customers.

Mature companies understood that in order to reach customer-centricity, they needed to understand who their customers were. More to the point, they needed to engage in an ongoing dialog with customers and continue to track their interactions and responses. This in turn allowed businesspeople across the company to understand who their good customers were, what made them good customers, and how to motivate other customers to share some of those traits. They needed to understand customers’ various demographics, income levels, existing product mixes, tenure, and the tried-and-true “recency, frequency, and monetary” analysis¹ that could all foretell purchase behaviors. In doing so, managers were finally heard admitting that no two customers were the same.

Companies that had been product-centric since their inception had to endure significant changes to business processes, technologies, job roles, and their very corporate cultures in an effort to become customer-centric. The trouble was that executives expected their organizations to turn on a dime.

Such lofty expectations took the form of new business discussions that informed a new crop of strategic goals. One of those discussions centered on the emerging concept of one-to-one marketing. Made popular by the best-selling book *The One-to-One Future* by Don Peppers and Martha Rogers, as well as their subsequent writings, one-to-one marketing brought the term *mass customization* into the popular business lexicon, and set the expectation that every customer was unique and thus should be communicated and sold to accordingly.

Part of one-to-one marketing meant engaging customers on a one-to-one basis, not only “pushing” communications out to them via direct mail and Web messages, but recording their comments via surveys, solicitation

of feedback, and even ad-hoc customer conversations. As much as companies needed to start accessing customer information, they also needed to begin recording information about customers in a proactive and sustained way.

Integrated data is increasingly on people's radar, especially management's. Of the information technology (IT) professionals surveyed by Baseline Consulting at the end of 2005, over half claimed that their companies lacked a single, authoritative customer system of record.² Ironically, 77 percent of respondents said that their company executives considered having a "single version of the truth about customers" to be an important issue.

Irrespective of the industry, data integration can have a huge impact. The U.S. Transportation Security Administration (TSA), a division of Homeland Security, had struggled to deploy its Secure Flight program. The program, which was issued a budget of \$81 million for 2006, was meant to prequalify air passengers for faster security screening. This not only means cross-checking passenger information against the data on terrorist watch lists, but combining up-to-the-minute traveler data with established information about terrorists. Secure Flight was controversial because of the privacy concerns, but the technical challenges of mapping real-time passenger data with historical records ultimately grounded it for good. The TSA shut down the program in order to audit its IT systems.

As customer data continues to be distributed across a variety of internal and external data sources, more people are recognizing the need to bring it together. And it's usually these same visionaries who confront how hard that is to do. In survey after survey³ across all the challenges IT executives face, integration is routinely cited as one of the biggest. Not surprisingly, the research firm IDC predicts that the market for data integration tools and services will reach \$13.6 billion by the year 2008.

Simply put, companies' ability to communicate with and support their customers is only as effective as their access to consistent and accurate customer data.

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MANAGEMENT MANDATES CUSTOMER INTIMACY

Customer-focused business trends incite drastic and far-reaching business programs. Executives whose company strategies had previously been entrenched in research and development (R&D) and supply chains were suddenly putting the customer in the middle of every conversation. There were a lot of anecdotes about how far this went. For example, as part of his newfound customer-centricity, the CEO at one of our clients declared a new company-wide policy: if you're in a meeting and within five minutes a customer isn't mentioned, you're free to leave the meeting.

Executives are transcending the tired edicts of the late 1990s (“The Customer is King!”) and advocating more tactical, measurable customer-focused programs in order to drive smarter marketing and higher revenues. The following list of customer-focused business trends represents the core set of initiatives that helped set the stage for many companies' newfound customer-focused projects. Not coincidentally, they also prompted escalating requests among businesspeople for integrated customer data:

- **Personalization.** The emergence of one-to-one marketing combined with a new customer awareness in advertising and brand management circles sparked fresh attention around personalization, the tactic of customizing both written and online communications according to the attributes and behaviors of individual customers or customer groups. Personalization transcended the customized letterhead salutation, relying on customer information like past purchases, sales rep name, or number of customers in a household. These details would then be mentioned in conversations—both by phone and via live Web chat—or in marketing materials and even tailored sales collateral. The desired outcome was for personalized interactions to result in higher response rates.⁴
- **Competitive analysis.** With their newfound goal of customer-centricity, companies slowly came to terms with the fact that they were competing with other companies—not for superior products or more pervasive branding—but for customers. This meant a new pressure to understand what competitors were doing and which

customers they might be targeting. One Baby Bell we worked with in the late 1990s invested millions of dollars in several campaigns to entice new residential customers. Meanwhile, a competing national carrier was laying fiber-optic cable directly underneath the city streets of the Baby Bell's headquarters. The national carrier's cover was blown by the local press, but the Baby Bell ignored the news. The national carrier subsequently launched a campaign to lure away corporate customers, with huge consequences for the Baby Bell.

- **Customer segmentation.** The one-to-one movement made customer segmentation—traditionally based on simplistic attributes like geography—a dirty word. The premise was that the more specific a company's characterization of customers, the better its chances for communicating with smaller groups of customers. Marketing vice presidents saw one-to-one marketing as a way to narrow their customer segments by behaviors and preferences, so that the “households in the Midwest” segment became “empty-nesters in suburban Chicago whose next sequential purchase will be a home equity line of credit.” The more detail the company had about its customers, the more precise the segments could be. With the growing volumes of granular information and advanced data mining technologies, companies are treating their highest-value customers as so-called segments of one.
- **Cross-selling and up-selling.** Cross-selling—that is, selling a different product or service to an existing customer—got traction from various research studies that declared that it was more cost effective to sell products and services to existing customers than to cast the net for new ones.⁵ Hence, executives in sales, marketing, and customer support, and even chief strategy officers, put cross-selling in their strategic crosshairs. The problem was that in order to cross-sell a new product, or to up-sell a better one, companies had to understand the products the targeted customer had already. This meant, at the very least, integrating customer information with product purchase and payment history. In more mature environments, it meant companies running sophisticated product profitability algorithms or propensity-to-buy models. Whatever the specific requirement, the company's

success with cross-selling and up-selling was directly proportional to the variety of detailed data it kept about its customers.

- **Return on marketing investment.** The wake-up call of customer focus meant that large, infrequent mass marketing campaigns were to be replaced with more targeted and more frequent campaigns to smaller customer groups. In some companies, this temporarily raised the cost of marketing, and executives began demanding return-on-investment figures from their marketing staff. Return on marketing investment (ROMI) offers a structured way to quantify the cost and return of individual marketing campaigns in order to pinpoint unsuccessful promotions, leverage the characteristics of successful ones, and refine campaigns to be more successful—and more cost effective—over time.⁶ ROMI also allowed companies to evaluate different marketing ideas based on their anticipated financial returns.
- **Employee productivity.** In the early part of the twenty-first century, executives turned their heads toward cost savings as a means of satisfying surly shareholders. Creating a business case for all new IT initiatives went from desirable to mandatory at most large companies.

CASE STUDY:

ROYAL BANK OF CANADA

Back when Ted Brewer and his team were planning their first CDI (customer data integration) project, the acronym hadn't been invented. There were few if any CDI vendor solutions available. Brewer, vice president of customer information management, had seen the bank's organizational infrastructure change since he joined Royal Bank of Canada (RBC) in 1978, but the business focus around the customer has grown more and more refined with time.

"In 1999 we were well on our way toward relationship management," Brewer recalls. "In fact, we were already thinking about developing client strategies beyond clients' relationship with the bank. We wanted to formulate programs around their total relationship with the organization. So we decided to build a utility to help us corroborate and reconcile all those relationships."

Brewer's customer information management group is a center of excellence that reports into a key business area: Canadian Personal

and Business (CPB), which encompasses multiple RBC companies. In addition to retail banking, CPB spans Action Direct, RBC's discount brokerage firm; Dominion Securities, its full-service brokerage firm; and RBC's insurance organization. The utility, called Enterprise Customer Registry (ECR), reads daily data off the operational systems of these organizations and links customer records using their individual customer information source data.

ECR reads the individual customer information files and reconciles their customer identifiers using a unique matching key. "Once that unique ECR number is available, we can load that data onto our data warehouse and profile to our hearts' content," says Brenda Kydd, Senior Manager of Information Management Infrastructure and Governance. "This lets us learn more about building true cross-enterprise strategies and value propositions." ECR also "closes the loop," updating the data marts in the respective business areas with newly reconciled information for further analysis at the organizational level.

The results have been quantifiable and significant. Toni Molinaro, project manager for client relationship initiatives, explains one of RBC's key discoveries. "We've found that most of our Action Direct clients are referred through our retail bank. ECR showed us a high match rate between the two organizations. In fact, 85 percent of Action Direct clients are also banking clients." The Customer Information Management team has confirmed other cross-selling successes among various RBC companies.

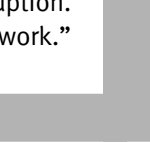
Since cross-selling had been on the radar of executive management, Brewer's team didn't spend much time pitching a CDI value proposition. "When you have the CEO of the company talking about representing the client relationship from an enterprise perspective, not a lot of people argue," says Kydd. "We simply explained ECR's capabilities and assured stakeholders that we wouldn't be usurping their data. No one balked."

Indeed, rather than having to convince the various organizations, one at a time, to buy into the ECR project, Brewer assured them that their existing data and technology would remain untouched. ECR was delivered to the various companies as a service, ultimately sparking their curiosity and engaging them in analyzing information about their customers from across various business areas.

With the various lines of business on board and executive sponsorship secured, what were the organizational challenges that have

become such a hot button in CDI circles? The answer at RBC is: there weren't many. Martin Lippert, the company's chief information officer (CIO), recently summed it up by telling *CIO* magazine: "We have a culture that recognizes that what's in the information vault is as critical to us as what's in the money vault."

Brewer's team has been living this adage. "This isn't about software," he confirms. "It's really about information, and the change management and process management necessary to enable it. The most important pieces were developing the business architecture, understanding the business rules, and avoiding a lot of disruption. ECR didn't cause the businesses any angst. That's what made it work."



DATA BACK IN THE LIMELIGHT

Ask any CEO about an integrated customer view, and odds are he or she will know what you're talking about. In fact, most CEOs can probably even cite the consequences of not having that view or the benefits of having it. Consider the three real-life business scenarios in this chapter.

Each of the scenarios described in this chapter represents either a hazard or an opportunity for the company in question. The common denominator is the ongoing struggle to harness and manage the information they have about their customers.

To top it off, customers are more demanding than ever. They understand as well as the companies they do business with that the competition is only a phone call or a mouse click away. And they've done business with enough companies who have delighted them to understand what being delighted or even satisfied really means. Companies are increasingly at the mercy of savvy, time-strapped customers with more than enough choices about whom to do business with.

Executives are coming to realize that, for many different reasons, their firms have multiple systems housing customer data. With customer data in different silos, the customers themselves had effectively been siloed. This realization takes many forms, none of them pretty. One director of marketing at a large cosmetics company recently explained it this way:

A high-tech company has a strategy of growth through acquisition. The company has been buying smaller competitors for the last several years and is thus growing into existing locations and geographies, consolidating offices, merging into new locations, and acquiring and shedding employees.

Each of the acquired companies has its own list of customers, and shares at least a handful—but more often hundreds or thousands—of customers with their new parent company. Those lists are constantly growing and merging. But no one's actually combined the lists into a single “master” customer list. The parent company's CIO understands that such an activity is fraught with cost and politics. So the company continues to maintain separate customer databases across its subsidiaries and affiliates. The overcharges, duplicate billings, rerouted mailings, and incoming trouble tickets continue to increase.

I already knew that marketing wasn't the only department that had hung the CRM shingle. Customer support was doing its own CRM project, but I figured they needed different information than we did, so I didn't think much of it.

But last year as we were preparing to launch a major new line, I met with the VP of customer support, who told me that his reps were entering information about every retailer that called our 800 number. We had information about retailers, too. But when we compared reports, our lists were totally different. Which one was the right one? Of course, I swore ours was right and he swore his was right. Now we're behaving like we're in two different companies.

It's bigger than just a problem with duplicate customer records—though that in itself is a growing phenomenon as businesses evolve. Having different versions of customer data has been a common problem at companies since the introduction of the relational database, which was easier to implement than its hierarchical and network predecessors, rendering databases easier for laypeople in the business to create without having to rely on their

IT counterparts. This “democratization” of databases contributed to the proliferation of redundant and contradictory data across companies.

The proliferation of duplicate, erroneous, unsynchronized, or just plain missing information is getting worse. And the resulting mistakes—from duplicate catalog mailings to misidentified hospital patients to individuals on “watch lists” slipping through the cracks—can have significant tangible and intangible costs.

Why the crisis in customer information?

The proliferation of duplicate, erroneous, unsynchronized, or just plain missing information is getting worse.

Proliferation of Data Sources

Over the last 15 years or so, database technologies have advanced to the point where providing information to businesspeople has become easier. In the past, a company’s customer database would often represent data that was replicated from the billing or general ledger systems likely to reside on large, expensive mainframes. Yesterday’s monolithic mainframes have

CASE STUDY:

SCENARIO 2

You work for a formerly small drug company which, because of several new medicines that have recently been approved by the U.S. Food and Drug Administration (FDA), has experienced booming growth and a host of large corporate customers. With the onslaught of new accounts, your sales management has become overwhelmed with territory reassignment and account reconciliation. No one knows the difference between “parent company” and “billing entity.” Not to mention that salespeople in certain geographic regions are laying claim to the same physicians and account reps are cannibalizing each other’s sales initiatives. With most of the hospitals and HMOs having dozens of subsidiaries, account assignment is easier said than done.

ceded to more flexible systems and tools. But companies are arguably no closer to controlling and managing their data.

The Data Warehousing Institute reports that a mere 11 percent of companies have consolidated their data across the enterprise.⁷ Clearly, integrating data silos is harder than everyone thinks.

These days, anything from a mainframe to a desktop spreadsheet can be a source of data to one or more users or systems. Start poking around a company of any size, and you'll inevitably find a host of "skunkworks" databases that have been developed on the sly in order to support the workaday demands of well-meaning business users.

Add to that the introduction of so-called packaged applications. Such packaged software represents the alternative to costly and time-consuming custom code that has plagued IT organizations for years and been responsible for so much red ink. Packaged applications offer off-the-shelf functionality that IT developers can supplement using easy-to-learn system development kits. The transition of functionality from "from scratch" to "out-of-the-box" has been a productivity boon to IT organizations.

However, what's good news for development productivity has become bad news for maintenance. Packaged applications from new sales force automation (SFA) tools to enterprise resource planning (ERP) software have spread like wildfire. The time companies have saved in development is now being spent maintaining, enhancing, tracking, and synchronizing these new systems. The likelihood of the packaged application becoming a data silo increases in lock-step with the number of enhancements.

Information technology managers have been very proactive in understanding that the bevy of new systems being introduced into their organizations require data. Project plans account for the fact that, at some point, the new SFA system will need to pull in data from other systems in order to provide centralized contact tracking, pipeline management, and reporting functions, as in Exhibit 1.1.

However, less well understood is the reality that, in addition to needing information from other systems to work, the new application also *generates* new data. Often, the original data sources can also be the destinations for new data produced by the nascent application or system. Other systems in the company, such as the billing system or the general ledger system,

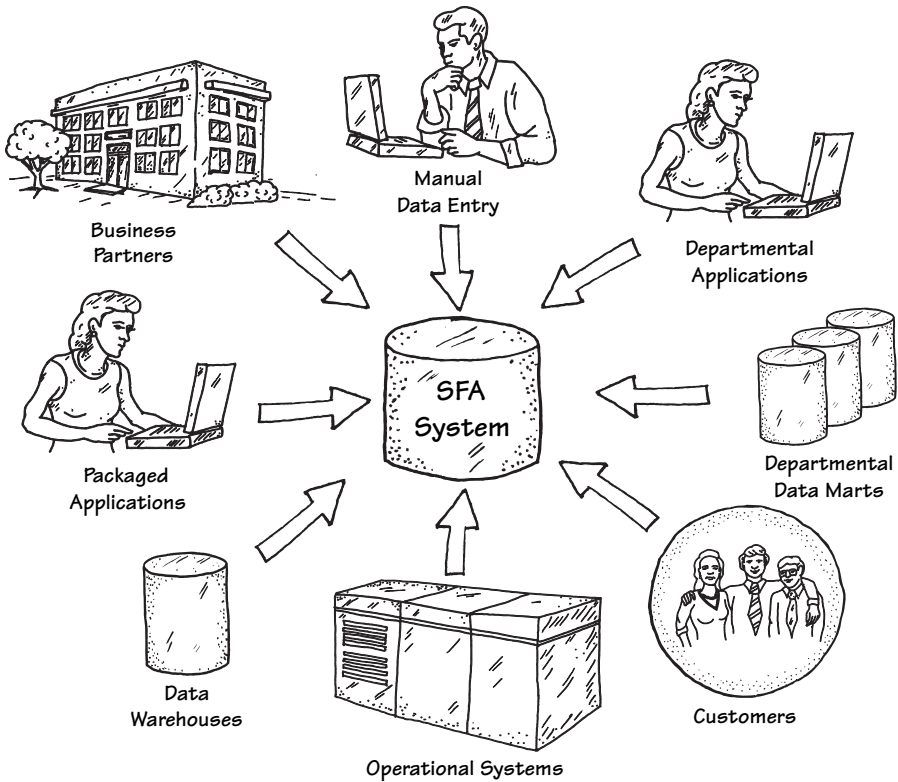


EXHIBIT 1.1 New Systems Require Data

might use new sales orders in their processing, closing the loop between the source and destination systems.

Most companies implicitly treat their data as if it's linear or unidirectional. It comes in through, say, the order entry system and eventually gets parked into a downstream database that functions like a corporate cul-de-sac of information. Occasionally, a business user will have trouble finding a set of customer records and someone in IT will need to write a custom program to extract data from a proprietary system.

The truth is that every company has what we call a *data supply chain*. The term *supply chain* conjures up visions of a life-cycle for a product as it travels from parts acquisition through assembly and on to distribution and sales. The analogy is an apt one for data. As Exhibit 1.2 shows, data actually travels

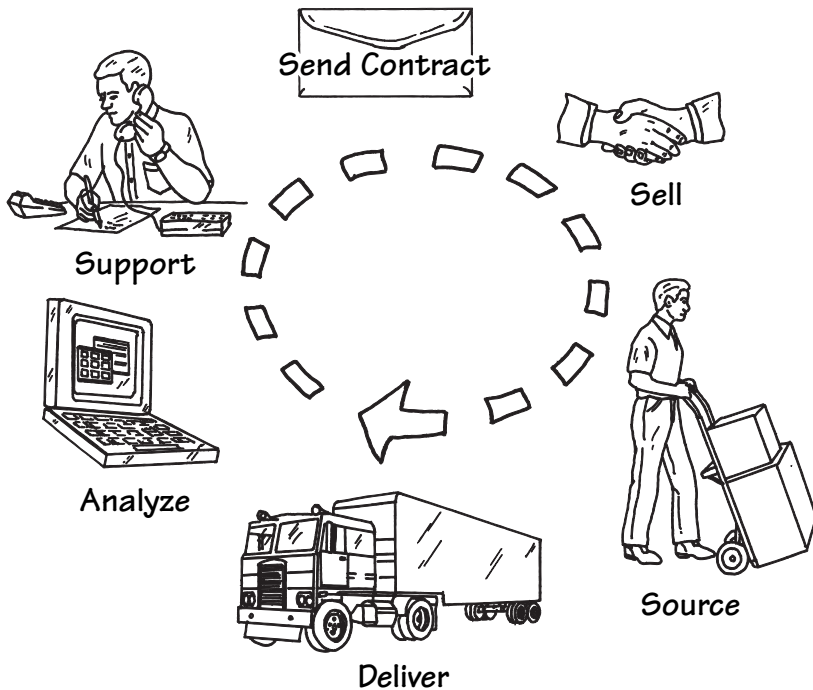


EXHIBIT 1.2 Corporate Data Supply Chain

across the company and is touched by many systems, applications, organizations, and knowledge workers.

The awareness that data isn't static within the organization—indeed, it has a life-cycle—is a big leap for many organizations, but one that more and more are starting to make as they recognize the opportunities for reuse and economies of scale inherent in data integration. The same data element can make its way to almost every organization in your enterprise.

Remember Edward Lorenz and chaos theory? Lorenz said: “When a butterfly flutters its wings in one part of the world, it can eventually cause a hurricane in another.” It's interesting to quantify how many business users e-mail their favorite spreadsheets to other business users. The implication here is that any event, no matter how seemingly insignificant, can have far-reaching implications.

The same data element can make its way to almost every organization in your enterprise.

Ideally, the same version of data passes through the various organizations and business processes uncorrupted. (In Chapter 4 we'll discuss the point that the extent to which a data element is processed by a system or updated by a human is the extent to which it's likely to become corrupted over time.) Companies can put the right infrastructure in place to support the sustainability of their master data, meaning that over time a single version of each customer, order, product, or supplier is available to every individual and system at any time. The practice of synchronizing data across the enterprise is called master data management, and we'll formally introduce it in Chapter 2.

Infoglut

Not only are there more data sources than ever before, there's simply more data. A 2003 University of California, Berkeley, research study⁸ found that five exabytes of data were generated in the prior year. That's the equivalent of 800 megabytes of data for every human being on the planet. The study reported that new information grew at the rate of 30 percent a year between 1999 and 2002. And the data volumes just keep on growing.

New reasons for this explosive growth are everywhere. From Web logs that track every click on every page to Radio Frequency Identification (RFID) tags that can track a product or shipment across the supply chain to unstructured data from e-mails and video, every piece of data is grabbed and stored. Whether the data is kept in customer databases, Web logs, or on large storage area networks, the explosion in data volumes is hitting businesses hard. Most companies use a range of technology solutions to solve their data management and storage needs. Large mainframes, midrange systems, packaged applications, and even PC spreadsheets are considered important data sources for a wide range of business processes.

Vendors of data warehouses and storage area networks are convincing their customers to store more data for longer periods of time, citing the decreasing cost of disk space and increasing processing power and advocating the need for real-time data access. It's no longer uncommon for corporate databases to reach dozens of terabytes in size. There are a few companies with hundreds of terabytes of data. According to one research study, the size of the world's largest databases has tripled every two years since 2001.⁹

Aside from the decreasing technology costs, there are bona fide business reasons for storing greater quantities of data. The ability to track and monitor a customer's every transaction—whether on its Web site, in its stores, or through its call center—can help a company better understand customer needs and preferences. The data must be stored not only to support the processing needs of systems like CRM and ERP systems—which themselves are often accompanied by massive databases—but to represent historical transaction activities. Many companies have a policy of storing three or more years of transaction history online so that they can mine that information to understand customer behaviors before their next innovation.

Regulatory and compliance legislation ups the ante for data storage. For instance, Health Insurance Portability and Accountability Act (HIPAA) legislation forces health care organizations to keep patient records for at least seven years. AMR Research predicted that in 2005 companies would shell out \$15.5 billion on compliance programs.¹⁰ While most of that money has so far gone toward hiring new staff to support compliance, at least a portion of that money will surely be used to capture and store data in support of historical tracking, as well as formalize and automate data security policies.

Ultimately, this infoglut costs companies money. The investment is not only in technology upgrades to support the ever-growing need for storage and access, but in the increasing maintenance of the solutions necessary to provide the data. “Every dollar I spend maintaining and patching my existing systems is one less dollar I have to invest in new, enabling technologies,” a drug company CIO recently confided to us.

It's no wonder that when executives were asked in a recent Accenture survey to cite the biggest problem in forecasting sales, the most popular response was “time required to collect data.”¹¹ Similarly, 58 percent of respondents cited “time it takes to collect the data” as one of their three biggest concerns.

Advent of External Data

Add to the growing data sources and volumes the fact that companies are buying their data from third-party providers like consumer list providers and credit bureaus, and we have a veritable triple-whammy of data growth.

The more data companies have about their customers, it seems the more they want.

Many firms are simply missing basic name and address information from their customer lists. This data can be purchased from companies like Experian and Acxiom in order to augment existing customer lists. In many cases companies may buy external data as a comparison “baseline” against their own consumer data, testing their data against the baseline data at regular intervals in order to monitor accuracy or track address or demographic changes.

Other companies purchase additional data to mitigate risk. For instance, understanding a consumer’s credit history can help a company determine the risk of giving that consumer a loan or establishing a line of credit. Many companies purchase consumer data to use as part of target marketing campaigns, which, when successful, generate more revenue than what they cost. Research has shown that highly targeted e-mails generate better responses than those aimed at more general segments. For most companies with even basic customer databases, the days of expensive and risky “spray and pray” marketing are over. Marketing departments have replaced gut-feel decision making with campaigns based on careful, fact-based analysis on large sets of customer data.

Even companies with mature customer data can enrich it with additional external data, purchased from third-party sources, in order to gain additional knowledge about their customers. Data such as annual household income or car make and model can be purchased from these third-party data providers for a price. Thus, companies have more complete information about their customers, which they can use to perform more accurate segmentation or analysis work.

Regulatory Compliance

We’ll discuss compliance again in this book, but we’re citing it here as another reason customer data volumes are escalating at such a quick clip. The essence of most of the current crop of regulatory measures is accurate and timely reporting of information. Thus, they require companies to not only have that information, but to be able to trace the history of various transactions involving their constituencies. For instance, the Sarbanes-

Oxley Act (SOX) requires the electronic certification of data at various processing points, as well as the capability to provide an audit trail. This means being able to track point-in-time data across its life-cycle. Thus, data location, collection, and tracking are mandates for SOX compliance.

HIPAA requires health care providers to adopt privacy and security standards for patient data. Patients must be able to access—and make corrections to—their own medical records. This means that patient activity and care history should be readily available when needed, rendering the need for additional online storage of this critical information.

The Gramm-Leach-Bliley Act, which regulates the exchange of customer financial records and is also known as the Financial Services Modernization Act, requires that companies be able to identify individual customers yet not use or distribute their personal information without permission.

These and other regulations have heightened the pressure on companies to capture and identify information about their customers in a sustained way, but at the same time keep ever more complete data about these customers as individuals.

The pressure to monitor and track business activities is not only external, but also internal. In a recent Deloitte study,¹² 73 percent of respondents, comprised of executives and board members, claimed that they were under increasing pressure to measure nonfinancial performance indicators for their companies. The need for integrated data across business domains is ever more critical in an environment where executives and board members are faced with growing expectations for accountability. In order to be accountable, company managers need complete and accurate information. And they need lots of it.

WHAT WE DON'T KNOW CAN HURT US

More data. More users. More platforms. More business questions. No wonder companies can't get their arms around information! The results of an Accenture survey published in *Customer Interface* magazine found that 56 percent of executives said that their businesses would grow from 1 to 20 percent if they could gain access to comprehensive customer data.¹³

It takes executives a little while and often some business pain in the form of fines or worse—the threat of jail time—to deconstruct their new business

You work for an HMO and are challenged with the issue of patient compliance. HMOs and other health care providers often struggle convincing patients to fill their medication prescriptions. Providers have found that patient compliance is directly correlated to lower costs and better outcomes, so you want to make sure your patients follow doctors' orders. However, it's imperative that the pharmacist understand the patient's other medications to prevent unpleasant side effects of incompatible drugs being taken together. Looking at the wrong patient record at the wrong time could literally mean life or death.

drivers back to the need for data. But when they do, they understand that, without clean, complete, and auditable data, there's a lot they can't do.

This newfound knowledge leads to the now-common refrain from executives for a "single version of truth" about their customers. They want to know how customers are interacting with their companies, be it by telephone, Internet, or in the brick-and-mortar store. They want to understand what customers are buying, and what they're paying. They want to distinguish between "good" customers and "valuable" ones. They want to map relationships between corporate customers and partners. They want to read and hear customer feedback. And, above all, they want to understand what accounts for the company's profits, and what can improve them.

It's a tall order, especially with the growing sophistication and impulsiveness of the customers themselves. Don Peppers and Martha Rogers bring this point home in their book *Return on Customer* when they say:

The customer will not limit his field of view to our product lineup or brand. If we don't provide service by helping customers to learn not just about our products, but also about the whole variety of ways they can address their needs, then we are simply hiding our heads in the sand and hoping our customers will join us there, at least long enough to give us their money.¹⁴

Jack Garzella: “Let the data drive smarter marketing.”

“E-mail drives 15 to 20 percent of Overstock’s revenues, so it’s a key part of our strategy. We used to send e-mails three times a week to every single customer who’d opted in. To change this, we had to get our three different lines of business to agree on our overarching policies around customer interactions. And we needed to understand what individual customers were doing across those lines of business.

“Now we’re much smarter about how we communicate to our customers. We let them tell us how frequently they’d like to hear from us and give them product recommendations at their desired frequency. We’ve gotten a lot smarter about understanding customers’ click behaviors and purchase propensities. So if you bought an iPod from us, the order confirmation used to be generic. Now we send recommendations on two or three iPod-related products, like earbuds, along with the order confirmation a day after you made the purchase. We’re seeing dramatic improvements in responses and sales.”

Jack Garzella, Vice President of Information Technology Operations, Overstock.com

The authors make the point that customers are a company’s most valuable asset. Thus, understanding customer wants and needs at a detailed and intimate level should be the goal of every executive—indeed, of every company employee. However, neither customer nor employee goals can be met if the company lacks a consistent and up-to-date source of the truth about its customers.

Because companies don’t have consolidated customer information, they can’t:

- Map an individual customer back to a point of service
- Determine which consumers shop across channels
- Optimize partner and reseller referral plans
- Determine their highest-value customers
- Personalize communications with customers

- Individualize customer conversations during real-time interactions
- Understand hierarchies between and across business-to-business (B2B) relationships
- Make sense of encoded or abbreviated information
- Perform effective propensity-to-buy or propensity-to-churn analysis
- Determine “hot” prospects
- Refer customer prospects to the salespeople most likely to sell to them
- Incorporate knowledge of customer history or behaviors into the customer conversation

Success and Failure of CRM

In the early days of CRM, nobody really thought much about data, let alone consolidating disparate customer data to create an authoritative customer view. Back then, managers were much more focused on the software market leader, and on what the customer portal would look like.

The CRM vendors weren’t complaining.

Nowadays, most of those vendors have acquired other vendors or developed their own technologies to facilitate the integration of customer information. They’ve seen their customers fail to deliver successful CRM programs due to the time and effort involved in finding, defining, designing, and consolidating the correct customer information.

The vision of customer data flowing through operational and analytical systems has finally become a reality. So what’s the problem? Well, there are at least five major ones:

They’ve seen their customers fail to deliver successful CRM programs due to the time and effort involved in finding, defining, designing, and consolidating the correct customer information.

1. **Data completeness.** Talk to any businessperson who uses customer data in his workaday job and he’ll tell you that he doesn’t have everything he needs. “What I’d really like to see . . . ,” he’ll confide, and then present a verbal list that is likely to include the customer’s value

score, his contribution percentage, opt-in status, or other hard-to-get or unavailable data. These same users will also discuss their reluctance to make any type of important business decision with partial information, and rightly so.

2. **Data latency.** Since data is so difficult to find, capture, and deploy, it's no wonder that once we get customer data and store it in a database it might already be obsolete. Since many of the methods designed to extract data from its source and load it into a database are batch oriented, the data can be days, weeks, or months old. The frequency of the data loading itself determines how current and relevant it is. Moreover, many companies have operational systems that are unable to provide bulk data extracts in a timely way. If the database hasn't been populated since the beginning of last month, on-the-spot customer decisions or real-time business actions could be risky.
3. **Data accuracy.** In a 2001 research study, Gartner reported on the correlation between a successful CRM initiative and the quality of the customer data involved. The research firm proclaimed that "a CRM solution is only as good as the quality of the customer data that feeds it."¹⁵ Indeed, as we'll see in Chapter 3, data quality and accuracy can make or break a range of strategic business programs, including—but not limited to—CRM.
4. **Data management.** Companies are only now realizing that data integration and propagation are not one-time-only activities. The data itself needs to be understood, defined, and managed in an ongoing way using formalized processes (see Chapter 6), and involving a range of specialized skill sets.
5. **Data ownership.** "Who owns the customer data?" is a common question. But it's a genuine one, and the answer is most of the time more than one organization or individual. The greater the number of cooks in the data kitchen, the more diluted the data stew becomes, to the point where it has no taste. It's a question worth asking, and it deserves an answer. (We answer it in Chapter 6.)

With all the gurus and pundits advocating executive sponsorship, integrated customer data is bigger than one executive in one department. It

must span multiple organizations and, when done correctly, data should be integrated to support a range of functions, projects, and business needs across the company at large.

CASE STUDY:

AARP

The AARP complex in Washington, D.C., could be mistaken for the headquarters of any huge commercial conglomerate. But halfway between the White House and the Capitol, the largest advocacy organization in the United States is the workplace for people with a higher purpose. That's certainly true of the organization's CIO, Tony Habash.

Talk to Habash for half an hour and you'll hear more about America's baby boomer population than you will about computer systems. Like his fellow executives, Habash is intent on strengthening AARP's relationships with its members, all 36 million of them. "Someone turns 50 every eight seconds," Habash explains. "AARP's goal is to enrich the life of every member and potential member."

That's a lot of member data, particularly when you consider that AARP has an extensive network of partners that includes health care options, technology partners, home security providers, and cruise lines, among others. "When we considered all the partners in our network, it was clear we had a gap in our understanding of our members. We want to know the entire person. But there are hundreds of different potential touch points with a member in a given year. We actually have this huge map of touch points that spans an entire wall."

Although AARP had a marketing database and could track its escalating membership—its target marketing has one of the industry's highest response rates—it nevertheless struggled to understand the breadth and depth of those relationships. For instance, the firm understood that it had three million members who had benefited from the health insurance product, but it couldn't tell whether those members had participated in AARP community events or advocacy efforts.

"Our marketing strategy has been fairly generic," confirms Sami Hassanyeh, Director of Application Development for AARP. "Although we have some segmentation capabilities, they are not specific to the

individual. So it doesn't tell us how a member wants to tailor the relationship. You can be a member, a philanthropist, a volunteer, and an advocate. There are many potential characteristics about you that we'll be filling in over time."

Hassanyeh's team built a set of custom Web services that allow their other operational systems to access member details. This allows the diverse operational systems—including those in different AARP business divisions, partners, and call centers—to evolve and expand while retaining ongoing and consistent access of member detail. The goal is to have the member data de-duplicated, matched, and merged into a centralized address book and presented via a service-oriented architecture (SOA). Part of the data reconciliation involves appending additional data to member records as they're processed.

Hassanyeh points out the differences between mere personalization and CDI capabilities. "You can get a personalization engine, but if you don't have ongoing data consolidation and matching, the personalization engine won't be worth much. Getting the data as integrated as we can is a huge piece of our strategy." Indeed, the program is so strategic that Habash has secured additional funding to build out CDI functionality under the umbrella of the company's Member Relationship Management (MRM) program.


"The more the person engages with us—whether it's benefiting from the products, accessing information from our Web site, or participating in advocacy efforts—the greater the likelihood they'll remain a member," says Habash. "When we start engaging with people based on their interests and needs, that's much more powerful than simply sending out a renewal reminder. When we included relevant, personalized messages with our renewal mailing, our renewal rates rose substantially. We are building deeper long-term relationships with our members."

More relevant member interactions are only the tip of the iceberg for Habash and his team. The organization is extending its MRM strategy to its Web presence and is developing a strategy focused on recognizing members as they access the Web and finding ways to dynamically offer relevant content based on the member's lifestyle, life stage, and the issues he or she chooses to participate in with AARP. The goal is for the Web site to become the de-facto online resource for everyone over 50.

Besides its ability to help AARP know its members better, CDI also promises to help the organization's rebranding efforts. "We're

redefining aging for the country and moving away from the ‘old people’ label and toward being an enabler of positive social change for people and their families. We’ve got a very trustworthy brand, so our focus on delivering quality, relevant information is consistent with that brand.”

Habash maintains that AARP has already started to see significant return on investment from its member reconciliation capabilities. But, more importantly, the capabilities have become part of the corporate vocabulary. “We want to strengthen the position of the organization in the market to drive positive social change in the country with you, for you, and on your behalf. This has been one of our core philosophies since we started almost 50 years ago. The data has enormous value in helping us with this. Not a day goes by when I don’t hear someone discussing MRM in the hallway.”



Beyond CRM: CDI Takes Center Stage

It’s remarkable how often CRM—the aim of which is to increase profitability through customer loyalty—results in the opposite: lost, disaffected, or downright angry customers. CRM should provide the processes and controls to support a company’s newfound customer-focused strategy.

We’ve all seen companies that claim to have done CRM but that nevertheless send duplicate mailings, cannibalize their own sales, or market to customers on the Do Not Solicit list. Even as CRM has transcended the proverbial early-adopter phase and hit the mainstream, it seems it’s only getting costlier and more difficult. In fact, in their efforts to deploy the heralded “quick win,” many companies sacrificed a robust back-office infrastructure that could have made CRM sustainable for the long term.

While businesspeople were navigating their new CRM dashboards, the IT department was busy praying that no one would notice the customer data was wrong. Or misrepresented. Or redundant. Or not there at all. The faulty business decisions, contradictory information, overextended salespeople, and irked customers all pointed back to a single root cause: the customer data is bad.

CRM is now officially a commodity. Seventy-five percent of executives surveyed by Bain & Company claimed their companies were using CRM.¹⁶ Most companies have—finally—challenged the prevailing folklore and delivered successful customer management capabilities. Indeed, if a CRM system applies automation to customer-focused business processes and analytics, then most companies have several CRM solutions in place.

But there's a wide gap between the rhetoric and the reality of CRM. For one thing, many managers assumed integration capabilities in their CRM solutions that never existed.

Surveys over three consecutive years by research and consulting firm CSO Insights revealed that respondents considered “Populating/Maintaining Data” as the toughest challenge encountered in their CRM implementations. Jim Dickie, partner with CSO Insights, summarized the firm's findings, explaining that “CRM data management is often woefully under-budgeted, and so the thought of adding to the expense of a CRM initiative may seem unattractive to many. To those who balk at the idea of adequately funding this key task, I ask a question in return: If you think CRM data is an expensive investment, what's the price of ignorance?”¹⁷

Customer data integration is formally defined in the next chapter, but for our purposes it might be helpful to look at CRM as “vertical” and CDI as “horizontal.” This means that CRM might solve one or more specific business needs, say, segmenting customers for more effective target marketing.

Exhibit 1.3 illustrates a financial institution's CRM portfolio, and the data subject areas it calls upon from its various operational systems.

There are lots of other application-to-data interactions in this portfolio—the illustration would look like spaghetti. Suffice it to say that it's a complex collection of processes and information.

CDI, however, is horizontal, meaning it's a set of tools, functions, and standards for providing integrated customer data across the application and organizational landscape—including, but not limited to, CRM. This means that CDI offers an authoritative view of the customer not just to a single system, but to the company as a whole. Authoritative customer data from CDI encompasses the myriad versions of customer information, as shown in Exhibit 1.4.

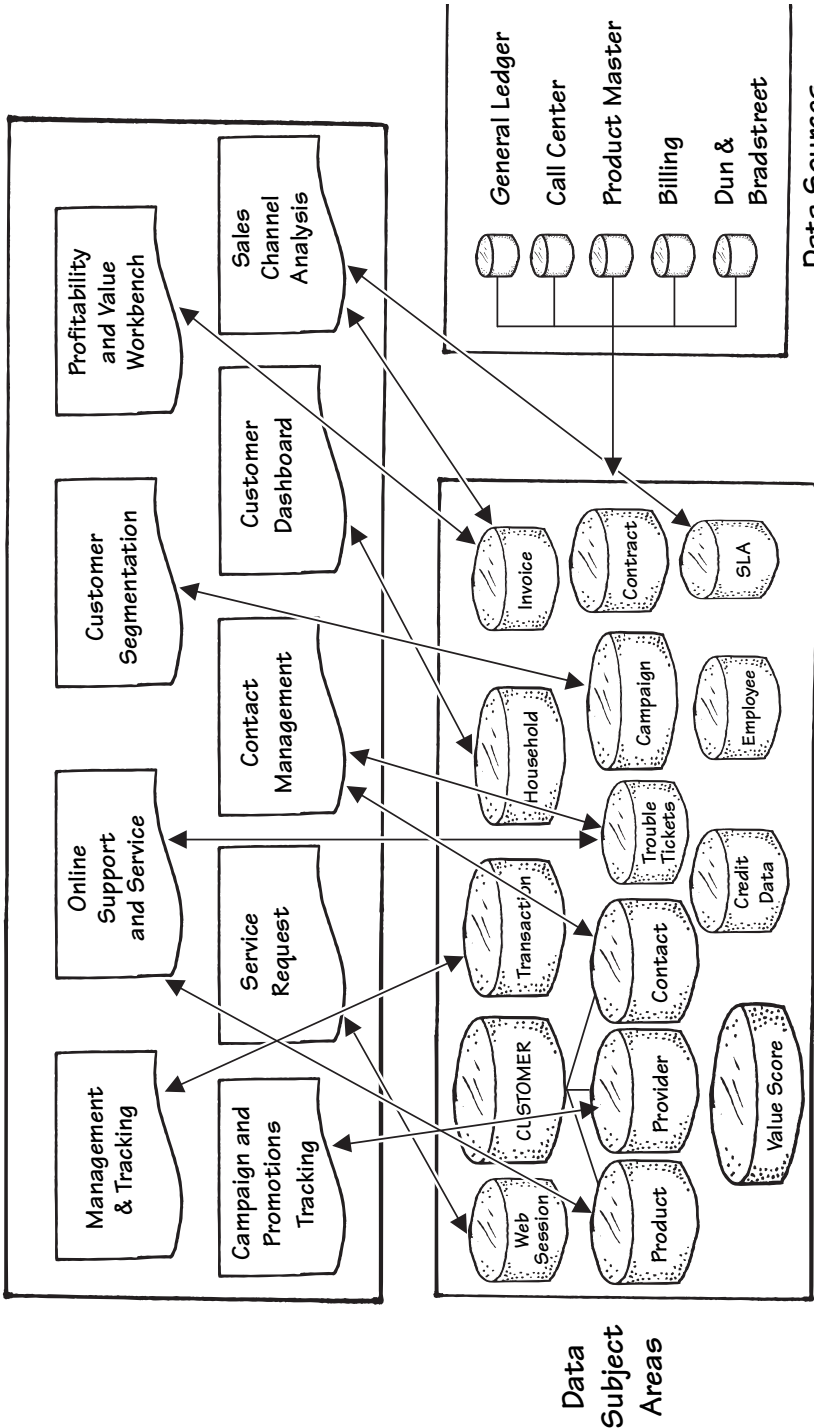


EXHIBIT 1.3 A Company's CRM Portfolio and the Data It Uses

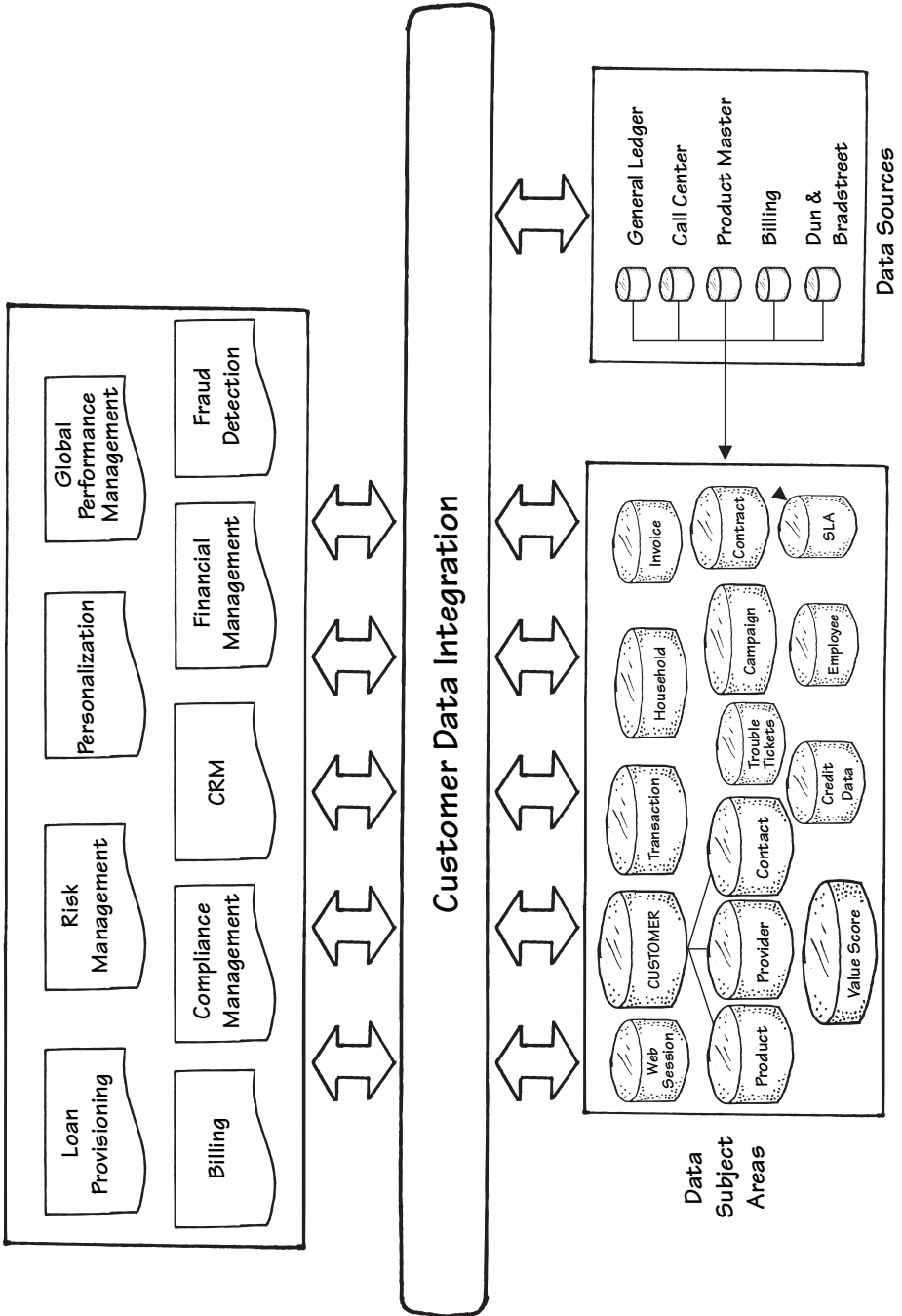


EXHIBIT 1.4 CDI Reconciles Data

CDI reconciles data as it travels across systems, checking the data and applying rules to prepare and avail it for a range of functions and uses. You can think of CRM as one or more of the little train cars that goes into the cave to carry the gold out. CDI is the gold mine.

Why does the distinction matter? Because many well-meaning CRM sponsors assumed that their CRM systems would take care of cleansing, matching, and merging disparate customer data from different systems. They assumed that the new CRM packages would become their companies' de-facto single version of the truth about customers. In fact, though, the new CRM applications quickly became so many new data silos, thus exacerbating the problem that there was no authoritative system for customer data.

No one foresaw that new CRM systems could become part of the problem. Many executives only realized how bad the issue was when they heard about the resulting business inertia (“We can’t merge the sales territories because we don’t know how to map customers to new account types”) or because political infighting signaled customer ownership or data usage problems.

CDI AND CRM: A RAPPROCHEMENT

Many executives are still scratching their heads over the differences between CDI and CRM. Some imagine CDI to be a *subset* of their CRM infrastructures, in which the single view of the customer is created and managed. While this can be true, it’s also rare since most companies have diverse sources of customer data, and moreover lack the necessary technological skill and rigor to create and maintain their customer hubs.

Others imagine that CDI *encompasses* CRM and other programs, and they’re right, too. After all, a solid customer hub created via CDI should ultimately represent a company’s de-facto customer system of record and thus be valuable to a greater landscape of applications and programs than just CRM.

Both philosophies have merit. If, at its core, CRM is the collection of methods, skills, technologies, and strategies to get a company’s customers to engage and re-engage, then CDI is a vehicle for capturing and understanding who those customers are in a structured and permanent way. In

our research, fewer than 20 percent of the companies that claim to have CRM also have CDI. The inverse, though, is close to 100 percent.

Either way, most companies that have implemented CDI share a common trait at the outset: they lack the necessary processes and controls. What about your company? Here's a short quiz to determine whether your company has CDI:

- Does your company agree, by and large, on a common definition for customer?
- Are customer hierarchies agreed upon and stored in a usable and accessible way?
- Can businesspeople retrieve information about specific customers when they need it, with little lag time or latency?
- Is there clarity around the availability, quality, latency, and sources of customer data between the business and IT?
- Does IT have service-level agreements in place that define the metrics for acceptable customer data and its accessibility?
- If understanding customer behaviors in real time (for instance, which of our corporate customers added a new line of business to their order today?) is a business requirement for your company, are you there yet?

In his book *Living on the Fault Line*, author and strategist Geoffrey Moore discusses the four value disciplines: operational excellence, customer intimacy, product leadership, and disruptive innovation.¹⁸ Moore says that in order to achieve competitive differentiation, a company must “overachieve” in at least one of these areas. He even coins the term *customer relationship innovation* to convey the commoditization of off-the-shelf CRM.

Data integration has evolved from an isolated, project-based activity that was unplanned or unexpectedly complex to a strategic issue. Executives are now acknowledging that data is the lifeblood of the companies' relationships with their customers.

If your company's executive management has declared a customer-focused strategy in the last several years, as have most of the *Fortune* 1000,

CDI could mean crossing the proverbial chasm between CRM and the customer intimacy that every executive is now determined to attain.

MANAGER DO'S AND DON'TS

It's early in the book, but even so here are some do's and don'ts to remember as you begin your own education about CDI, and begin planting some political and organizational seeds in favor of its adoption:

- **Do** understand the business “need, pain, or problem.” Opportunities for integrated customer data are usually revealed by some capability the business is lacking. For instance, “we can't roll up our list of financial partners fast enough to meet regulatory reporting requirements.” Understanding the business's pain points and how CDI can help address them might also ensure adequate funding. (More on this in Chapter 8.)
- **Don't** assume that integrating customer data is simply about consensus building. An executive of a Web retailer recently told us that he understood there were many different silos containing customer data, but he felt he could facilitate agreement among his management team on which one was the “best” one. Not only was this decision fraught with politics, the “best” system was nevertheless still missing key customer information—and so, consequently, was the company.
- **Do** research the potential customer impact. Your company might not be interacting with key customers because it doesn't know they exist, or assumes they're part of the wrong hierarchy. Worse, your salespeople could be overcommunicating with valuable customers and driving them away. Knowing how having a single source of the customer truth will help your customers will provide you with the “mutual benefit” argument: having an authoritative system of certified customer data will help both the company and its customers.
- **Don't** think that reengineering business processes will fix the problem. Even the tightest sales process or call center script is only as good as the data available to the people putting it into practice.

- **Do** designate a single, objective person to do reconnaissance. Anecdotal examples are helpful, but no substitute for a real-life set of requirements, or a bona-fide CDI business case.
- **Don't** automatically call your CRM vendor. Although many CRM vendors have solutions or partnerships intended to solve the CDI problem, the business problems that call for integrated customer data are so diverse that a CRM vendor's answer may not be the right one for you.
- **Do** admit your ignorance. The first step many executives take is to educate themselves on the different types of CDI solutions in order to understand at a deeper level which one is the best fit at their companies. Chapter 2 should serve as an effective CDI primer.

■ E N D N O T E S

1. *Recency, frequency, and monetary analysis, otherwise known as RFM, is a classic marketing technique that indicates how recently a customer interacted with the company, how frequently she does so, and how much money she spends. Although such analysis has been replaced at many firms with more sophisticated lifetime value scoring, RFM analysis remains a prevalent way for many companies to determine the relative value of their customers.*
2. *Survey conducted by Baseline Consulting at The Data Warehousing Institute World Conference, Orlando, Florida, in November 2005. Full survey results can be seen at www.baseline-consulting.com/resources/default.aspx?doc=Nov2005CDISurvey.htm§ion=surveysresource.htm&offer=empty.htm.*
3. *For instance, a 2005 InformationWeek research survey asked 120 business technology professionals the major reason for the adoption of a new technology. Half chose the reason: "Legacy systems couldn't be cost-effectively integrated."*
4. *A 2004 study from Rochester Institute of Technology found that personalized marketing drove response rates 34 percent faster than the average rate of response; a 48 percent increase in repeat orders; and a 32 percent increase in overall revenue.*
5. *Jill wrote about cross-selling and up-selling as part of a wider marketing automation effort in The CRM Handbook: A Business Guide to Customer Relationship Management (Addison Wesley, 2002). See pages 31–32.*
6. *For more information on ROMI, see Sunil Gupta and Donald R. Lehmann's book Managing Customers as Investments: The Strategic Value of Customers in the Long Run (Philadelphia: Wharton School Publishing, 2005).*

7. Wayne Eckerson for *The Data Warehousing Institute*, In Search of a Single Version of the Truth: Strategies for Consolidating Analytic Silos, August 2004. See www.tdwi.org.
8. Peter Lyman and Hal Varian, U.C. Berkeley School of Information Management and Systems. The study reported that the Internet has 17 times the data stored in the U.S. Library of Congress.
9. Study done as part of WinterCorp's TopTen™ Program, which monitors the ten largest production databases. The 2005 winner was Yahoo!, which has over 100 terabytes on its Oracle database.
10. AMR Research, "Spending in an Age of Compliance," March 2005.
11. 2004 Accenture study of finance executives. See: www.accenture.com/xd/xd.asp?it=enweb&xd=_dyn%5Cdynamicpressrelease_785.xml.
12. Deloitte in cooperation with the Economist Intelligence Unit, "In the Dark: What Boards and Executives Don't Know about the Health of Their Businesses," 2004.
13. Customer Interface, September 2002.
14. Don Peppers and Martha Rogers, Return on Customer: A Revolutionary Way to Measure and Strengthen Your Business (New York: Currency/Doubleday, 2005), p. 31.
15. Gartner Research report, "Customer Data Quality and Integration: The Foundation of Successful CRM," November 2001.
16. A Bain & Co. survey in April 2005 of 960 executives found that CRM was more common than either balanced scorecard or supply chain management.
17. Jim Dickie and Barry Trailer of CSO Insights, "Sales Performance Optimization: 2006 Survey Results and Analysis." See www.csoinsights.com/page/page/868315.htm.
18. Geoffrey Moore, Living on the Fault Line: Managing for Shareholder Value in Any Economy (New York: HarperCollins, 2000). See Chapter 5.