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Retail Contactless Payment Systems Benchmark Report

Improving Customer Retention & Loyalty

January 2007

— Underwritten, in Part, by —

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Executive Summary

Contactless payment systems are approaching the 'tipping point' of adoption in retail. After numerous pilots and implementations in the last three years, the continued pressure to improve the customer shopping experience is prompting retailers to adopt this technology. Our research shows that 58% of all respondents across multiple retail classifications indicated that they plan to implement contactless payment solutions within the next 18-24 months. However, just as in the case of RFID technology, RF-based contactless payment technology will cross the 'tipping point' of adoption in retail only when enterprises start measuring and using contactless transactional data in their internal processes and systems to attain the real 'ROI'. Aberdeen has defined tipping point as a series of lifecycle milestones in a technology's evolution.

Aberdeen defines contactless payment systems as an emerging technology that enables faster cash-less payment transactions through the use of smart-card embedded forms or mobile-carrier based technology. The primary focus of this report is to detail the factors impacting the adoption, use and the effectiveness of this emerging technology with a specific focus on RF-based contactless form factors that are currently being deployed within retail. This benchmark report demystifies the technology options, reveals ROI factors, and provides a roadmap to best practices in the development, management and optimization of a contactless solution.

Key Business Value Findings

Within 24 months, 58% of all survey respondents indicated they will have a contactless payment system in place. Of this group, 28% of respondents have said that they will adopt the solutions within 1 year and 30% of the enterprises within 1-2 years.

Close to 30% of the retailers who indicated that they have already adopted and deployed contactless payment systems. The response is even more encouraging for the contactless industry as a whole as all the major contactless technology standards are expected to grow exceedingly well over the next two years. All contactless standards areas are expected to attain double-digit growth within the next 1-2 years. This includes both traditional standards like ISO 14443 and alternative contactless technologies like carrier-based mobile.

"We want to provide measure of convenience and security for those of our customers that are interested in contactless services".

-A CXO Executive, U.S. based Supermarket Chain

The top risks of contactless payment systems were identified by respondents as the rate of customer adoption and performance of contactless payment devices. While Best-in-Class respondents cite lack of customer response to this technology as their biggest risk, responses from the average retail enterprises have shown that they are most concerned about the poor performance of the equipment that enables contactless payments. The risks are closely linked with the challenges facing retailers around the technology adoption and further execution at the store-level. The underlying challenges for retailers are

POS systems integration, check-out associate training; developing a critical mass of en-rollees to make service economically viable.

Implications & Analysis

Despite the risks and challenges, retailers cite compelling business pressures that are driving them to adopt contactless systems. These pressures include the need to improve customer transaction volume and developing a competitive differentiation that can push financial results towards overall bottom line improvement.

Respondents have said that they are not using the results of their contactless solutions in their internal processes or systems. Almost half the retailers, who say they have adopted contactless payment systems in their enterprise, are not measuring the impact of contact-less systems on their value chain (Figure 1). While 60% of respondents indicated that lower customer transaction time is one of the top benefits of contactless systems, the findings show that 47% of respondents do not use contactless transaction data in any sys-tem or process. An even bigger concern emanates from the fact that 80% of retailers do not use the contactless transactional data in any Business Intelligence (BI) application. This information can directly help them improve their strategic decisions around building POS efficiencies, labor management and sales.

Figure 1: Contactless Transaction Data in Retail
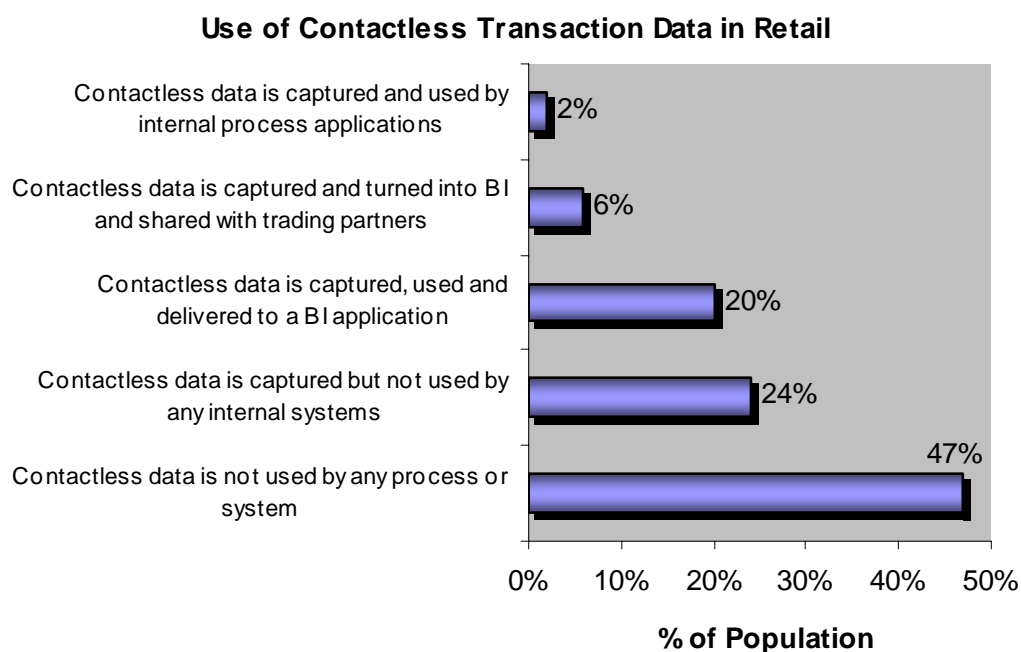
Source: Aberdeen Group, January 2007

Recommendations for Action

Companies must evaluate their processes to ensure they effectively accomplish the following:

- Develop a contactless POS strategy that can create a sustainable competitive advantage. Plan a phased implementation program through strategic partnerships. Assessment areas for integration must include: hardware, software, security, training and transaction-related areas.

- Review ROI, cost-benefit, customer, regulatory and security factors that can enable the planned investment and implementation of a contactless payment system chain wide. These systems co-exist with the traditional forms of payment. In terms of short-term ROI, measure program effectiveness in terms of a 10% improvement in cost of transactions and 15% reduction in labor costs during peak selling seasons.

- Move towards this POS technology through pilots in select retail outlets in multiple geographies. Base the selection criteria for pilot outlets on average transaction time, customer satisfaction and key sales demographics. This will ensure risk assessment and a more effective execution across other outlets.

- Measure POS results in terms of increase in customer satisfaction, sales volume, transaction size and time, reduction in transaction costs and increase in cash-less transaction sales.

- Prepare to test for at least two quarters and check for a 20% improvement in the throughput rate and a 10% improvement in customer satisfaction at the POS during the same period.

- Draw comparisons between contactless data and traditional transactional data to improve tactics in throughput, lane assignments, labor control and cost of transaction. Create the means to integrate transactional data into an enterprise business intelligence application for strategic planning purposes.

- Design a customer communication strategy with your technology and service partners to help educate retail customers on the benefits of this technology. This will help drive the customer adoption to higher levels.

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Chapter One:
Issue at Hand

Key Takeaways

- The landscape for the next 18-24 months shows higher levels of adoption rates for several contactless technologies. Double-digit growth rate expected for all contactless standards.

- RF-based contactless payment systems are approaching the "tipping point" in adoption.

- Capturing, usage and delivery of contactless transactional data within the retail enterprise is an area of opportunity. For ROI purposes, the path towards measurement of contactless effectiveness needs to be determined and applied.

- Customer centricity and competitive differentiation are the chief drivers of contactless adoption. Firms want to find ways to counter the risks and expense factors that can help them overcome the integration tasks.

C ontactless payment systems are a platform that accepts payment forms with embedded smart card technology. These payment forms can be used to make purchases in the retail, transit or hospitality outlets without any physical contact with a payment clerk. The carrier technologies for this technology are radio frequency (RF), infrared, carrier based mobile and bluetooth technologies. These systems enable payment from customers through account-based payments, stored-value payment or traditional credit or debit transactions.

The forms that are largely used globally are credit, debit, contactless gift cards as well as key fobs and wrist watches. Mobile-carrier based contactless payment systems is the other major contactless form factor that is emerging through pilots and trials.

Aberdeen defines contactless payment systems as an emerging technology that enables faster cash-less payment transactions through the use of smart-card embedded forms or mobile-carrier based technology.

In order that the card-based form factor is applied in a retail format, a typical platform for this technology includes an RF reader or sensor, POS integration software or RF adapter to enable the processing of contactless transactions at the point-of -sale (POS) terminal.

Competitive Framework Key

The Aberdeen Competitive Framework defines enterprises as falling into one of the three following levels of practices and performance:

Laggards (30%)—practices that are significantly behind the average of the industry

Industry norm (50%)— practices that represent the average or norm

Best-in-Class (20%) — practices that are the best currently being employed and significantly superior to the industry norm

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Has Contactless Penetrated the Retail Enterprise?

So far contactless adoption in retail has been characterized by design and pilot phases that have turned into full-blown deployments in the last 1-2 years.

Specifically, small and mid-market retail segments have seen increasing adoption. Broader adoption within large-scale retail enterprises has been a challenge as retailers struggle at the crossroads of financial results and high efficiency sales and service.

Prior Aberdeen research from March 2006, The New Retail Differentiator: Making Extended Points of Service a Reality, has pointed to the combination of using customer facing applications that are store and field management specific and related- business intelligence as a solution to the service efficiency conundrum that retailers face.

> "Small and mid-size retail has seen several trials and adoption in the last 1-3 years. A bigger penetration into large-scale retail is the next business challenge facing all of us".
>
> -Project Lead, Contactless Initiative- Major credit association.

Within 24 months, 58% of all survey respondents indicated they will have a contactless payment system in place. Of this group, 28% of respondents have said that they will adopt the solutions within 1 year and 30% of the enterprises within 1-2 years. Close to 30% of the retailers indicated that they have already adopted and deployed contactless payment systems.

The response is even more encouraging for the contactless industry as a whole as all the major contactless technology standards are expected to grow exceedingly well over the next two years. All contactless technology solution areas are projected to attain double-digit growth within the next 1-2 years. This includes both traditional standards like ISO 14443 and alternative contactless technologies like carrier-based mobile (see Table 2).

From the survey data it can be noted that 26% of retailers with more than $1 billion in annual revenues (large-scale) also known as tier 1 retailer, have indicated that they are considering a contactless initiative in the next 12-24 months.

This statistic, other indicators of industry standards and the gradual increase in adoption levels (see Figure 2) point to the notion that the "tipping point" of adoption for this customer facing technology is not far.

However, the tipping point of an emerging technology like contactless systems has one more significant barrier to cross before it is safe to say it has moved to the mainstream. This barrier is related to the actual use of contactless transaction data within the retail enterprise.
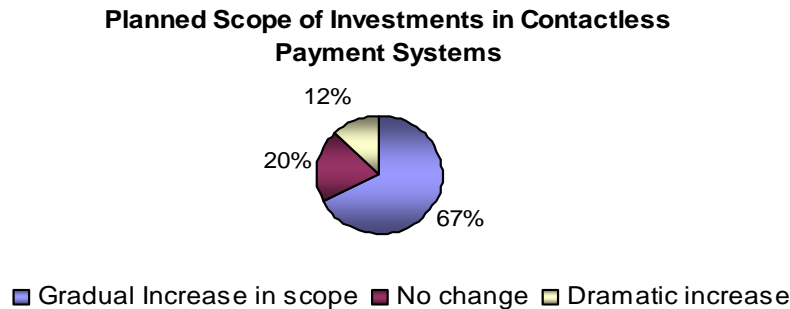
Retail organizations have a lot of work ahead in terms of using contactless data in their internal processes and systems. Besides, improving sales and operational retail metrics, the true value of contactless ROI is in the use of contactless data within enterprise BI applications that helps provide direction to the strategic planning process.

Figure 2: Adoption Levels in Contactless Solutions are on the Rise

Planned Scope of Investments in Contactless Payment Systems

12%

20%

67%

☐ Gradual Increase in scope ☐ No change ☐ Dramatic increase

Source: Aberdeen Group, January 2007

Has Contactless Reached the "Tipping Point"?

RF-based contactless solutions are a micro-level POS technology which has a macro-level retail service impact. In December, 2005, Aberdeen produced a report to measure an emerging technology's tipping point, called: Finding the Technology's Tipping Point, citing six significant milestones that would have to be achieved before it was safe to say that the tipping point was reached. A year since then, all but one has come to pass.

- Standards have emerged;

- Pilots have been shown to be scalable and replicable;

- Retail industry, transit and government initiatives have gained acceptance and begun to achieve their adoption goals;

- Enterprise technology vendors offer products and services to support the technology and translate it to a larger audience;

- Analytics and software application vendors that have product offerings that takes advantage of a wide range of Contactless capabilities. This milestone has not reached optimum levels of acceptance within retail;

- And an ever increasing number of retailers are announcing Contactless initiatives, not to mention many other industries that have discovered and begun adopting the technology.

Before contactless solutions can attain the tipping point in adoption, analytics emanating out of contactless transactions is an area of significant opportunity for retailers. The survey data shows that 80% of retailers do not use contactless transactional data in any Business Intelligence (BI) application. This information can directly help them improve their strategic decisions around building POS efficiencies, labor management and sales. The data indicates that 6% of "Contactless" retailers are holding true to the rigorous pro-

gram of incorporating contactless transaction data for use in their business intelligence solution. Currently, close to half the retail enterprises are not comparing the transaction time, volume and sales data between traditional payment transactions and contactless transactions. Collating and interpreting transaction data can help retailers' measure effectiveness of contactless systems in the check-out process, impact on sales and margin, and customer satisfaction.

The ROI of a contactless initiative depends greatly on the business problem, the approach taken, commitment of the organization to leverage the technology, and the ability of the enterprise to turn the contactless transaction data into business intelligence.

Contactless Objectives Driving Adoption

The pressure of sales and service has a hand in the objective description of retail contactless payments. Customer centricity is at the heart of the retail enterprise objective to adopt contactless payment systems. 51% of Survey respondents have cited a better customer experience process as a prime driver behind their contactless plans (Figure 3).

A big majority of Best-in-Class respondents, 80%, said that better customer experience is the main objective behind their contactless strategy. Only 23% of the laggards in retail felt that a better customer experience process was important objective for them. This reflects on their lack of process focus on customer facing technologies.

> We wanted a new store experience that would quickly identify our customers, provide a contactless gift card for quick transaction and increase business from our repeat customers- Wes Herman, Woods Coffee, Lynden, Washington

Customer-centricity is the most popular objective for retailers, however, the importance of operational impact of contactless solutions was not entirely overlooked by retailers. POS process optimization was the second choice for retailers in deciding their contactless objectives.

Overall, 10% of all respondents felt that POS process efficiency is their main driver for their objectives. Aberdeen defines process efficiency as a more consistent flow of resources to and from the front-end, less cash handling and providing the retail consumer with an option to pay with a card for low value cash purchases with minimal or no contact at check-out.

The POS process efficiency response was more common among supermarket and department stores. These respondents have said that streamlining of internal process and the role of field management should be given due importance when it comes to the planning and execution of contactless payments.

Figure 3: Objectives Propelling Retailers to Adopt Contactless Payments
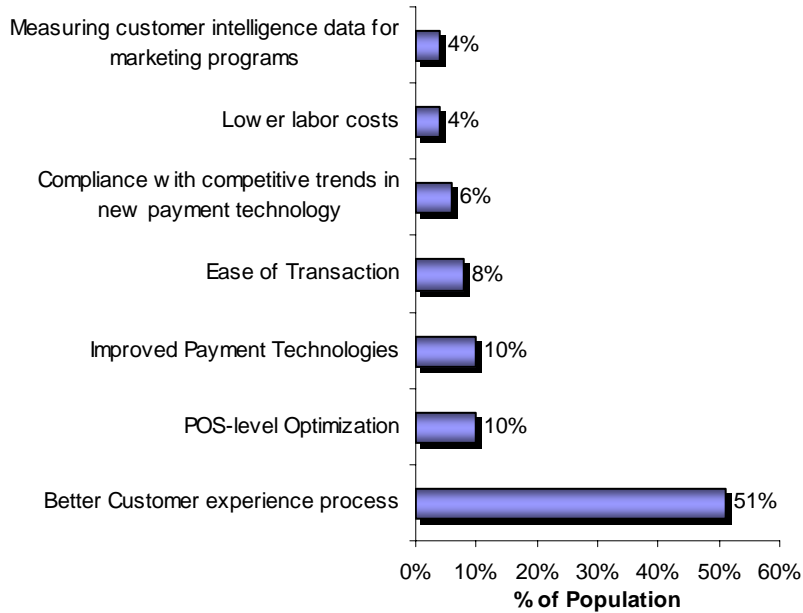
Source: Aberdeen Group, January 2007

Transaction Volume & Differentiation are Key Retail Pressures

> **PACE Key — For more detailed description see Appendix A**
>
> *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 follows:*
>
> *Pressures —* external forces that impact an organization's market position, competitiveness, or business operations
>
> *Actions —* the strategic approaches that an organization takes in response to industry pressures
>
> *Capabilities —* the business process competencies required to execute corporate strategy
>
> *Enablers —* the key functionality of technology solutions required to support the organization's enabling business practices

The June 2005 Aberdeen Benchmark retail report, The Empowered Point of Service: The Customer Reclaims Her Kingdom, shows that a top pressure driving retailers towards customer facing touch point applications such as self service environment was the fact that time-starved customers will not wait in line and that retailers must increase customer service without increasing labor costs.

Respondents to the contactless survey have cited more specific and compelling business pressures that are driving them to adopt contactless systems.

The findings have shown that the chief pressures prompting retailers are the need to improve customer transaction volume and developing a competitive differentiation through these solutions that can push financial results towards overall bottom line improvement. When it comes to the top three pressures prompting retail enterprises to adopt

contactless payment systems, it is noteworthy that in figure 4 below, that Best-in-Class, average and laggard retailers are all feeling the same levels of pressures at the field management level. Particularly for the average and laggard retailers, the pressure of increased transactional volume is directly related to topline attainment, which in the absence of operating efficiencies is the key to survival.

These pressures relate to a common chain reaction that field management and associates face in day-to-day functioning: 'the delicate balance of sales & service versus financial results'. It is equally concerning that while better transaction information is amongst the top pressures that Best-in-Class enterprises are facing, only 50% of Best-in-Class capture and use contactless transaction data in an internal process or system.

Our customers want speed of check-out at our travel retail outlets. They do not like the inconvenience of using multiple currencies for small purchases. We are considering introducing contactless solutions for faster transactions and ease of purchase. - John Bostock, CIO, HDS Retail, Canada.

Figure 4: Top Business Pressures Prompting Contactless Adoption
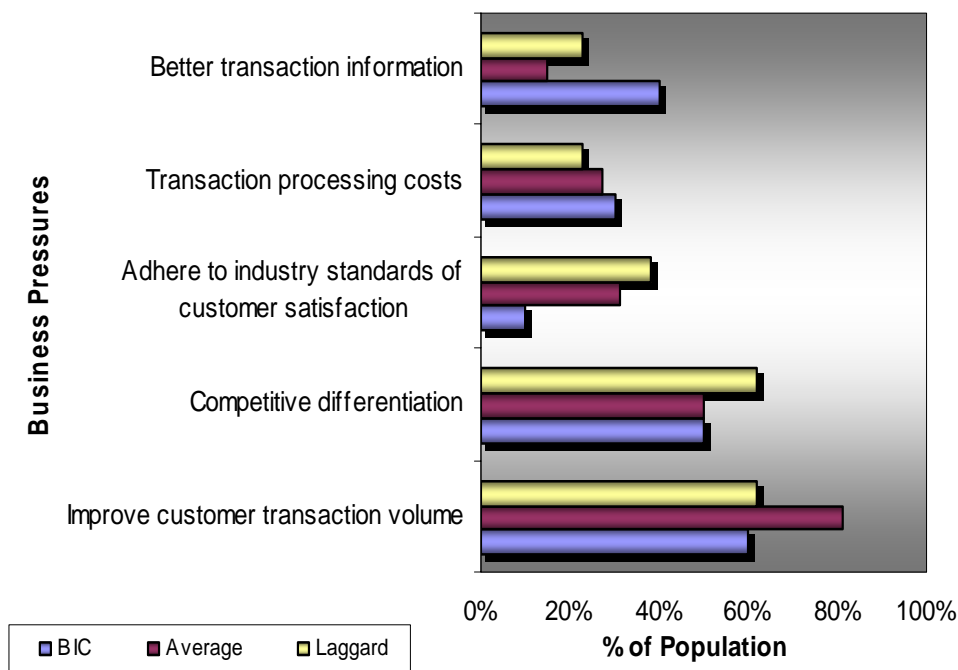
The Next Steps for Contactless Payment Systems Adoption

By its very nature, contactless payment solutions embody the notion of being a customer-facing application that can add a new dimension to a retail customer's POS experience. The next step towards bigger and better retail adoption is the ability to define the route towards a comprehensive model of positive and scalable ROI for this POS payment technology. A combination of RF-based card readers, POS data capture and analytics can deliver positive ROI.

Chapter Two:
Key Business Value Findings

Even though contactless solutions are beginning to approach the tipping point of adoption within retail, 10% of the organizations surveyed had a contactless initiative in place for more than 3 years. Among these early adopters, a third is below $50 million in annual revenues (small-scale) and over a fourth is over $1 billion in annual revenues (large-scale). Despite the early mover advantage, only 14% of large-scale enterprises and 11% of the small-scale enterprises have attempted to track and measure ROI. Most of them, when asked, considered bulk of the ROI attainment, still in the future. Survey respondents indicated that POS transaction time, customer satisfaction and process efficiency as the measures for calculating the short-term ROI for contactless initiative. These metrics are also the most popular in retail when looking for quick returns for POS effectiveness.

Retailers Are Not Measuring Contactless Effectiveness for ROI

Responses to this survey show that retail enterprises irrespective of there size or level of innovation are not doing a credible job at measuring the effectiveness of contactless technology on their value chain and operational efficiencies. Except for the Best-In-Class companies, most of the retailers felt that ROI was a futuristic phenomenon as 68% of all respondents either never measure contactless effectiveness or measure only on an ad-hoc basis. This is all the more concerning as most of them have the ability to track transactional data. A mere 6% of enterprises said that they do some sort of measurement of contactless data on a daily basis.

Amongst the Best-in-Class only 40% of enterprises calculate and assess transactional data on an annual, quarterly or daily basis. Almost half the average enterprises indicated that they measure effectiveness for ROI purposes in an ad-hoc fashion or quarterly basis. The laggards in retail either never measure it or in the case of 1/3 of the laggards, measurement is done on an ad-hoc basis. It is noteworthy that 80% of respondents have said that data captured from contactless transactions is never fed into an enterprise business intelligence application. This means that the lack of effective measurement is neither going to help short-term ROI or long-term. Unless, retailers are aided by service providers to realize the importance of data management around contactless technology, an ROI model for retailers would remain an unfulfilled dream.

Costs are a Consideration

All the respondents were concerned with the costs associated with the integration of the contactless solutions with the existing systems and contactless reader costs (see Figure 5). Laggard companies were much more concerned about the software implications, changes to the technical infrastructure and external services to help implement the solutions. Costs were a major expense factor for Best-in-Class companies as well.

Besides, the cost of readers and integration costs, the average retail enterprises stood out in their concern for adapter costs. Adapters enable POS software integration with existing POS software. The cost concerns with adapters show that the average retailers typically are troubled by the notion of distributing their POS infrastructure even with the promise of greater customer service and financial results. A notable stand-out in the crowd was the effort by credit associations who in the last two years have been successful in penetrating acceptance of adapters in mid-size retail.

Figure 5: Top Expense Factors for Contactless Strategy
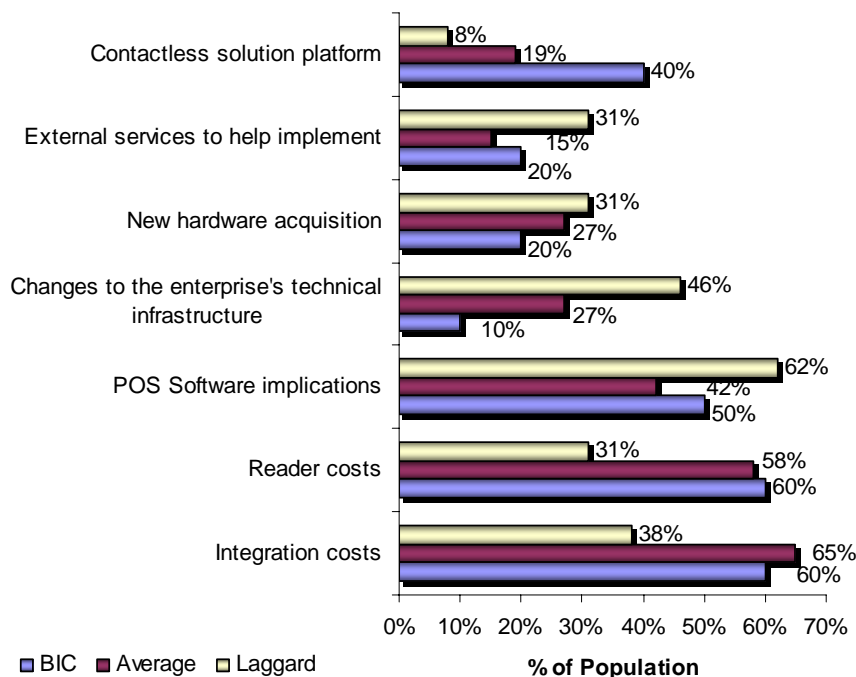
Source: Aberdeen Group, January 2007
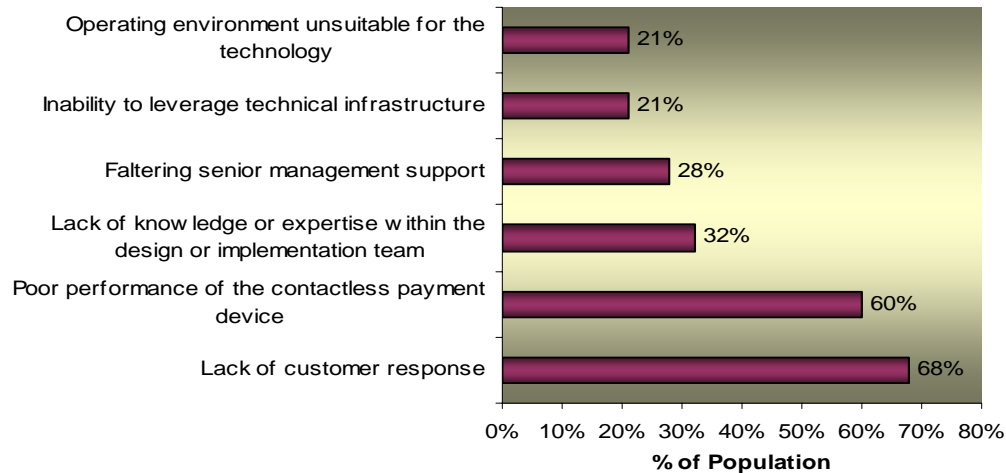
Risks Associated with Contactless ROI

Retailers surveyed have said that the lack of customer adoption of contactless payment forms and the poor performance of contactless devices are significant risks towards attaining any sort of ROI. The third risk is related to the lack of expertise of the contactless design or implementation team. This is a concern that retail field management teams have had for every new customer facing technology that has been deployed in retail stores.

Tier 1 or large-scale retailers have expressed the biggest fear of lack of customer response. When asked, some tier 1 retailers said that educating the masses is vital if their plans for contactless payments are to succeed. The three major concerns for Best-in-Class retailers are: lack of customer response, poor performance of contactless devices and enabling operating environments suitable for contactless adoption (Figure 6).

> "A risk for us is developing a critical mass of enrollees to make service economically viable".
>
> - Major U.K. based department store chain.

The average and the laggards are also concerned about the customer adoption levels. The average retailer sees the most risk in the performance of the contactless hardware and the laggards feel that cannot trust their implementation teams or trading partners in ensuring a smooth contactless execution. One factor which all retail respondents have collectively noted as one of the major risks in the ROI for contactless payments is faltering senior management support. This indicates that retailers are wary of introducing new technologies and measuring their success as the decision makers might look the other way for lack of short-term ROI.

Figure 6: Greatest Risk to Achieving Positive ROI

Risk	% of Population
Operating environment unsuitable for the technology	21%
Inability to leverage technical infrastructure	21%
Faltering senior management support	28%
Lack of knowledge or expertise within the design or implementation team	32%
Poor performance of the contactless payment device	60%
Lack of customer response	68%

0% 10% 20% 30% 40% 50% 60% 70% 80%
% of Population

Source: Aberdeen Group, January 2007

Focus on ROI by Using Contactless Data in Your Enterprise

Both short-term and long-term ROI of any customer facing application in retail is driven by a combination of variables that support the measurement of effectiveness. Even if the measurement is small, as long as it is timely, it can provide retailers with a road map of success or a direction to make changes to the field execution that helps improve the focus on ROI. No technology in retail, however big or small in scale or function can operate without an ROI component that is strong and deliverable. Contactless solutions are no different.

Chapter Three:
Implications & Analysis

- 80% of Best-in-Class companies integrate contactless payment solutions with a proactive approach towards maintaining high levels of customer process optimization.

- Best-in-Class companies build collaborative contactless strategy through IT, Business Process and Finance departments. These enterprises display high propensity to use the design architecture of a trading partner.

- Close to 90% of Best-in-Class companies believe that POS transaction time is the top Key Performance Indicator (KPI) for contactless payment systems.

As shown in Table 1, survey respondents fell into one of three categories – Laggard, Industry Average, or Best-in-Class — based on their characteristics in four key categories: (1) process (ability to address exceptions, responsiveness to customer needs, effectiveness metrics in place); (2) organization (collaborative strategy, design expertise, and level of collaboration among stakeholders); (3) knowledge (enterprise data management strategies, visibility and near-real time process management); and (4) technology (infrastructure excellence, analytics and performance improvement).

In each of these categories, survey results show that the firms exhibiting Best-in-Class contactless payment technology usage characteristics also enjoy Best-in-Class customer and financial performance (Table 1).

Table 1: Contactless Payments Competitive Framework

|	Laggards	Industry Average	Best-in-Class
Process	• Contactless initiative motivated by industry compliance. Unresponsive to POS needs of customers. Minimal attention to ROI and low levels of process efficiency measurement	• Contactless initiative motivated by reactive approach to customer needs and process efficiency. Moderate levels of ROI measurement.	• Contactless Initiative motivated by proactive approach towards customer experience and maintaining high standards of customer service optimization. Increasing levels of ROI measurement.
Organization	• IT does not have sole responsibility for the contactless initiative, likely to outsource implementation.	• Inter-departmental responsibility for contactless initiatives. Business process management and marketing involvement likely. Extensively use external consultants.	• IT, Finance and Business Process Management share strategy. Actively seek internal process optimization, very inclined to leverage technology architecture of trading partner.
Knowledge	• Building any internal expertise to leverage data or to share data with any business intelligence application is not a priority.	• Some visible signs of data capture, usage and sharing between different processes and business intelligence.	• Highest level of turning data into business intelligence and internal process. More focus on near-real time capturing of data and utilization within internal systems needed.
Technology	• Least likely to assess software and hardware implications. Focus on minimal impact on technology infrastructure.	• Technology has to be compatible with existing infrastructure. Moderate levels of understanding of the system implications of contactless solutions.	• Understanding of both cost-benefit and system implications of contactless solution integration. Most likely to measure impact of contactless technology on the related value chain processes.

Source: Aberdeen Group, January 2007

Process and Organization

- In the process category, firms that proactively approach process-related customer service requirements and involve partner organizations in the design and implementation of contactless payment options realize better short-term and long-term ROI.

> Firms that share design and implementation between business line management and IT measure ROI metrics at a higher and more consistent level.

- Firms that share the design and implementation between business line management and IT, measure process and customer service metrics tied to the ROI of contactless payments on a more consistent basis (See Figure 7). This ensures constant checks and balances for key value chain components like customer interaction. Business and IT interaction also facilitates smoother technology expansion in different retail stores within the chain.

- From Table 1, the Best-in-Class respondents are the most inclined to study the implications of cost-benefit and post-integration system impact. This contributes to a more effective field execution and enables measuring the impact of the solution integration on the other value chain processes.

Figure 7: Metrics Tied to Achieving ROI
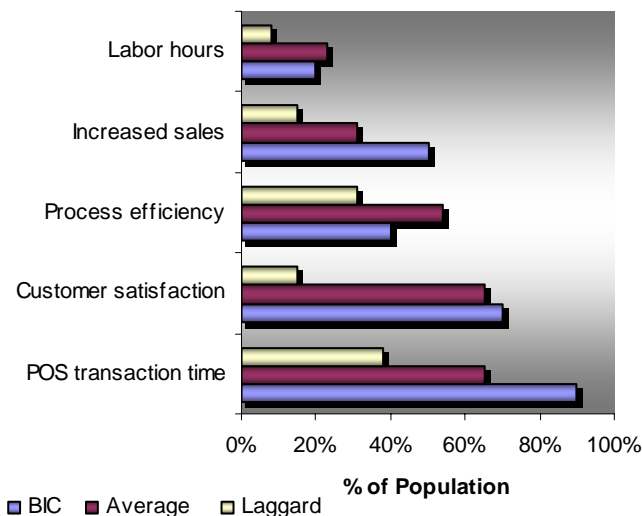
Source: Aberdeen Group, January 2007

The success of Contactless payment systems can be measured in terms of percent improvement in each of the above areas (Figure 7).

Technology Usage (Industry "Ah-ha")

Across all polled retail industry categories, contactless adoption is increasing. Respondents were asked for their likely investment for each of the contactless technology standards listed in table 2. The most prevalent industry standard, ISO 14443 smart cards and the emerging alternative contactless technologies are top of mind for a majority of the retailers, hospitality and transit companies. Proprietary ultra high-high frequency standard has been a popular choice of investment for transit companies. Propreitory high frequency 13.56 MHz technology has figured on the investment list of enterprises from EMEA and Asia-Pacific. It is noteworthy that all the standards will experience double-digit adoption rate increases, as projected over the next 2 years.

Table 2: Contactless Technology Investments in Next 12-24 Months

Technology Solution Area	% Selected
ISO/IEC 14443-13.56 MHz Smart Cards	27%
ISO/IEC 15693-13.56 MHz Smart Cards	23%
Proprietary High-Frequency 13.56 MHz Technology	10%
Proprietary Low-Frequency 125 to 134 KHz RF Technology	12%
Proprietary Ultra-High Frequency RF Technology	21%
Alternative contactless technologies-Carrier-based mobile, Infrared, Gift-cards and Bluetooth	31%

Source: Aberdeen Group, January 2007

Pressures, Actions, Capabilities, Enablers (PACE)

We have shown that there is a clear relationship between the pressures companies identify and the actions they take, and their subsequent competitive performance. All participants should examine their prioritized PACE selections and determine whether there are valuable perspectives to be gleaned by comparison with the PACE priorities of Best-in-Class companies.

What is behind this increased focus and priority? The answer lies in the retailers' objective of increasing the volume of customer transactions and attainment of competitive differentiation. Enterprises ranked increased levels of customer transaction throughput from retail lane registers as the strongest pressure driving their decision to adopt and expand a contactless initiative. In the context of Aberdeen's PACE (pressures, actions, capabilities,

enablers) analytical framework (Table 3), seventy-one percent of firms classified this pressure as a top priority.

In response to these business pressures, companies are setting strategies and taking actions primarily around understanding the software and hardware implications of a contactless change. The reason, even firms who have had a contactless initiative for more than three years have to review their POS infrastructure every time they consider POS expansion or improvements.

Deficiencies in overall customer facing technology implementations can frequently be pinned on inefficient management of studying locale, infrastructure and resources. So it is not surprising that 45% of firms cited assessment of POS software and hardware implications related to a contactless solution deployment as their primary strategy for ensuring a smooth transition towards contactless payment systems.

Table 3: PACE (Pressures, Actions, Capabilities, Enablers)

Priorities	Prioritized Pressures	Prioritized Actions	Prioritized Capabilities	Prioritized Enablers
1	Improve customer transaction volume	Understand the Software and hardware implications	Transformed Lane POS process, leverage contactless ability	Contactless solutions increase customer throughput as it eliminates manual transaction processes at the POS
2	Creation of a competitive differentiation	Review best practices and results of on-going trials from a customer service and positioning perspective	A suitable and flexible operating store environment. Planned and allocated training costs and determine personnel requirements for best possible execution	Contactless reader enables more seamless customer payment process. It is customer intuitive as it allows the customer to make faster low-value cash transactions
3	Adhere to industry standards of customer satisfaction	Customer is intolerant of mistakes and miscues at the POS. Develop a Customer interface strategy to provide customers a convenient alternative payment option for small purchases	A strong customer culture to automate manual POS processes through the contactless option. A proactive and a planned reduction in POS errors through internal controls and trained personnel	Customer satisfaction at POS is about a consistent message of customer-centricity. RF-based contactless solutions support this process efficiency by providing time-saving and easier payment options
4	Pressure of reducing transaction processing costs	Assess cost-benefit aspects of the technology	Planned ROI approach with partners and credit associations	Contactless solutions have the ability to drive down cash handling costs. Retailers have a better bargaining chip with credit associations as RF-contactless solutions do cut down manual processing and authorization
5	Better transaction information	Review changes to the enterprise's technical infrastructure including data capture and business intelligence	Tracking and measurement of transactional data. Use of data and analytics around cost improvement	Contactless solutions have added POS receipt data tracking features that provide the merchant the ability to compare contactless transaction information with the traditional payment transaction information (magstripe cards)

Source: Aberdeen Group, January 2007

# Chapter Four
Recommendations for Action

Key Takeaways

- In terms of short-term ROI, measure effectiveness in terms of a 10% improvement in cost of transactions and 15% reduction in labor costs during peak selling seasons.

- Prepare to test for at least two quarters and check for a 20% improvement in the throughput rate and a 10% improvement in customer satisfaction at the POS during the same period.

- Firms that are actively considering plans invest in contactless payment systems must emphasize internal expertise and collaboration with trading partners (people, process, parts, and data).

- Capture and use contactless data in internal systems. Turn contactless transaction data into an enterprise business intelligence application for drawing analytics that serve proactive decision making, collaboration, and process synchronization.

Transaction volume, differentiation and customer satisfaction benefits await all firms that are committed to optimizing their use of contactless payment systems. The aggressiveness of recommended improvement activities depends in large part upon the retail industry segment in which an enterprise competes. These recommendations should serve as a guide to all enterprises, regardless of the size or scale.

In the consumer-facing retail industry where fragmentation and lack of competitive differentiation is common, improvements to the consumer shopping experience is critical to business continuity. Customers can and will be won or lost based on differentiated value offerings based on service innovation and consumer need.

Thus, firms in this industry should constantly strive to improve the consumer process in their field outlets or stores. In this survey, specialty retail firms are leading the pack with regard to giving their planned contactless initiatives top billing (Figure 8).

Figure 8: Retail Industry Focus on Contactless Innovation
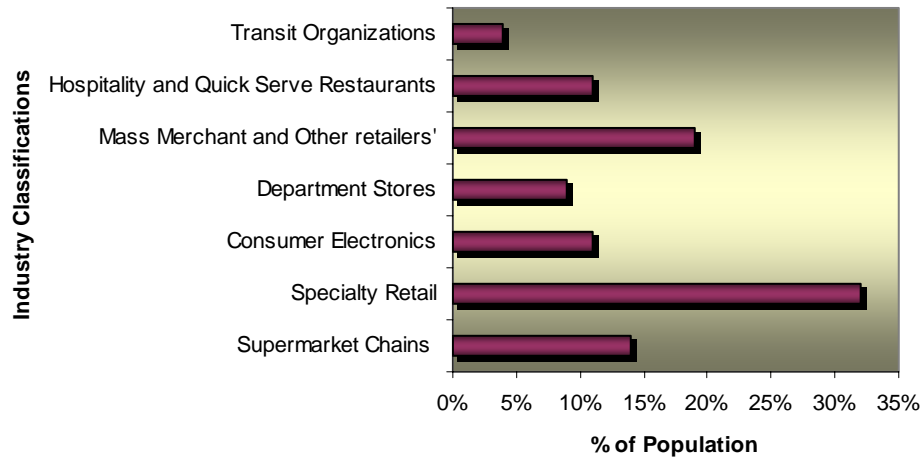
General Recommendations for Action

All Companies must evaluate their processes to ensure they effectively accomplish the following:

- Develop a contactless POS strategy that can create a sustainable competitive advantage. Plan a phased implementation program through strategic partnerships. Assessment areas for integration must include: hardware, software, security, training and transaction-related areas.

- Review ROI, cost-benefit, customer, regulatory and security factors that can enable the planned investment and implementation of a contactless payment system chain wide. These systems co-exist with the traditional forms of payment. In terms of short-term ROI, measure program effectiveness in terms of a 10% improvement in cost of transactions and 15% reduction in labor costs during non-peak selling seasons.

- Move towards this POS technology through pilots in select retail outlets in multiple geographies. Base the selection criteria for pilot outlets on average transaction time, customer satisfaction and key sales demographics. This will ensure risk assessment and a more effective execution across other outlets.

- Measure results in terms of increase in customer satisfaction, sales volume, transaction size and time, reduction in transaction costs and increase in cash-less transaction sales.

- Prepare to test for at least two quarters and check for a 20% improvement in the throughput rate and a 10% improvement in customer satisfaction at the POS during the same period.

- Draw comparisons between contactless data and traditional transactional data to improve tactics in throughput, lane assignments, labor control and cost of trans-

action. Create the means to integrate transactional data into an enterprise business intelligence application for strategic planning purposes.

- Design a customer communication strategy with your technology and service partners to help educate retail customers on the benefits of this technology. This will help drive the customer adoption to higher levels.

Whether a company is trying to gradually move its field service organization from "Laggard" to "Industry Average," or "Industry Average" to "Best-in-Class," the following actions will help spur the necessary performance improvements:

Laggard Steps to Success

1. *Foster POS processes oriented around customer satisfaction*

   Optimization of POS processes can make or break the smooth functioning of the retail enterprise. Enterprises must look to automate as many as POS processes as possible to create customer service efficiencies. A contactless system is an automated payment process. These efficiencies are built around less cash handling procedures and an intuitive customer payment process by providing the customer an option to use faster payment methods. Firms can benefit from contactless payments through higher throughput of customer traffic, lowering their cost of transactions, exercising labor control and creating stronger loyalty programs.

2. *Measure performance based on customer experience and transaction metrics*

   Short-term and long-term ROI is measurement of success for any customer-facing application. As costs and expenses is a concern for attaining ROI in contactless solutions, collaborate with a trading partner or service provider to build a comprehensive model that has metrics and measures for calculating ROI. If a business intelligence application for transaction analytics is expensive, collaborate with an industry association or a trading partner who can help support such programs.

3. *Encourage collaboration between departments and with trading partners*

   Even if Contactless systems are being employed in a very limited scope to solve a specific POS challenge, the implications of the technology to other parts of the organization and the overall customer positioning should not be ignored. Meaningful conversations among line of business managers and the IT groups in partner organizations can yield valuable long–term strategies for improved ROI.

4. *Build a best-practice process and ensure training*

   It is vital that laggard enterprises build a best practices framework around the successes and failures of contactless systems. This would ensure streamlining the adoption process through corrective steps in newer deployments. New customer facing technologies often create cultural issues for customers and internal stakeholders. By creating an initial training exercise or module for the internal stakeholders, retailers would mitigate any problems that customers might have from the technology. It is important to train your teams on the usage aspects as well as provide them with information to counter any customer objection.

Industry Norm Steps to Success

1. *Collaborate with trading partners and build on in-house expertise*

   Share the insights of trading partners on how to leverage the design and implementation architecture. Encourage IT to share learning and strategy with other departments to seek process optimization. Build on an internal mechanism that helps create a specialized team for implementing contactless solutions in other chain stores. An external consultant is vital in the early adoption stage. Thereafter, an internal team can do the best job as they understand the system implications at the store-level.

2. *Innovate to introduce near real- time or real- time data integration*

   The power of contactless is in understanding the transactional information. Contactless data can easily provide average transaction time and order size information which can help enterprises segment their loyalty and retention programs. Capturing relevant data and feeding it into business intelligence applications. Engage in performance analytics and POS process monitoring to catch exceptions before they become customer service or loss prevention problems.

3. *Support all critical stakeholders' visibility into current and accurate data*

   In addition to the involvement of direct stakeholders, empower the field management to view the real-time or near real-time visibility of the contactless transactional data. This will facilitate the optimized POS processes and efficient customer interaction. Data views would also ensure that store teams understand the marketing, promotions and sales dynamics associated with contactless solutions.

Best-in-Class Next Steps

1. *Aggressive pursuit of expansion for ensuring a single view of customer experience*

   The Best-in-Class who have successes in executing contactless process optimization must aggressively pursue the differentiation process by enabling contactless solutions in all store locations that are suitable for implementation. This will create a unified view of the technology for customers and also increase their top-of-mind awareness levels about the retailer in terms of a convenient shopping experience. Aggressive expansion would ensure that the ROI becomes more scalable across the enterprise as transactional volume would increase by adding new stores.

2. *Remove all obstacles that mitigate the flow of data within the organization. Make data capturing and measurement real-time.*

   Transactional data empowers customer focus. The data capture and analysis of Best-in-Class enterprises must move towards real-time basis for reduced errors in decision making. The most proactive customer-oriented process has to possess the highest standards of understanding and interpreting data for strategic direction. Data should be stored centrally, updated dynamically, and shared universally for all stakeholders at the headquarters and stores.

3. *Consider deploying other contactless form factors as part of expansion strategy*

Contactless payment solutions have several form factors that could be deployed within retail to provide convenient paying options to different customer segments. Customers can use card factors for debit, credit and gift card payment as well as mobile contactless payment methods. Carrier-based mobile contactless solution platforms are now available for retailers to deploy. An expansion strategy leading to the deployment of all form factors will create the basis for retention, revenue and loyalty from the user segments.

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ers. There are numerous *PayPass* related programs currently under way in 13 countries, including the United States, Canada, United Kingdom, Japan, Korea, China, Thailand, Turkey, Lebanon, Malaysia, Australia, Taiwan and the Philippines, with more anticipated in 2007. **Contact details**: MasterCard International, 2000 Purchase Street, New York 10577-2509, Tel: 914-249-2000, www.mastercardworldwide.com.

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Alphyra operates payzone, Europe's largest branded retail network for the collection of consumer payments. Headquartered in Dublin, with operations in 20 countries across Europe, alphyra processes over 400 million transactions per year on behalf of its clients through the payzone network of 150,000 retail points of service. A strategic alliance between alphyra and ViVOtech gives alphyra access to ViVOplatform, a software platform that supports a new range of integrated gift, prepaid, promotions and loyalty products for retailers and other clients. As well as providing 'future proof' gift and other stored value solutions, alphyra is in a unique position to distribute branded gift cards and other payment products through the convenience shops in its network. **Contact details**: Heather road, sandyford industrial estate, Dublin 18, Ireland. Telephone +353 – 1 – 2076000, www.alphyra.com ; david.homan@alphyra.com

Smart Card Alliance

The Smart Card Alliance is a not-for-profit, multi-industry association working to stimulate the understanding, adoption, use and widespread application of smart card technology. Through specific projects such as education programs, market research, advocacy,

industry relations and open forums, the Alliance keeps its members connected to industry leaders and innovative thought. The Alliance is the single industry voice for smart cards, leading industry discussion on the impact and value of smart cards in the U.S. and Latin America. The Contactless Payments Council has published numerous documents supporting the adoption of smart cards for payment. For more information please visit http://www.smartcardalliance.org.

Appendix A:
Research Methodology

D uring September and December, 2006, Aberdeen Group examined the procedures, experiences, and intentions hundreds of enterprises in retail regarding contactless payment systems.

Responding business line managers, IT executives, and corporate application developers completed an online survey that included questions designed to determine the following:

- Current and planned use of Contactless technologies;

- Risks and challenges in achieving ROI;

- The benefits that have been derived from Contactless Solutions;

- The importance and methods for measuring the ROI.

- The degree to which ROI impacts technology decisions.

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

The study aimed to identify emerging best practices for achieving ROI in an RFID initiative and provide a framework by which readers could assess their own ROI performance.

Responding enterprises included the following:

- *Job title/function:* The research sample included respondents with the following job titles: line of business managers (22%); C-level officer (27%); director (30%); development staff and consultants (20%).

- *Industry:* The research sample included respondents predominantly from retail, some hospitality and transit respondents have also been included. The break-up of respondent segments is as follows: Specialty retail 32%, Supermarket Chains 14%, Mass Merchants and other retailers 19%, followed by Consumer Electronics and Hospitality and quick-serve restaurants, with 11% of the survey pool. Department stores and transit organizations accounted for 9% and 4% of the respondents, respectively.

- *Geography:* 63% of the study's respondents were from the Americas, 21% were from EMEA, and 16% from Asia/Pacific.

- *Company size:* About 29% of respondents were from large enterprises (annual revenues above US$1 billion); 35% were from midsize enterprises (annual revenues between $50 million and $1 billion); and 36% of respondents were from small businesses (annual revenues of $50 million or less).

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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 follows:

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, January 2007

Table 5: Relationship between PACE and Competitive Framework

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

Source: Aberdeen Group, January 2007

Table 6: Competitive Framework

Competitive Framework Key
The Aberdeen Competitive Framework defines enterprises as falling into one of the three following levels of FIELD SERVICES practices and performance:
Laggards (30%) — FIELD SERVICES practices that are significantly behind the average of the industry, and result in below average performance
Industry norm (50%) — FIELD SERVICES practices that represent the average or norm, and result in average industry performance.
Best-in-Class (20%) — FIELD SERVICES practices that are the best currently being employed and significantly superior to the industry norm, and result in the top industry performance.

Source: Aberdeen Group, January 2007

Appendix B:
Related Aberdeen Research & Tools

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

- The New Retail Differentiator: Making Extended Points of Service a Reality (2006)
- Finding the Technology's Tipping Point (2005)
- ROI in RFID (2006)
- The Empowered Point of Service: The Customer Reclaims Her Kingdom (2005)

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

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