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Customer Data Quality: Roadmap for Growth and Profitability

June 2007

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Executive Summary

New Aberdeen research reveals that customer data quality is a sales and marketing leadership issue. In surveying over 400 organizations, Aberdeen found that over 70% of Best-in-Class firms are driven to improve customer data quality by competitive and profitability pressures. This report examines the metrics, processes and technology that Best-in-Class firms use to gain a competitive advantage from their customer data.

Best-in-Class Performance

The Aberdeen Group used three key performance indicators (KPIs) to distinguish Best-in-Class, Average and Laggard organizations.

- 94% of Best-in-Class firms reported improvement in customer data integrity (accuracy, completeness, consistency),
- 95% of Best-in-Class firms reported improvement in usability of customer data,
- 89% of Best-in-Class firms reported positive performance in the time necessary in preparing customer data for business line use.

Leading organizations that deploy, benchmark and refine customer data quality initiatives are four times more likely than Laggard organizations to report gains in customer, organizational and revenue key performance indicators (KPIs).

While IT plays a major role in the customer data management process, customer data quality is definitely a sales and marketing issue.

Organizations must adopt adequate audit points and training to ensure that the customer data management process is driven by the business side.

~Arun Kumar
IT Manager
Global Shipping & Logistics LLC

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics:

- 100% of Best-in-Class firms invest in data collection, cleansing, and analysis.
- 94% of Best-in-Class firms invest in data process management.
- 80% of Best-in-Class firms incorporate assignment of accountability strategies for customer data quality to a data steward or manager.

Required Actions

In addition to specific recommendations outlined in Chapter 3 of this report, companies must take the following steps to achieve Best-in-Class performance:

- Customer data quality is a learning-by-doing endeavor. Firms must take steps towards comprehensive customer data quality programs by adopting small-scale efforts, such as point solutions, and establishing benchmarks to iteratively refining the process.
- Best-in-Class organizations experience improvements in customer, organizational and revenue performance. Firms undertaking customer data quality efforts must measure KPIs to determine the ROI from their customer data quality initiatives.
- The Best-in-Class are more likely to invest in baseline technology enablers, such as data cleansing and analysis, as well as investing in modernized information infrastructures. Firms wishing to achieve Best-in-Class performance must invest, or budget, for these investments now.

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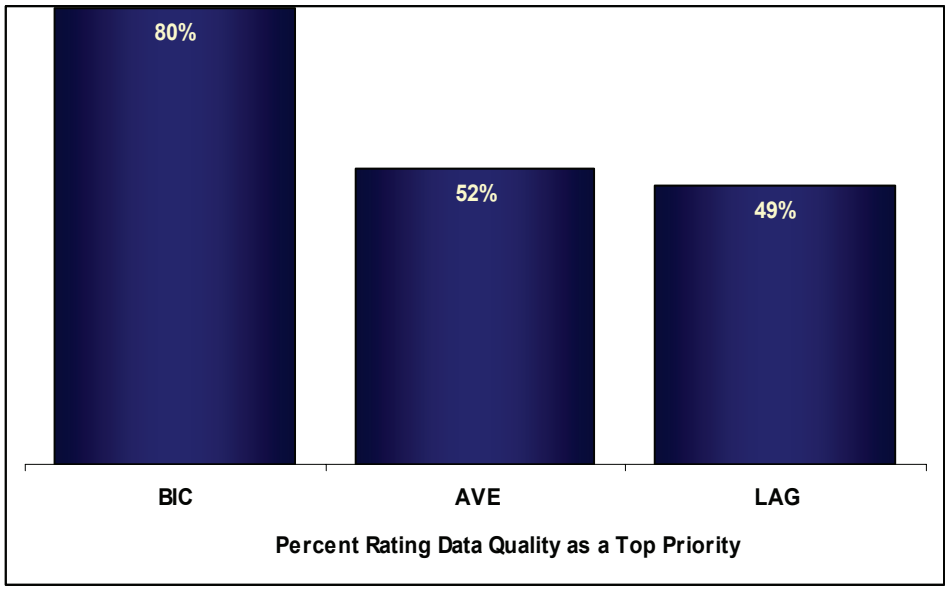
Chapter One: Benchmarking the Best-in-Class

Customer data quality has become a top sales and marketing leadership issue. The Aberdeen Group found that 70% of top performing organizations identified competitive and revenue pressures as the leading drivers for customer data quality programs. Companies at all levels of maturity are concerned about growth and revenue, but the Best-in-Class have realized that data quality is a key source of competitive differentiation. As such, Best-in-Class (80%) organizations are significantly more likely than either the industry norm (52%) or Laggards (48%) to consider data quality initiatives a top priority (Figure 1).

Figure 1: Priority of Data Quality Initiatives



Source: Aberdeen Group, June 2007

Fast Facts

Best-in-Class firms are:

- two times more likely to report improvements in customer related metrics (retention, growth, satisfaction) than Laggard firms,
- five times more likely to report improvements in managing data quality operations (time saved accessing data, time saved through automation), and
- two times more likely to report improvements in revenue metrics (up-selling, cross-selling).

Maturity Class Framework

Aberdeen used three KPIs to distinguish Best-in-Class, Average and Laggard organizations: 1) customer data integrity (accuracy, completeness and consistency), 2) usability of customer data and 3) time necessary in preparing customer data. Based on this benchmarking method, Best-in-Class, Average and Laggard organizations were segmented as follows (Table 1):

Customer data quality pertains to the value of customer data for business-line use via factors such as usability, completeness, consistency, format, relevance, timeliness.

Table 1: Top Performance Earn "Best-in-Class" Status

Maturity Class Definition	Mean Class Performance
Best-in-Class: **Top 20%** of aggregate performance scorers	• 94% reported improvement in effectiveness of data integrity • 95% reported positive performance in usability of data • 89% reported positive performance in time necessary to prepare data
Industry Average: **Middle 50%** of aggregate performance scorers	• 37% reported improvement in effectiveness of data integrity • 41% reported positive performance in usability of data • 33% reported positive performance in time necessary to prepare data
Laggard: **Bottom 30%** of aggregate performance scorers	• 5% reported improvement in effectiveness of data integrity • 6% reported positive performance in usability of data • 1% reported positive performance in time necessary to prepare data

Source: Aberdeen Group, June 2007

Best-in-Class PACE Model

With growth and profitability as the single biggest pressure, companies at all levels of maturity understand that they must begin to automate more of the customer data management process and broaden access to customer intelligence across organizational silos. More than others, the Best-in-Class have begun to link operational, customer and revenue KPI's to data quality initiatives, as well as assign ownership for delivery to a designated role. However, the distinctive differentiator has been the Best-in-Class' enabling of technologies.

Table 2: Best-in-Class PACE Framework

Pressures	Actions	Capabilities	Enablers
• Growth and Profitability	• Automate more of the customer data management processes • Broaden access to customer intelligence across all front-office functions	• Measurement and oversight of operational, customer, revenue KPIs • Assign accountability for execution (i.e. a "data steward" role) • Process to build cross functional data quality goals, priorities and workflows • Pilot programs and benchmark evaluations	• Enterprise data and information management solutions • Data collection, cleansing, analysis tools • Modernized architectures • Archiving, storage tools • Extraction, transformation and load tools

Source: Aberdeen Group, June 2007

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Aberdeen Insights – Integrating for Quality

Customer data management does not start and end with customer data quality. Organizations must also focus on the bigger picture. The research reveals that Best-in-Class companies are also focused on data integration; ninety-two percent of Best-in-Class firms cited customer data quality as a key priority, while 95% indicated customer data integration as a key priority.

How Best-in-Class firms address customer data quality and integration also suggests a linkage between the two priorities. Best-in-Class firms plan consistent strategies for addressing customer data quality and integration, citing broadening access to customer information and increasing automation of data management.

The prominent customer data management processes that the Best-in-Class use to develop cross-channel work flows and assign accountability for optimized customer data quality are applicable to customer data integration; furthermore, the top technological solutions of enterprise customer data management and data integration hubs are just as relevant to the issue of optimizing customer data quality.

There is a strong correlation between customer data quality and business performance. Improved customer data quality draws improved customer experience, making it easier for organizations to leverage up-selling/cross-selling with less time and data management costs.

~John Flipse,
Quality Manager, Sajan, Inc.,
River Falls WI.

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Chapter Two: Benchmarking Requirements for Success

Best-in-Class firms know that organizational capabilities and technological enablers go hand-in-hand. Approaching customer data quality as a process that requires continual analysis, benchmarking and refinement leads to differentiation in the areas of customer, organizational and revenue performance.

Case Study – Die-Tech, Inc.

Die-Tech is a firm based in York Haven, Pennsylvania that specializes in precision metal stamping. The company serves the aerospace, automotive, electronics, medial, military and telecommunications industries. Die-Tech assigns top priority to its customer data quality efforts for competitive growth. According to Richard Dennis, Senior Manager at Die-Tech:

> *We're a small company. We believe that our growth has been inhibited by our inability to leverage technology enablers to help us utilize our capacity more effectively. There continues to be a need for a better flow of information, higher quality of data, to more effectively meet customer needs and respond to environmental changes.*

Similar to other organizations, Die-Tech sees customer data quality impacting bottom-line business performance. Dennis detailed to Aberdeen how customer data quality affects a range of business related areas*: "The reason we collect, analyze, distribute, and improve the quality of customer data is to impact business performance. Up-selling/cross-selling and innovation go hand-in-hand with retention and satisfaction. Being able to do that quickly and effectively impacts time, and therefore revenue."*

Managing customer data is a difficult and continuing process, where successful organizations "learn by doing." Die-Tech plans on rolling-out a pilot program to benchmark, analyze and define the capabilities, enablers and processes important for its customer data quality needs. "*We've had much more success in any project we undertake by starting small, using a pilot program or prototype, then using that information collected to refine expectations, metrics,"* Dennis continues. To address its customer data quality concerns, Die-Tech plans to broaden access to customer information across the organization and increase automation of customer data management. The firm plans to assign accountability for customer data quality while implementing cross-channel workflow processes. Technology solutions Die-Tech plans to leverage include enterprise data management solutions, data archiving and storage tools and data collection-cleansing-analysis tools.

Fast Facts

Best-in-Class current and planned adoption of organizational capabilities:

- 80% Accountability for execution (data steward/ manager)
- 80% Operational KPIs (metrics measurement, oversight)
- 79% Process to build cross functional consensus about goals, priorities, workflows

Best-in-Class current and planned adoption of technological enablers:

- 88% Enterprise data and information management
- 84% Data collection, cleansing and analysis tools
- 75% Data archiving and storage tools

Competitive Assessment

Survey respondents fell into one of three categories – Laggard, Industry Average, or Best-in-Class — based on their characteristics in five key categories: (1) process (ability to detect and respond to changing customer data quality needs), (2) organization (corporate focus and collaboration among stakeholders), (3) knowledge (contextualizing customer data), (4) technology (selection or appropriate tools and intelligent deployment of those tools) and (5) performance management (ability of organizations to measure the benefits of technology deployment and use the results to improve key processes).

Table 3: Competitive Framework

	Laggards	Average	Best-in-Class
Process	Invest in data collection, cleansing and analysis		
	71%	**92%**	**100%**
	Invest in data process management		
	64%	**88%**	**98%**
Organization	Strategy for Customer Data Quality Accountability (data steward/ manager)		
	27%	**53%**	**83%**
	Strategy for Cross functional consensus on goals, priorities, actions		
	28%	**56%**	**79%**
Knowledge	Operational KPI Strategy (measurement, oversight of data management)		
	31%	**64%**	**81%**
	Pilot program, benchmark evaluation strategy		
	26%	**48%**	**79%**
Technology	Technology investment strategies		
	• **35%** Enterprise data and information management • **32%** Data collection, cleansing and analysis tools • **42%** Data archiving and storage tools	• **61%** Enterprise data and information management • **70%** Data collection, cleansing and analysis tools • **66%** Data archiving and storage tools	• **88%** Enterprise data and information management • **84%** Data collection, cleansing and analysis tools • **75%** Data archiving and storage tools
Performance	Measurement of customer-related KPIs (measuring growth, retention, satisfaction)		
	62%	**85%**	**89%**
	Measurement operational KPIs (measuring time saved in data access and automation)		
	55%	**82%**	**89%**
	Revenue Metrics Measurement (measuring up-selling, cross-selling)		
	51%	**77%**	**84%**

Source: Aberdeen Group, June 2007

Nearly 100% of the Best-in-Class invest in managing the customer data cycle and data collection-cleansing-analysis, an indication of the importance of customer data quality to their businesses. Furthermore, Best-in-Class firms adapt their organizations for managing the customer data quality process by

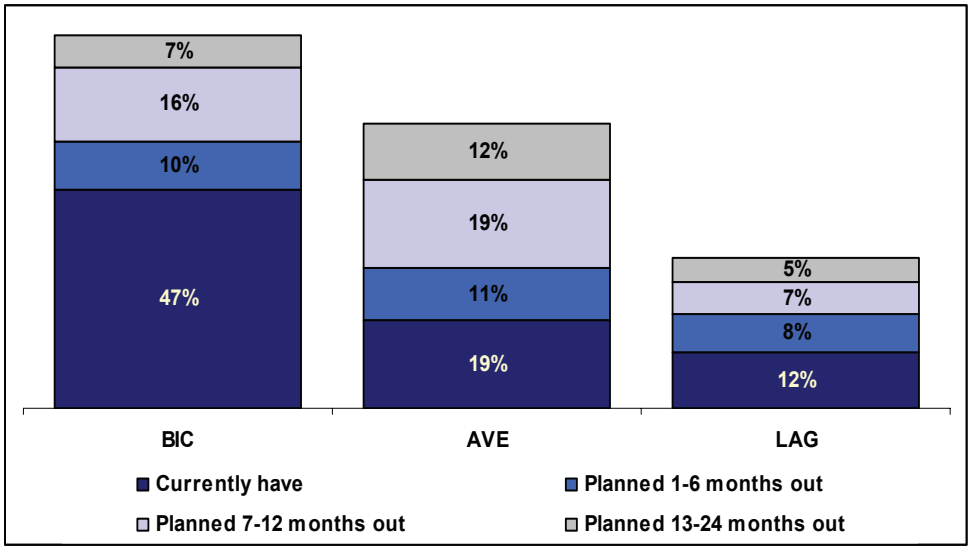
integrating accountability and cross-functional workflows into their customer data programs at roughly three times the rate of Laggards.

Organizational Capabilities and Technology Enablers

The importance that Best-in-Class organizations place on customer data explains the adoption of certain technology enablers. For example, roughly 62% of Best-in-Class firms that leverage customer data for customer centric planning and strategies deploy data collection-cleansing-analysis and data archiving-storage tools (compared to 30% of Average firms and 19% of Laggards). In fact, roughly one-third of Laggard firms do not budget for data collection-cleansing-analysis tools.

The majority of Best-in-Class deploy "point" solutions (80%) to address their data quality challenges, whereas the Average and Laggards are predominately still in the planning phases (Figure 2).

Figure 2: Implementation of "Point" Data Quality Solutions



Source: Aberdeen Group, June 2007

Through pilot/benchmark programs, the Best-in-Class are also significantly more likely to take a measured approach when implementing technological enablers (Figure 3). For the most part, Best-in-Class firms are focusing investments on data collection and analysis tools (94%), enterprise data management solutions (91%) and data archiving and storage tools (90%) (Figure 4).

Poor quality and incomplete customer data definitely impacts on sales and marketing activities. A company might have to give more time and efforts to communicate with right targeted customer or market- as a result, poor performance of the company. The philosophy and objective to maintain customer data should be business driven. To effectively manage the data should be IT lead.

As the company I work for provides IT services to international clients, customer data management is of paramount important to understand the customer's market and business. Poor customer data shall lead design of wrong services processes for customer which can throw customers' daily operations out of gear.

Customer data quality is more of a process oriented. To some extent data management can be automated something like developing an software application which monitor the data but largely its a process oriented.

Vishwanath Rao
Project Leader, L&T Infotech

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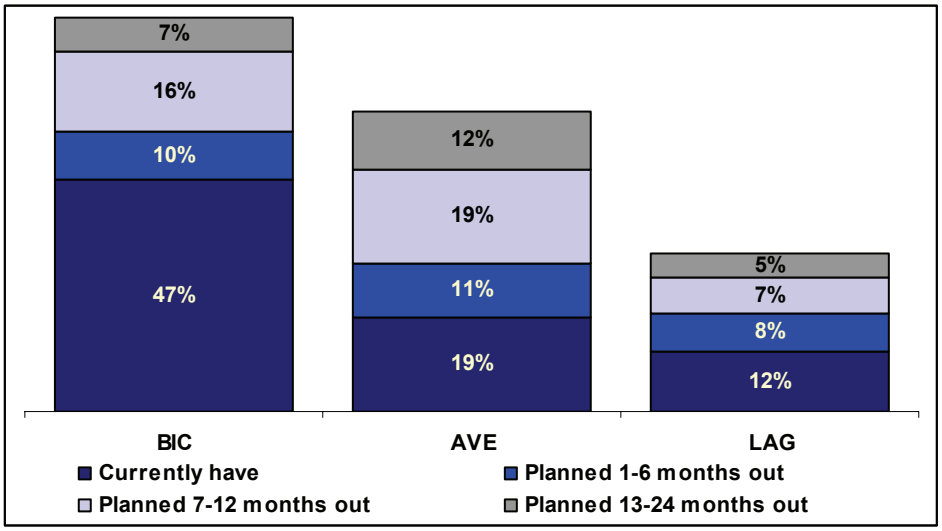
Figure 3: Implementation of Pilot Programs



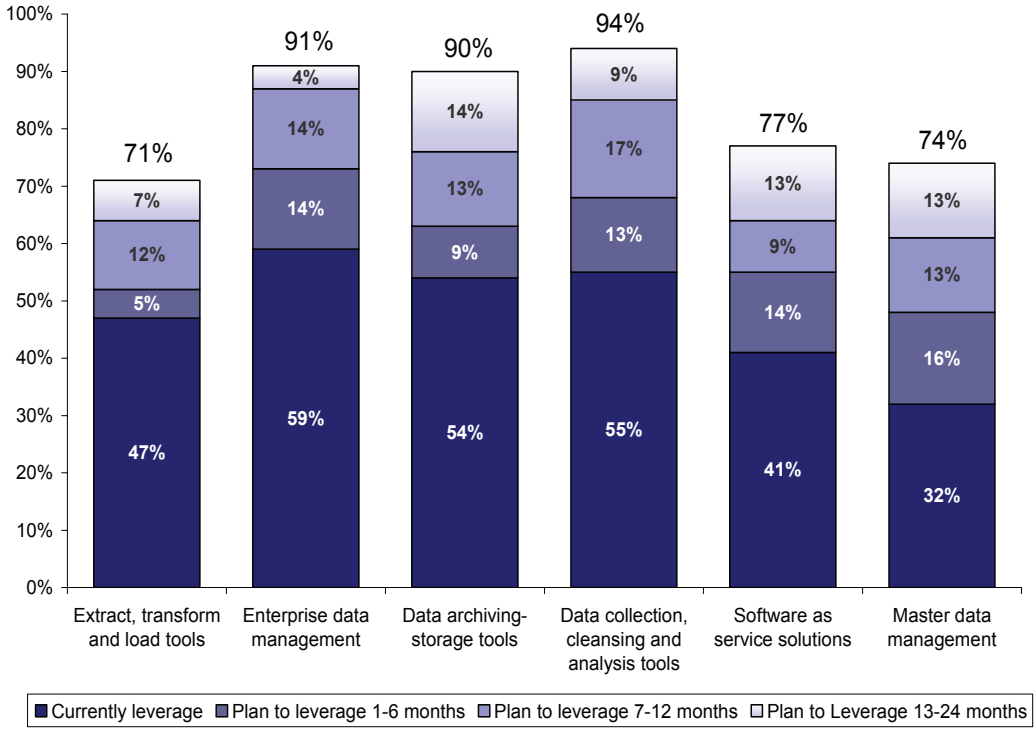
Source: Aberdeen Group, June 2007

Organizational capabilities must be in place first to take advantage of either under utilized existing technology or to determine the path to obtaining the correct technology.

If organizations don't deploy organizational capabilities with technical enablers, they won't be able to leverage the enablers effectively enough to make the desired quality difference and realize the appropriate return.

~Anonymous

Figure 4: Best-in-Class Future Use of Technology



Source: Aberdeen Group, June 2007

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Aberdeen Insights – The Importance of Measurement

The Best-in-Class does not approach customer data quality with a blind eye. Approximately 80% of these organizations have feedback loops to benchmark and refine their customer data management efforts through pilot programs and operational KPIs. Nearly 90% of Best-in-Class organizations then measure the effectiveness of customer data quality with customer, program and revenue performance. Laggards leverage pilot programs, benchmarking programs and measure operational KPIs at almost 30% the rate of the Best-in-Class.

The process management, organizational accommodation and metrics measurement of Best-in-Class firms corresponds with their adoption of technology, allowing the Best-in-Class to leverage these technical solutions more effectively. Top performing organizations were nearly three times more likely to deploy technologies such as data collection-cleansing-analysis tools to automate the customer data process, and these companies were three times more likely to assign accountability for overseeing customer data quality to a designated role.

Average firms are good at measuring and investing in the right places but need to incorporate organizational capabilities and technical solutions into customer data quality. Average organizations did not lag substantially behind the Best-in-Class for business metrics measurement, nor investment in the data cycle and process management. However, average firms drop-off in benchmarking mechanisms, adapting their organizations for customer data quality efforts, and adopting technical solutions.

Average organizations perform moderately in measuring and investing, but they need to leverage organizational capabilities before technical solutions. Laggard organizations perform moderately in measuring business metrics and investing in data collection-cleansing-analysis and the data management process. However, the rate at which Laggards adapt their organizations to customer data and deploy mechanisms for benchmarking, such as pilot programs, makes their use of technical solutions less effective in optimizing customer data quality.

Our customer database has become a key competitive advantage. However, the value of the database does not only depend on the number of records but more on their data quality.

There is no magic solution to data quality; it must be put in the center of the company – part of day-to-day business processes.

~Derlin Mputu Kinsa,
Business Intelligence
Manager, Teleroute –
Wolters Kluwer Transport
Services

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Chapter Three: Required Actions

To improve the effectiveness of their customer data quality programs, firms must decide what mix of organizational capabilities and technological enablers suits their needs.

Laggard Steps to Success

- **Deploy small-scale customer data quality programs**. Smaller-scale programs are the first steps towards divisional and enterprise customer data quality programs. Nearly 80% of Best-in-Class firms deploy, or plan to deploy, a benchmarking program within a year, compared to only 28% of Laggards.
- **Assign accountability for customer data quality oversight**. Seventy percent of the Best-in-Class leverage, or plan to leverage, a customer data steward in the next year, with Average firms not far behind at 54%. Only 27% of Average firms currently, or plan to, assign customer data quality accountability in the next year, half the rate of Average firms.
- **Adopt baseline technologies for customer data quality**. Data collection-cleansing-analysis tools are the first step in optimizing the data cycle. Fifty-three percent of Laggards have no plans to adopt these enablers in the next two years, compared to only 23% of Best-in-Class and Average firms combined. Laggards must reconsider this lack of investment if they wish to obtain Best-in-Class results.

Industry Norm Steps to Success

- **Speed up adoption of small-scale customer data quality programs**. In the next 12 months, Average firms will meet current levels at which the Best-in-Class deploys point solution, pilot and business unit customer data quality programs; however, they will continue to lag behind the Best-in-Class unless they increase their rate of adoption.
- **Leverage operational, strategic and technological KPIs**. Average firms barely surpass Laggards in current adoption of KPIs. Using KPIs for benchmarks and feedback loops will improve the learning experience and consequently improve the effectiveness of customer data quality efforts.
- **Adopt data collection-cleansing-analysis tools.** Average firms are six months behind the Best-in-Class in adoption of data collection-cleansing-analysis tools. This enabler directly ties to Average firms' top strategic actions of optimizing customer data collection-cleansing- analysis and automating the customer data process.

Fast Facts

- 48% of Laggards cited optimizing the data cycle (collection, cleansing, analysis) as a strategic action, yet only 16% have adopted data collection-cleansing-analysis tools.
- Only 13% of Average firms currently leverage a pilot or benchmarking program, which may make it difficult to raise their 16% adoption rate of operational, strategic and technological KPIs.
- Best-in-Class firms align technology KPIs and technology adoption. 45% of Best-in-Class firms leverage or plan to leverage in six months technological KPIs, roughly similar to their current and planned technology adoption.

Best-in-Class Steps to Success

- **Increase adoption of cross-channel workflow processes**. Only 39% of Best-in-Class firms currently deploy cross-channel data management processes, which is directly relevant to Best-in-Class firms' use of enterprise data management tools and strategic action of broadening front-office access to customer intelligence.
- **Measure technological KPIs.** Thirty-eight percent of Best-in-Class firms have no plans to adopt technological KPIs or plan to do so outside of one year. As Best-in-Class firms strive for their goal of increasing automation of customer data, technological KPIs must accompany new adoption of technological solutions. Technologies will only be useful as technological KPIs benchmark their bottom-line value to organizations' customer data quality.

Aberdeen Insights – Summary

Organizational capabilities such as KPIs and technological enablers go hand-in-hand. Comparing adoption of KPIs and technologies such as enterprise data management solutions, organizations across all business segments appear to understand the importance of putting the two side-by-side. However, a deterrent to organizations implementing the right KPIs relates to pilot and benchmarking programs. Current and planned adoption of these programs for Best-in-Class, Average and Laggards stands at 79%, 49%, 25% respectively. Only Best-in-Class firms' pilot and benchmarking program adoption is greater than their planned leverage of KPIs.

- 87% of Best-in-Class firms currently adopt or will adopt in the next year enterprise data management solutions, while an average 77% of these firms currently or will adopt within one year operational , strategic and technological KPIs.
- 61% of Average firms currently adopt or will adopt in the next year enterprise data management solutions, while an average 54% of these firms currently or will adopt operational, strategic and technological KPIs in that time.
- 36% of Laggards currently or will within one year adopt enterprise data management technologies, while an average 29% currently or will adopt operational, strategic and technological KPIs .

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Appendix A: Research Methodology

In May 2007, Aberdeen Group examined the customer data quality practices of over 400 enterprises.

Respondents completed an online survey that included questions on:

- Primary drivers behind customer data quality initiatives
- How organizations responded to the need for improved customer data quality
- Organizational capabilities adopted for successful customer data quality programs
- Technological enablers leveraged by successful customer data quality programs
- Differentiation between customer data quality programs that resulted in superior customer, organizational and revenue performance.

Aberdeen supplemented this online survey effort with telephone interviews with select survey respondents, gathering additional information on customer data quality strategies, experiences and results.

The study aimed to identify emerging best practices for data quality, as well as provide a framework by which readers could assess their own management capabilities.

Responding enterprises included the following:

- **Job title/function:** The research sample included respondents with the following job titles: 23% C-level and upper executive, 26% vice president or director, 37% manager or consultant.
- **Industry:** The research sample included respondents who competed in the following industries: 31% high technology, 14% finance related, 12% computers and peripherals, 10% education, 10% telecommunications, 9% transportation, 8% healthcare services, 8% public sector, 8% media/publishing, 7% automotive, 7% insurance/ real-estate/ legal services, 7% retail, 6% construction/ architecture, 6% engineering, 6% industrial manufacturing, 5% distribution, 5% pharmaceuticals, 5% utilities, 4% consumer durable goods, 4% consumer electronics.
- **Geography:** Respondents represented the major regions of the world, including 62% North America, 20% Europe, 13% Asia-Pacific, 3% Middle East and Africa, and 2% South America.
- **Company size:** Organizations represented included 45% small firms (under $50 million annual revenue), 32% mid-sized firms (between $50 million and $1 billion annual revenue) and 22% large enterprises (over $1 billion annual revenue).

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Table 4: PACE Framework

PACE Key
Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as: ***Pressures*** **--** External forces that impact an organization's market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive) ***Actions*** **--** The strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product/service strategy, target markets, financial strategy, go-to-market, and sales strategy) ***Capabilities*** **--** The business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products/services, ecosystem partners, financing) ***Enablers*** **--** The key functionality of technology solutions required to support the organization's enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)

Source: Aberdeen Group, June 2007

Table 5: Maturity Framework

Maturity Framework Key
The Aberdeen Maturity Framework defines enterprises as falling into one of the following three levels of practices and performance: ***Best-in-Class (20%)*** **--** Customer data quality practices that are the best currently being employed and significantly superior to the industry norm, and result in the top industry performance. ***Industry norm (50%)*** **--** Customer data quality practices that represent the average or norm, and result in average industry performance. ***Laggards (30%)*** **--** Customer data quality practices that are significantly behind the average of the industry, and result in below average performance In the following categories: ***Process*** **--** What is the scope of customer data quality process management? What is the efficiency and effectiveness of this process? ***Organization*** **--** How do organizations adapt to optimize customer data quality? ***Knowledge*** **--** What kind of measurements and information do organizations leverage in customer data quality programs? ***Technology*** **--** What level of automation have you used to support this process? How is this automation integrated and aligned? ***Performance*** **--** What is the bottom line for customer, organizational and revenue performance?

Source: Aberdeen Group, June 2007

Table 6: Relationship between Pace and Competitive Framework

PACE and Competitive Framework How They Interact
Aberdeen research indicates that companies that identify the most significant pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance a company achieves is strongly determined by the PACE choices they make and how well they execute.

Source: Aberdeen Group, June 2007

Appendix B:
Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report include:

- Master Data Management in Data Migration (Apr 2007)
- Customer Data Management: How Leaders Attain Tangible ROI (Jun 2006)
- Customer Data Management: Selecting the Right Approach (May 2006)
- Customer Intelligence Management: Converting Data to Profits (Dec 2005)

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.

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