Analyst Insight

Aberdeen Group
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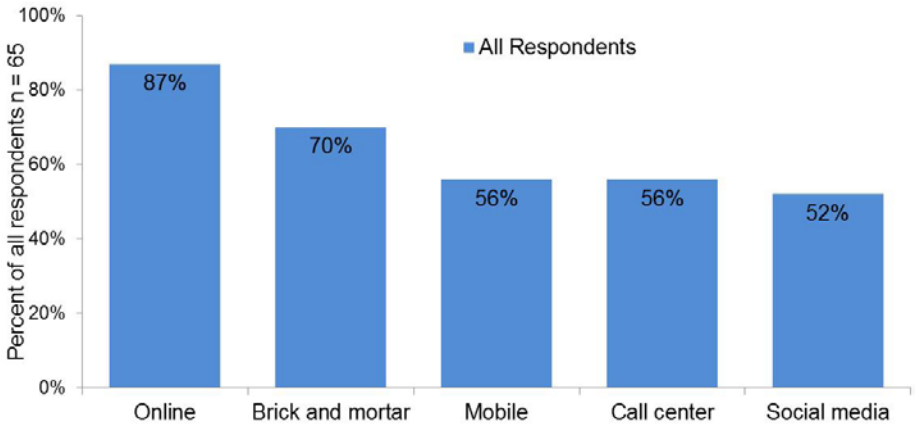
More Data, More Channels, Fewer Problems: Using PIM to Drive Business Performance

Inside and outside the corporate firewall, there has never been a greater demand for product data. Customers are clamoring for more channels to access and digest information through, employees need to share data across departments, and software applications must connect to data sources internally, in the Cloud, and from business partners. Aberdeen's April 2013 study on *Master Data Management* revealed that organizations that invested in a centralized system of high quality product data could present a clear, consistent message across all these channels. Seventy-two (72) organizations with a heavy dependency on product data were analyzed, comparing 42 companies with Product Information Management (PIM) systems to the 30 without. The organizations with these systems reported company-wide benefits, such as fewer product recalls, more perfect shipments, higher levels of customer satisfaction, and finally greater revenue growth.

Business Context: The Need for Product Information

The hidden sales cycle is a new reality in this internet-driven age. The term refers to potential customers conducting their own research, comparing vendors, reading reviews, and progressing far down the decision-making process before a company ever identifies them as a potential lead. Engaging these prospects throughout this self-guided research process, through whatever channel they choose, is now an essential part of driving revenue and managing a corporate brand.

Figure 1: Critical Channels for Customer Engagement



Source: Aberdeen Group, April 2013

Analyst Insight

Aberdeen's Insights provide the analyst's perspective on the research as drawn from an aggregated view of research surveys, interviews, and data analysis.

Definitions

For the purposes of this report, the following definitions apply:

- √ **Master data** refers to the critical, underlying data that feed the applications and processes driving a business, as well as the reference data that regulates how different data silos relate to each other.
- √ **Master Data Management** (MDM) refers to a formal initiative to improve and maintain the quality of master data, usually involving specific technology solutions as well as policy and process changes.
- √ **Product Information Management** (PIM) refers to the technologies, policies, and processes surrounding the managing of product data, often with a focus on consolidating, enriching, and publishing the information to various channels and consuming systems.

In this report, product-centric MDM and PIM are used interchangeably.

For instance, the Best-in-Class organizations at reaching their customers throughout this process, as reported in Aberdeen's *The Marketing Executive's Agenda for 2012: Uncovering the Hidden Sales Cycle* (October 2011), showed a 14.5% annual improvement in converting marketing-generated leads into closed business. Laggards, on the other hand, reported a mere 0.3% improvement. As Figure 1 shows above, Aberdeen's *Omni-Channel Retailing* study (May 2013) also shows that retailers' most important channels run the gamut from eCommerce solutions to physical stores to social media — and the Best-in-Class are likely to have a presence in all of them. It is here where PIM solutions play a key role. If organizations manage each channel separately, the task of keeping product descriptions, pricing, sales opportunities, and targeted marketing initiatives consistent across each method rapidly becomes cumbersome and time consuming. Whenever a data change occurs, it has to be modified in each channel, duplicating work and effort. Finally, if an organization without a PIM system wishes to roll out a new channel of customer communication — such as launching a new mobile app — then it has to be built entirely from the ground up.

Compare this to an organization using a central, authoritative PIM system. If this system is used as the foundation for a multi- or omni-channel initiative, all these communication methods draw from the same source. This keeps the product definition consistent and accurate, and changes only have to occur once in order to be updated everywhere. This type of system also provides a solid foundation for the development of new channels, as it contains most — if not all — of the essential data elements the new initiative will need. While the Best-in-Class organizations in Aberdeen's previous *Master Data Management* research are shown to supplement PIM by mastering other data domains — such as customer data — and supporting these initiatives with strong integration tools, the success of their initiatives often begin with product data.

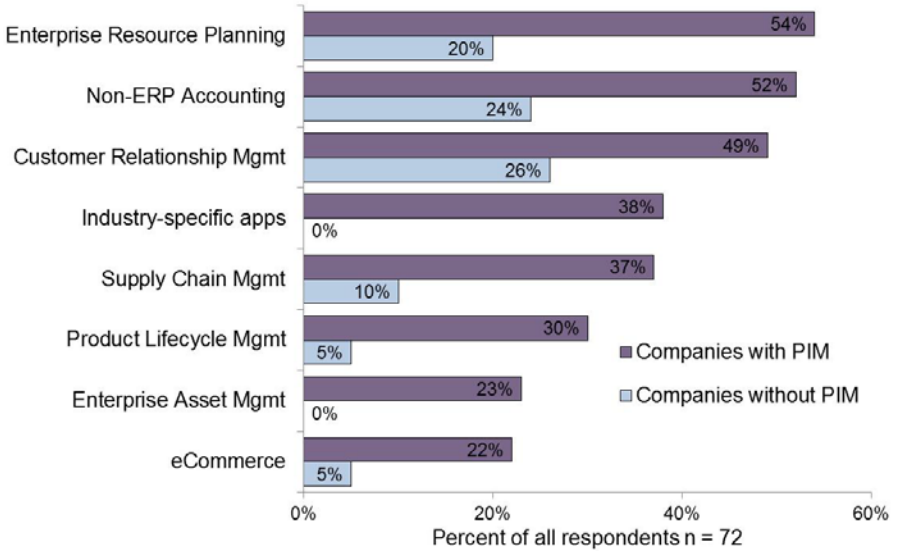
However, product data isn't just consumed by customers. All throughout the long chain from the product design team to the shelves in a retail store, employees need this data in the applications they use every day (Figure 2). Aberdeen's April 2013 research study on *Master Data Management* shows that organizations using PIM systems are not only more likely to integrate product data with their most important software applications, but they integrate this data with **all** the tools their employees need. This internal consistency of information is perhaps even more important than presenting a unified message to customers. PIM's central repository of trusted product information allows for better collaboration across business units. Research and development using a Product Lifecycle Management (PLM) solution will enter specifications that the marketing department will use later in creating advertisements. These marketers will write descriptive text that the sales department uses through their Customer Relationship Management (CRM) applications. After deals are closed, a Supply Chain Management (SCM) or Order Management solution will help fill and track the shipment, and Enterprise Resource Planning (ERP) or accounting software will make sure the transaction is properly billed. As we will see in the following section, this consistency of information across business units and applications plays a

Fast Facts

- √ The average **rate of data growth** is **56%** year-over-year.
- √ As such, **24%** of organizations with PIM have adopted a formal **Big Data initiative** to handle this explosion of information.
- √ **Only 14%** of companies without PIM have taken a similar step.

big role in the company-wide performance boosts enjoyed by PIM-using organizations.

Figure 2: Integrating Product Data with Enterprise Applications



Source: Aberdeen Group, March 2013

As a final note on the importance of integrating product data, Aberdeen's research also shows that companies with PIM are more likely to be effectively using Cloud technology. As the ways data is stored evolves, organizations with an agile information architecture can effectively use more data from a wider variety of sources. Figure 3 (below) shows that almost half (49%) of PIM users have integrated their product data solution with data hosted by a third party or in a virtualized environment, while less than a third (32%) of non-PIM users were able to do the same.

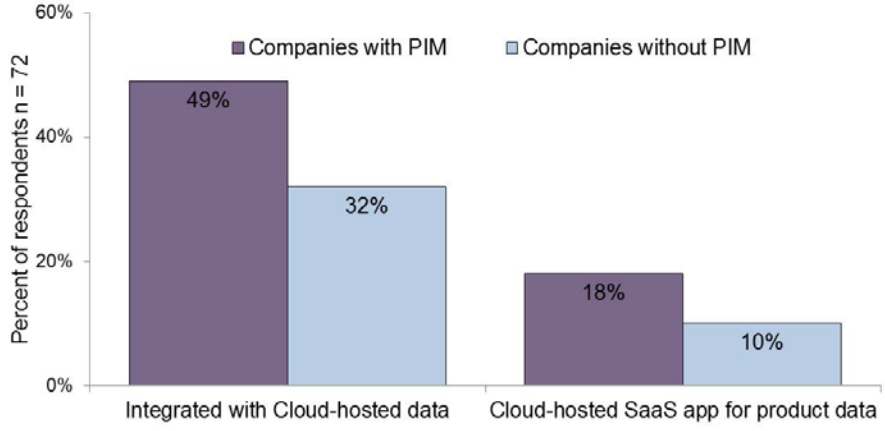
Similarly, PIM users were 1.8-times more likely than other companies to have their PIM solution be entirely supported and hosted by a vendor, using the Software-as-a-Service (SaaS) model. Having a PIM system in the Cloud has a number of added benefits that companies should consider when choosing a solution. First, they are much easier and faster to deploy, allowing organizations to quickly focus on their data and business processes, rather than the nuts, bolts, and complications of an internal deployment. These Cloud solutions also tend to be cheaper, with lower maintenance costs and no up-front investment in hardware. Finally, by being accessible through web browsers anytime and anywhere, they further facilitate the culture of data collaboration among and between departments and business units spread out around the world.

Fast Facts

The average organization in this study had the following product data profile:

- √ 400,000 product master records;
- √ 42 unique attributes (name, address, contact information, description, codes) per record;
- √ 38 unique sources of data, internal and external to the company;
- √ 12 different data sources connected to the product data system.

Figure 3: PIM Users are Early Adopters of Cloud Technology



Source: Aberdeen Group, March 2013

This cost-effective, flexible software delivery model is an attractive option for small and mid-sized organizations, and once again PIM users lead the charge. In fact, organizations with PIM were more likely to have integrated with data sources regardless of how the information was stored — on-premise database, cloud-hosted, virtualized environment, or hybrid Cloud model. They reported 40% of all their company's data sources were integrated into their product data system, almost twice the rate cited by companies without PIM (23%).

"In order to maximize your ROI when implementing an MDM system, consolidation is paramount. Having a single central interface will reduce training time for end users and allow centralized control from an IT and managerial perspective; However, every end user of the system must be aware of the possibility that business processes and methodologies might change as a result of this consolidation."

~ IT Manager,
Mid-sized Aerospace Company,
North America

The Impact of PIM on Business Performance

After all the work organizations with PIM systems have done in connecting to customer channels, applications, and data sources, it is nice to report that all the effort was well worth it. Aberdeen's *Omni-Channel Retailing* study (May 2013) revealed a number of business metrics where users of PIM vastly outperformed their competitors, the most important being the cost associated with product quality.

- The **internal failure costs** of products, which includes the time and resources dedicated to scrapping, reworking, and re-inspecting units, was on average 4.6% of total annual revenue for organizations using PIM. Companies without PIM reported almost half a percent higher, 5.0%.
- **External failure costs** for products, which covers the financial impact of product returns, warranty costs, and recalls was an average of 3.5% of annual revenue for PIM users. Companies without PIM reported an average of 4.4%.

While these percentages might seem small, remember that this is a part of the entire annual revenue generated by an organization. In other words, a company with PIM saved an average of 1.3% of their yearly revenue compared to those without this solution. For a billion-dollar organization,

that is savings of $13 million dollars — before calculating the costs of damage to customer loyalty and company brand due to those broken products and recalls.

These reduced failure costs are directly linked to the accuracy, completeness, and ease-of-use of product data. Not only does having PIM manage data quality have an impact on the line-of-business side of an organization, but a hidden benefit is how much their administrative and reporting tasks improve as well. In Aberdeen's June 2013 research study *Reap What You Sow: Better Product Data Leads to Better Product Sales*, Leaders at managing their product data (see sidebar for definition) reported a fraction of the data errors that Followers had. Only 8% of their records have serious errors, compared to 31% for Followers. More importantly, by using a centralized PIM system at the heart of their applications and customer channels, Leaders were able to correct these errors 18-times faster. It took them an average of 2.3 hours to make a single change in the PIM system, which was then automatically propagated throughout multiple systems. Followers, on the other hand, often had to make multiple corrections, one for each database and application, resulting in an average of over 42 hours to fully correct major errors. When organizations use PIM data in their BI and analysis tools, this high quality, error-free data makes their reporting faster and more efficient. Leaders reported a 3.4-times greater annual improvement than Followers in the speed of accessing data (17% improvement vs. 5%) and a 2.8 times greater improvement in the speed of decision-making (14% vs. 5%).

Having strong reporting and BI tools can also impact an organization's level of compliance with governmental regulations, such as being able to track material components governed by the Restriction of Hazardous Substance Directive (RoHS) or the Waste Electrical and Electronic Equipment Directive (WEEE). In *The Big Data Imperative: Why Information Governance Must be Addressed* (December 2012), organizations with strong data management, security, and reporting tools had only 1.7 audit events per year, less than a third of the 6.3 audit events reported by those without these solutions.

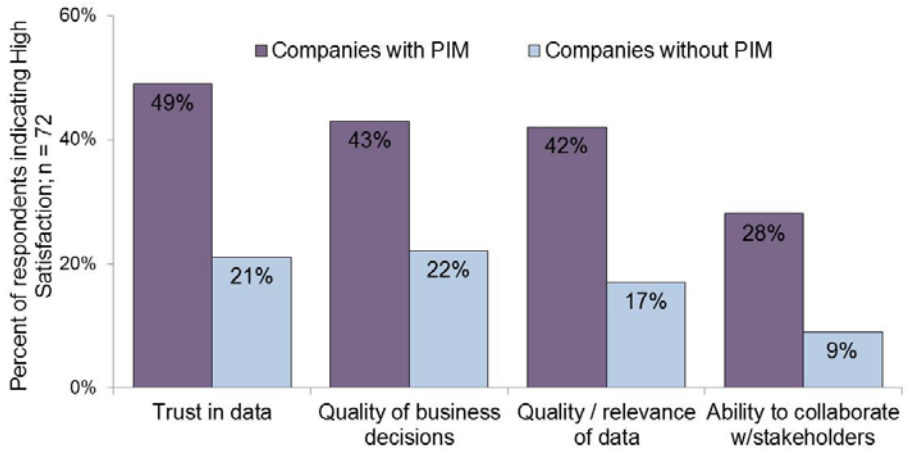
On a more fundamental level, PIM is also about making sure all the different departments that use product data operate smoothly and efficiently. This effective operation starts with individual employees, specifically how much they trust their data and how easy it is for them to access this information and make decisions. As Figure 4 shows below, companies using PIM solutions were twice as likely as other organizations to have employees that were highly satisfied with their information systems. Almost half (49%) of PIM organizations indicated they were completely satisfied with the trustworthiness of their product data, and over 40% indicated they were happy with overall data quality and the accuracy of the business decisions based on this information. Over a quarter (28%) were satisfied with their ability to collaborate with all stakeholders across the entire company — while even PIM users could stand to improve in this area, only 9% of companies without PIM were this satisfied with their collaboration.

Definition: Maturity Class

Organizations were placed into the Leader or Follower categories based on their performance in the following metrics:

- √ **Completeness of product records.** Leaders reported 91% of records were complete, while Followers only reported 70%.
- √ **Accuracy of product records.** Leaders had 87% accuracy with product data, compared to 66% for Followers.
- √ **Ease of use for data systems.** Employees at Leader organizations spent 2.6 hours per week searching for records, half the time spent at Follower companies (5.3 hours).

Figure 4: PIM Creates Trust in Data and Decisions



Source: Aberdeen Group, March 2013

As mentioned above, when a PIM system feeds consistent, trusted information to all the software applications used by various business units, the impact can be felt company-wide. Table 1 below contains a number of business metrics that were shown to correlate directly to PIM adoption. For instance, having more accurate product data in an inventory management system eliminates much of the inefficiency of over- or under-ordering. Over-ordering directly leads to increased inventory (and the costs of managing and storing this inventory), while under-ordering leads to stock-outs and lost sales.

Organizations with PIM were also better able to trace the lineage of all the components used in their products back to individual suppliers. That way, when defective units were returned, they were able to defray some of the absorbed cost by charging back to the original supplier.

"Without executive management support and full understanding of the business needs, as well as ROI, it is difficult to get the resources needed for MDM (i.e., financial, manpower, technology tools, etc.)."

~ Marketing Director, Mid-sized Distribution Company, North America

Table 1: The Performance Benefits of PIM

Performance Metrics	PIM	No PIM	Performance Difference
Chargeback rate	55%	33%	**67% better**
NPIs meeting goals	84%	79%	**6% better**
Overall Equipment Effectiveness (OEE)	87%	81%	**7% better**
Perfect shipments	94%	85%	**11% better**
Operating margin	7%	-2%	**5.5-times better**

Source: Aberdeen Group, March 2013

PIM users reported being able to charge back 55% of the time on returned units, while non-PIM users reported only a 33% rate. PIM users were also able to bring new products to market more efficiently, as their New Product Introductions (NPIs) were 6% more likely to meet their targets for time, volume, and quality. The importance of this faster time-to-market can't be overestimated. Not only are companies with successful NPIs able to beat competitors with bringing new products to their customers, but their overall product mix tends to be more modern and relevant, with fewer low-selling or obsolete products in their catalog.

Shipping and manufacturing likewise saw a boost in performance. Overall Equipment Effectiveness (OEE) is calculated by combining three manufacturing factors: Availability, Performance, and Quality. Availability measures downtime (actual production time / planned production time), Performance measures speed of operation (actual run rate / ideal run rate), and Quality measures the final product (number of quality products / total number of products). Simply put, PIM users were 7% more efficient in this combined metric, creating more quality products at a faster rate than other companies. And when sending these products to distributors, retailers, and customers, companies with PIM were 11% more likely to deliver the shipment complete and on-time. All this was eventually reflected in their operating margin (revenue after production costs), which was an average of 7% in the black for companies with PIM, and a disappointing -2% for those without this solution.

"An MDM implementation can be lengthy and difficult when numerous operational legacy systems are involved, so it is vital to ensure that there is executive and stakeholder buy-in to drive the programme to completion. As soon as feasible, establish a data governance working committee with clear charter and escalation procedures for resolving stalemates."

~ IT Manager, Small (<$50M) Insurance Company, Asia / Pacific

Table 2: PIM Drives Faster Annual Improvement

Performance Metrics (YoY Change)	PIM	No PIM	Performance Difference
Perfect product shipments	10% improvement	2% improvement	**5-times greater increase**
NPIs meeting goals	10% improvement	6% improvement	**1.7-times greater increase**
Inventory accuracy	18% improvement	5% improvement	**3.6-times greater increase**
Customer satisfaction	10% improvement	6% improvement	**1.7-times greater increase**
Organic revenue growth	11% improvement	8.7% improvement	**1.3-times greater increase**

Source: Aberdeen Group, March 2013

Not only do companies with PIM solutions outperform their competitors on a consistent basis, they improve their performance at a faster clip. As Table 2 shows, PIM-users reported double digit year-over-year improvement in NPIs, perfect shipments, and the accuracy of their inventory. In other words, they created better products, at a faster pace, knew exactly how many units they had, where these units were, and

delivered them with greater accuracy. As a result, they also reported a 10% increase in overall customer satisfaction, and an 11% improvement in organic revenue growth. While these big picture performance metrics rely on a multitude of factors and can't be solely attributed to PIM systems, the correlation is there and the message is clear: top performing organizations have made product data quality a priority.

Key Takeaways

The demand for product data is insatiable. Customers seek it out through a variety of channels to fuel their decision-making. Employees across departments look to share and use it through their software applications. In order to keep up with this demand, organizations turn to MDM and PIM systems to provide a solid foundation for their current and future data initiatives. For organizations looking to implement a PIM system or improve on their current program, Aberdeen recommends the following:

- **Perform a cost-benefit analysis**. Implementing PIM or MDM systems can take a lot of time and money, so it is important to clearly identify what business processes will be affected, what the scope of the project will be, and how much it will cost. Consider a Cloud-based PIM solution as a low-cost, fast-deployment alternative to an internal deployment, and make sure you secure the support of an executive champion to push the project through completion. In Aberdeen's *Master Data Management* research study, two-thirds (68%) of the Best-in-Class had an executive champion, while only 30% of the Laggards had one.
- **Start small, roll out incrementally**. PIM systems can involve dozens of different data sources and business units by the time they are fully deployed. However, not everything has to be done at once. In fact, a small deployment affecting a few critical data sources and one major business process can go live and show success much faster than if a company waits to get everything set up first. By proving the business benefits quickly, it is easier to expand to include other operations and data sources. Make sure to eventually connect the product data system to all the critical software applications used throughout the company, so that employees can be assured of using trusted, accurate, authoritative data in their tasks. Current users of PIM solutions are up to six-times more likely than other companies to be integrating with all these applications.
- **Invest in collaboration and reporting tools.** The benefits of clean, accurate, centralized data are best realized when many employees and reporting tools rely on it. Companies with PIM solutions are three-times more likely to be satisfied with the ability to collaborate and share data than companies without, but there is still room to improve on the 28% overall adoption rate. Finally, when accurate data feeds reporting and BI tools, companies are better able to track internal performance and compliance with

industry and governmental regulations. Companies with strong data management, security and reporting tools had one-third the number of audit infractions per year than companies without.

For more information on this or other research topics, please visit www.aberdeen.com

Related Research	
Reap What You Sow: Better Product Data Leads to Better Product Sales; June 2013	*United We Stand, Divided We Fall: The Need for Standardizing and Centralizing Master Data*; May 2012
Master Data Management in 2013: Bridging the Gap to Best-in-Class Performance; April 2013	*The State of Master Data Management, 2012: Building the Foundation for a Better Enterprise*; May 2012
Data Management for BI: Getting Accurate Decisions from Big Data; January 2013	*Data Management in Insurance: The Impact of Improved Data Quality*; February 2012
MDM for Manufacturing; (Video, December 2012)	*Data Management for BI: Big Data, Better Insight, Superior Performance*; January 2012
MDM for Distribution; (Video, December 2012)	*Data Quality and the Supply Chain: The Impact of MDM and Portals*; October 2011
PIM and MDM for Retail: Supporting the Omni-Channel Experience; (Video, December 2012)	*From Design to Delivery: Enhancing the Product Lifecycle with Master Data*; July 2011
The Five C's of Master Data Success; (Video, December 2012)	*Turbo-charge your ERP System with High Quality Master Data*; July 2011
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Master Data Management and the Cloud; September 2012	
The Business Value of Product Data: The Importance of MDM and PIM Systems; July 2012	

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