A data quality program is vital for business analytics and MDM. Yet many organizations struggle to use DQ to support business objectives. To turn it around, identify high-value use cases and assess DQ’s maturity first, and then analyze typical DQ issues and make them visible.

Key Findings

- To generate interest and support among businesspeople, data management professionals need to directly tie a data quality (DQ) initiative to the business objectives, thereby endowing DQ with strategic value. High-value use cases link business objectives to DQ metrics.

- High-quality data has become refined oil for digital business because it directly supports business objectives. Yet, many organizations do not realize DQ’s importance until they have developed some maturity in BA and MDM.

- There are two types of DQ issues: IT-centric (such as naming conventions, standardized data values and IT processes) and business-centric (such as vague business definitions and immature business processes). Therefore, DQ is a both an IT and a business discipline.

- If businesspeople cannot see the consequences of poor DQ, it is unimportant to them. At some point, IT needs to turn the lights on and reveal DQ’s hidden costs and benefits.

Recommendations

- Learn your organization’s specific business objectives so that you can directly tie them to the DQ program and speak the business’ language. Also, work with businesspeople to identify high-value use cases that require high DQ.

- Gauge your organization’s DQ/MDM maturity using the Gartner MDM maturity model, which would provide immediate opportunities to improve DQ based on your organization’s maturity.

- Analyze typical DQ issues to learn if they fall into the IT or business arena. For DQ issues originated from IT, implement IT governance.
Educate IT and businesspeople on the business benefits of good data and opportunity costs of bad data, instead of silently fixing DQ issues. Create a cost structure for fixing DQ issues.

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Analysis

High-quality data has become oil for the digital business because it directly supports business objectives such as customer loyalty, risks reduction and regulatory compliance. In addition, organizations trade high-quality data like a refined oil to improve operations, foster collaboration or generate direct revenue. However, good data does not happen naturally. Hence, we need to
establish a data quality (DQ) program to refine raw operational data into high-quality data, just like oil must be refined in order to be used effectively.

DQ ensures that data is fit for purpose. Foremost, directly align the DQ initiative with business objectives to generate business interest and to maintain long-term success. Analytical use cases are the key link between high-level business objectives and low-level DQ metrics.

Many organizations do not realize DQ’s importance until they have developed some level of maturity and competence in business analytics (BA) and master data management (MDM). Because MDM is often the platform for DQ, you can use the Gartner MDM maturity model to gauge your organization’s DQ/MDM maturity and then use the assessment to discover immediate opportunities for improvements.

Because DQ is both an IT and a business discipline, a DQ program should include both IT and business components. Business has to support a DQ program, but IT can improve many IT-centric DQ issues on its own. IT can prepare the ground by figuring out if typical DQ issues fall into the business or IT arena.

Finally, if businesspeople cannot see the consequences of DQ, it will not be important to them. At some point, you need to turn the lights on to reveal the hidden costs of poor DQ. Instead of silently fixing DQ issues, you need to educate businesspeople on the business benefits of good data and the opportunity costs of bad data.

Why Is DQ So Important for Digital Business?

While good data is often silent — like the healthy body — poor data will call out attention when businesspeople use and analyze data. The following examples illustrate how poor DQ inhibits achieving business objectives:

- A U.S. hospital medical center needs to collaborate with other organizations to fight diseases, but collaboration is difficult because of a lack of data consistency between departments, even within the same hospital, such as labs, physicians and pharmacies.

- An international bank treats analytics as "the driving engine behind making business decisions." It states: "Everything in analytics is only as good as the underlying data." At the same time, it struggles to define effective key performance indicators (KPIs) for its business analytics and effective metrics for the DQ effort.

- A manufacturer in Europe utilizes analytics to plan its manufacturing and product development. But DQ is really poor in its legacy systems, which significantly slows its analytical progress.

- A large retail chain in the U.S. modernizes its systems to a service-oriented architecture for business agility, but the launch is disastrous because developers haven’t considered data standards for other integrated systems.

To support business objectives in the digital era, a DQ program is necessary because good data does not happen naturally. In Gartner’s business analytics field research, "Why Business Analytics Projects Succeed: Voices From the Field," we discovered that digital businesses are experiencing
eight dimensions of changes, evolving from the inner core to the outer edges (see Figure 1). Changes disrupt the "normal" mode — whether they are perceived as positive or negative. At the core of these changes are the four pillars required for analytical success: data, people, process and technology.

Figure 1. Eight Dimensions of Business Analytics

To be specific, the eight dimensions bring changes to DQ in the following ways:

- **Latency**: Business acts at a much faster pace, which requires fresher data. Lapse and outage windows to clean data afterward are also shrinking. In another words, analytics require good data before, during and after operational business processes.
■ **Decision-making responsibilities:** Decision automation mandates accurate and contextual data. The higher the automation, the higher the DQ needs to be. For example, real-time automated sales or marketing quotes do not leave much room for data errors.

■ **Analytic capabilities:** Analytics is used to answer and discover things that happened in the past, which falls under descriptive and diagnostic analytics. Today, predictive analytics require more data in diverse formats, which increase DQ's challenges. In addition, prescriptive analytics need data that is relevant, complete and trustworthy, which increases DQ's requirements.

■ **Organization:** The new generation of businesspeople are tech-savvy. Rather than depending on IT to do all the work, they want to co-pilot with IT on analytics. Consequently, IT's role is transitioning from a technology implementer to a facilitator and advisor. The proactive engagement of businesspeople turns out to be good news because a joint partnership produces much better business results.

■ **Information types:** Semistructured or unstructured data such as social media or sensor data becomes increasingly important for analytics. Big data brings new and bigger challenges to DQ.

■ **Tool capabilities:** Previously, analytics tended to work on predefined queries and tabular output, which often required intimate knowledge in relational database management systems (RDBMSs) and SQL. Only selected power users were comfortable with these tools. Today, new technologies are easier to use and more accessible to the average businessperson. Instant access to powerful analytical tools changes the perception of DQ, and previously unexposed data can be in the spotlight for its inconsistency or incompleteness.

■ **Deployment options:** Software as a service (SaaS) accelerates data fragmentation and aggravates DQ's challenges. Without a thoughtful approach to cloud data integration, DQ issues explode quickly.

■ **Audience:** The audience of analytics is changing from an internal focus geared toward managers to a more comprehensive, external focus that encompasses people at all levels, ranging from customers to suppliers. Broadening of audience changes DQ requirements and responsibilities.

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### Becoming Aware of Seven Typical Challenges of DQ

Many organizations have realized that analytics is only as good as its data, but few succeed in producing good data. Why is this so? It is because good data does not come naturally. The challenges of DQ are very real, and they can fall in either the IT arena or the business arena (see the "Analyze If Typical DQ Issues Fall Into the Business Arena or the IT Arena" section).

There are many DQ challenges that have their root causes in IT and/or the business arenas:

- **DQ costs money, time, and resources.** One pharmaceutical company reports that its clinical IT system has the best DQ among its IT systems for meeting regulatory compliance, but it was also twice as expensive as other systems.
Most organizations do not realize the importance of DQ until they have acquired some business maturity. For example, a CEO singly focuses on supply chain optimization, but fails to use analytics to understand customer needs. Lack of business maturity thus prevents advancement of analytics and DQ. In summary, DQ likely falls off the radar when an organization is still stabilizing its business practices.

**DQ is complex** because it is interwoven with multiple disciplines: analytics, MDM, logical data warehouse (LDW) and data governance. All these disciplines require close collaboration between the business and IT.

**DQ is often invisible.** DQ might have caused business problems, but business users often can’t articulate the problems as DQ issues. Instead, they go around the problems or perform manual data cleansing — in their heads or in spreadsheets. DQ issues often are surfaced only during integration and analytical phases. Data warehouse projects often end up absorbing data cleansing cost reactively after data creation.

Most organizations have a burden of legacy systems. Many legacy systems have closely coupled the application and the data, so it’s hard to modify the data or applications. In addition, some homegrown systems were developed decades ago and are treated as a "black box," and nobody knows how they function.

IT has operated under an application-centric mentality for decades when data and analytics are afterthoughts. This mentality makes it challenging to reuse data for multiple purposes, such as getting complete view of customers, optimizing business decisions and analyzing trends.

Many IT groups have taken ineffective approaches to improve DQ. A data management executive at a financial investment bank shared with Gartner: "In IT, a lot of people like unification. They like one thing." When DQ — or any activity — is taken out of the context of business needs, DQ processes can become an end goal in itself, which defeats the original purposes of supporting business.

Table 1 summarizes the mapping of the above DQ challenges and their root causes in IT and/or the business.
Table 1. Root Cause of Seven Typical Challenges of DQ

<table>
<thead>
<tr>
<th>Typical DQ Challenges</th>
<th>Business</th>
<th>IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costing money, time and resources</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Business maturity</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Complexity of DQ</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Invisible nature of DQ</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Burden of legacy systems</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Application-centric mentality</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ineffective approaches</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (April 2015)

Strengths

A DQ program has the following strengths:

- **Empower business innovation:** DQ directly supports key business initiatives such as customer loyalty and costs/risks reduction. DQ helps in achieving many business objectives, such as improving efficiency in supply chains or asset management.

- **Sustain DQ efforts better:** DQ not only empowers technical professionals to take immediate action to improve DQ, but also leverages enterprise information management (EIM) to sustain the long-term effort.

- **Improve EIM:** A DQ program propels EIM to a higher level and builds the foundation for multiple disciplines: analytics, MDM, LDW, data integration and application development.

- **Lower risks and support regulatory compliance:** Regulations — such as financial reporting or clinical trials — mandate high-quality data. Poor data can greatly impact business outcome.

- **Foster better collaboration:** Modern enterprises tend to build on collaboration with internal and external entities, ranging from suppliers to customers. A DQ program improves collaboration within and across enterprises. It also improves internal collaboration between business and IT.

- **Reveal DQ’s hidden cost and benefits:** A DQ program enables more accurate calculations of DQ’s costs and benefits. Also, transparency develops trust and better solutions in the long run.

- **Lower cost of integration and analytics in the long run:** Higher DQ in the original systems requires less work when performing integration and analytics later. It also provides more consistency and reduces ad hoc data cleaning work. In short, you save money in the long run.
Weaknesses

To succeed in a DQ program, pay attention to the following areas of difficulty:

- **Lack of business buy-in and sponsorship**: A DQ program requires direct involvement of businesspeople, as well as business executive sponsorship. This is neither easy to obtain immediately, nor easy to sustain over time.

- **Immature business**: It is often hard to sell DQ's value or solve DQ issues within organizations with immature business practices. Most organizations do not realize the importance of DQ until they have acquired some business maturity.

- **Lack of sustainability**: DQ discipline means that it is an ongoing — not a one-time — effort. Many organizations have started the DQ program but then let it languish because of insufficient attention to its sustainability. DQ programs must be supported by continuous change management, such as monitoring progress, socializing the results and readjusting based on business priorities.

- **Inability to quantify or articulate tangible benefits**: It often is difficult to sell a DQ program because it is hard to calculate the short-term benefits of DQ and its opportunity cost (meaning the cost of not having something). In addition to quantifying DQ’s financial calculations, you should also adopt innovative approaches, such as testimonials and storytelling, to share the benefits of DQ.

- **It is difficult to "rock the boat"**: If DQ costs have been hidden and absorbed by IT operation budgets, initial conversations with business may be awkward. But initiating the difficult conversations beats the alternative of patching solutions, which is not sustainable and doesn’t help business achieve its objectives in the long term.

Guidance

To initiate a DQ program to transform data into new oil for digital business, Gartner recommends four principles that will help you prepare for a DQ program:

- Align DQ with business objectives, and identify high-value use cases.
- Assess the maturity of DQ/MDM, and analyze immediate actions.
- Analyze if typical DQ issues fall under the business arena or the IT arena.
- Make the invisible visible by exposing DQ’s hidden costs and benefits.

**Align DQ With Business Objectives, and Identify High-Value Use Cases**

To generate business interest in DQ, you first need to understand how DQ can support business objectives. This means tracing business objectives all the way to DQ metrics. Your industry trends and business reports, such as your company’s annual reports, are great ways to learn key business objectives. For example, the IT team at an oil and gas company first proposes a DQ business case called "improve employee productivity," but it is ignored by business executives. The IT team then
reads its annual reports and finds out that certain business metrics — such as maximal asset utilization rates and minimal scheduled downtime — are critical business objectives. The team focuses on a high-value use case: improving asset maintenance data. It then maps DQ metrics to the corresponding business metrics and business objectives. The end result is stunning: Business executives not only buy into the DQ plan right away, but also ask the IT team: "Why didn't you say so earlier?"

Many technical professionals often realize the importance of aligning DQ with business objectives, but struggle with the "how to" part. Fear not: There are many ways to align DQ metrics to business objectives. Below are a few methods that are recommended by Gartner:

- Categorize business decisions into strategic, tactical and operational.
- Categorize projects into business operations, extension and transformation.
- Trace DQ metrics to business metrics using Gartner’s Business Value Model.
- Develop metrics based on the Gartner MDM framework, which shows the traceability of four layers: financial, performance, business processes and data metrics.

No matter which method you adopt, high-value use cases are the key link between high-level business objectives and low-level DQ metrics, as illustrated in Figure 2.

**Figure 2. Aligning DQ With Business Objectives**

![Diagram showing the alignment between Business Executives, Businesspeople, Business and IT, and IT: DQ Metrics]

Source: Gartner (April 2015)

To be specific, the four layers and their primary audience are related in the following ways:
- **Business objectives** are concerns of business executives primarily. These objectives are often found in corporate strategy documents such as shareholder reports or all-hands memos.

- **Business metrics** are concerns of businesspeople primarily. They are often found in business memos, presentations, reports and dashboards. When business metrics are absent, good business questions can reveal business needs and challenges. For example, a marketing executive may ponder: "How can I design an effective marketing campaign?" This question can help you narrow down the problem scope, identify suitable datasets and define DQ requirements.

- **High-value use cases** are the key link between the top two layers and DQ metrics. They are concerns of both the business and IT. Businesspeople prioritize use cases based on their objectives, and technical professionals facilitate identification of high-value use cases. Business and IT people jointly calculate financial benefits of DQ improvement based on these use cases. This link justifies the ongoing DQ funding. Sample high-value use cases include fraud detection, regulatory compliance (such as financial reporting and drug testing), MDM (such as single view of customers or products), process automation (such as stock trading), real-time trading (such as real-time ads bidding), asset management (such as machinery and buildings) and supply chain efficiency.

- **DQ metrics** are concerns for IT primarily. If you have clearly articulated the above three layers, DQ metrics should come forth naturally; for example, percentage of customer emails and addresses filled or percentage of customers matched across different systems. Without clearly articulating the above layers, DQ metrics are tedious and meaningless, which leads to a scattered and wasted effort.

Figure 3 illustrates how to trace high-level business objectives to low-level DQ metrics.
To summarize, high-value use cases help business and IT prioritize the effort and make DQ issues tangible and visible. They also help technical professionals communicate with business in a business language and obtain business sponsorship. They bridge business and IT and justify the ongoing DQ funding. Moreover, it is beneficial to start with use cases that have been tested with time — for example, reports that have been used for a while. Time-tested use cases help reduce moving pieces (hence risks) and quickly show tangible benefits. Finally, it’s beneficial to start with the most enthusiastic stakeholders — that is, those who clearly see how DQ can improve their work.

Assess the Maturity of DQ/MDM, and Discover Immediate Opportunities

Before starting any new initiatives, it is always helpful to assess current situation and maturity level. Starting a DQ program is no exception. Since MDM is often the platform for DQ, you can use the Gartner MDM maturity model to gauge your organization’s DQ/MDM maturity, and then use the assessment to analyze immediate opportunities for improvements.

Table 2 helps you perform a DQ/MDM maturity assessment. The first column shows Gartner’s seven building blocks of MDM. The top row shows five maturity levels. The cells describe the characteristics of intersection of a building block (on the left) and a maturity level (on the top). It’s common to see organizations with similar maturity levels for various blocks.
Table 2. DQ/MDM Maturity Assessment

<table>
<thead>
<tr>
<th></th>
<th>Level 1: Initial</th>
<th>Level 2: Developing</th>
<th>Level 3: Defined</th>
<th>Level 4: Managed</th>
<th>Level 5: Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vision</strong></td>
<td>None</td>
<td>Bottom-up initiatives only</td>
<td>Top-down, but limited in vision</td>
<td>Unifying vision for cross-enterprise MDM</td>
<td>Key enabler of business success</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>None</td>
<td>Reactive focus on fire-fighting initiatives</td>
<td>Proactive focus on individual domains</td>
<td>Consistent and integrated approach</td>
<td>Ongoing investment and improvement</td>
</tr>
<tr>
<td><strong>Metrics</strong></td>
<td>No metrics scheme for master data</td>
<td>Starting to develop data quality metrics</td>
<td>Successful use of metrics at the domain level</td>
<td>Using metrics to measure success cross-domain</td>
<td>Basis of management and investment</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>No one has responsibility</td>
<td>IT-led; lacking business involvement</td>
<td>Domain-level governance</td>
<td>Cross-enterprise multidomain governance</td>
<td>Well-established cross-enterprise governance</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>No data stewards</td>
<td>Developing the culture of data stewardship</td>
<td>Potentially strong team, but limited in scope</td>
<td>Centralization or federation of data steward groups</td>
<td>Well-established cross-enterprise stewardship</td>
</tr>
<tr>
<td><strong>Processes</strong></td>
<td>Silo-based — applications or functions</td>
<td>Starting to think in terms of the data life cycle</td>
<td>Focus on data life cycle at domain level</td>
<td>Best practice shared across the enterprise</td>
<td>Continue to optimize the life cycle</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Few or no data quality tools</td>
<td>Data quality tools, but no MDM solutions</td>
<td>MDM solution covering only one domain</td>
<td>Multidomain, but not integrated or consistent</td>
<td>Integrated and consistent set of capabilities</td>
</tr>
</tbody>
</table>

Source: Gartner (April 2015)

Corresponding to five stages of MDM/DQ maturity levels, technical professionals can take the following immediate actions to improve DQ:

- **Level 1 — "Initial":** Learn the best practices of DQ. Spark the conversation by sharing this document with your IT colleagues and selective businesspeople who can see the value of DQ immediately. Start addressing DQ issues that fall under IT control. Set up appropriate IT governance. Start measuring DQ on key data domains such as customers or products so that you can compare your DQ progress overtime.

- **Level 2 — "Developing":** Share DQ issues and benefits with businesspeople more openly. Use concrete use cases and examples. Link DQ with business objectives, metrics and questions through high-value use cases on one data domain. Form a working group (ideally including business and IT people) to develop the business case for a DQ program. Improve DQ iteratively and visibly through use cases. Monitor and document DQ improvement and business benefits.

- **Level 3 — "Defined":** Gain business sponsorship for a DQ/MDM program that focuses on one specific data domain such as customers or products. Define key DQ metrics, which can be
traced all the way to the top business objectives. Set up appropriate governance processes and roles (such as data stewards).

- **Level 4 — "Managed"**: Expand the DQ effort to other data domains. Build a unifying, enterprise vision for MDM, including DQ. Expand business sponsorship for a unified approach across the organization regarding to data, people, process and technology. IT and business work together as true partners on running the DQ program.

- **Level 5 — "Optimized"**: Maintain this highest level of DQ/MDM maturity through continued focused effort. Adjust DQ/MDM to changing business requirements. Proactively work with business to develop a new business competitive edge. Monetize data when appropriate.

In summary, the higher your maturity level, the more business users will realize DQ’s benefits and, consequently, the closer the collaboration will be between business and IT.

**Analyze If Typical DQ Issues Fall Into the Business Arena or the IT Arena**

Business has to support a DQ program, but IT can improve many IT-centric DQ issues on its own. IT can prepare the ground by figuring out if typical DQ issues fall into the business or IT arena, which in turn determines roles and responsibilities.

One good way to analyze typical DQ issues is to survey businesspeople on selected data domains. When surveys are combined with close alignment to business objectives, you will clearly be able to understand the DQ gaps and prioritize the work.

You can adopt the following table as a template to document your key DQ issues. Table 3 will help you analyze the nature of your DQ and prioritize efforts. It also helps making DQ visible. The five columns of the table include:

- **Sample DQ issues and root cause analysis**: You can treat typical DQ issues like frequently asked questions (FAQ) about data: What are the typical issues showing up? What issues are preventing IT and businesspeople from achieving their goals? Root cause analysis is a great way to peel back the layers of an onion and identify if a DQ issue falls under the control of IT, business or a combination of the two.

- **Impact to IT and business**: It is not an exaggeration to say that there are no DQ issues unless DQ directly impacts IT and/or the business. Pay attention to the degree and audience of the impact. Ask key questions, such as "What problems has it caused now?" and "What opportunities might it prevent in the long run?"

- **Practical solutions**: Answers to DQ issues can come from data, people, process and technology. Focus on the low-hanging fruit first to create some momentum before addressing more challenging issues. Enable businesspeople to help themselves, for example, by providing better documentation in an easy-to-access format.

- **Ownership**: The ownership to address DQ issues can fall under business, IT or a combination. The ownership column helps you discuss the right solutions with the right audience.
Decisions: The above four points of analysis lead to sensible decisions. Decisions are the most important outcome: how to address DQ issues. What is the next step to break the ice?

Table 3. Sample Key DQ Issues on Customer-Related Data

<table>
<thead>
<tr>
<th>Sample DQ Issues and Root Cause Analysis</th>
<th>Impact to IT and Business</th>
<th>Practical Solutions</th>
<th>Ownership</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sales team has a legacy database, and its field names are nonintuitive and nondescriptive. For example, &quot;Field 1&quot; and &quot;Field 2&quot; capture the customer’s alternative address and alternative name. Developers, testers and businesspeople often ask the data management team about the meaning of database columns.</td>
<td>We (IT) spend significant time answering people’s questions, even though we have a comprehensive data dictionary. Changing database fields is not an option in the near term because it will impact many applications and business operations. We also plan to adopt a Salesforce solution and retire the legacy database and applications in the next 12 months.</td>
<td>Share the data dictionary on a wiki so that users can find out how fields are actually used. Everyone can make comments on the fields, and IT will review and approve changes. This will help our future cloud integration and migration too.</td>
<td>IT</td>
<td>Publish data dictionary on an internal wiki in the next month. Send a newsletter to IT people first to test the water, then send a newsletter to businesspeople.</td>
</tr>
<tr>
<td>2. Customer database (a shared database among different departments) has a column called &quot;Address,&quot; which contains postal code, city, state and country.</td>
<td>Sales and marketing teams need to parse out data for marketing campaigns. Our business strategy is to increase market share in the next three years. This issue prevents sales and marketing from reaching their objectives.</td>
<td>Split &quot;Address&quot; into distinct fields for easier analysis. Cleanse the old data. Change the applications to populate fields distinctively.</td>
<td>IT and business</td>
<td>IT designs and deploys the solutions. IT manages the change with sales and marketing for next projects.</td>
</tr>
<tr>
<td>3. Businesspeople have various definitions on the customer entity and its attributes.</td>
<td>Reporting and dashboards produce inconsistent results because of various assumptions, which can have severe business impact in certain situations, such as financial and risk reports. In other situations, business impact is less severe.</td>
<td>Identify the top three key reports that have high business impact. Define their attributes.</td>
<td>Business</td>
<td>Bring this issue to the data governance council.</td>
</tr>
</tbody>
</table>

Source: Gartner (April 2015)

Making the Invisible Visible by Exposing DQ’s Hidden Costs and Benefits

If businesspeople cannot see the consequences of DQ, it will not be important to them. At some point, you need to turn the lights on to reveal the hidden costs of poor DQ, which are often covered by IT operational budgets or businesspeople’s silent struggles. Instead of silently fixing DQ issues, educate businesspeople on the business benefits of good data and the opportunity costs of bad data.
The above three principles will have prepared you to discuss business-centric DQ issues, such as data ownership, data roles and business processes, with businesspeople. For more examples of IT-centric versus business-centric issues, refer to the Becoming Aware of Seven Typical Challenges of DQ section.

In addition, IT should baseline DQ reports early on and then share the DQ progress over time. DQ reports make problems visible too. For instance, after the IT group of one hospital shared its DQ reports with businesspeople, DQ has received lots of business attention.

Moreover, IT should create and communicate a cost structure on fixing DQ issues — for example, the cost of finding out a field definition or cleaning a record in the data warehouse. These numbers help you build a business case to create a DQ program.

Finally, the following techniques are helpful to make the invisible visible and obtain business sponsorship for a DQ program (see more details in "Initiate and Sustain a Business Glossary to Improve the Value of Business Analytics and the Logical Data Warehouse"):

- **Storytelling** is often used in a-day-in-the-life hypothetical scenarios such as movie plots. A hypothetical scenario can reveal the truths obscured by daily work.
- **Examples and case studies** — either internal or external — from the real world are powerful means to connect with your business audience.
- **Quotes and testimonials** from real people lend meaning, weight and a human face to a DQ initiative.

**The Details**

**Debunk Six Common Myths**

To achieve the full benefits from a DQ program, it is necessary to debunk the following common myths:

- "**DQ is only an IT initiative**," or its variation, "**DQ is relevant only to extraction, transformation and loading (ETL).**" Mistaking DQ as a purely IT initiative leads to silently burning the IT operation budget, which also will be much less effective. Without supporting governance and organizational structure, the DQ initiative tends to degenerate into its starting state: reactive and ad hoc. In addition, the context and requirements of DQ are often misjudged without close business involvement. An IT-centric DQ initiative is much less effective in the long run.

- "**DQ is only a business initiative.**" In short, mistaking DQ as a purely business initiative results in organizational inertia and ongoing DQ degeneration. As such, technical professionals not only feel hopeless about improving DQ, but also tend to discount many activities within IT control — for example, enforcing naming conventions and drop-down data values for applications. Another example within IT control is good documentation, which is essential for downstream
consumption and ongoing maintenance. Because DQ is typically performed at a later stage for analytical purposes, IT often ends up putting patches on DQ issues without addressing root causes from data sources and original applications.

- **"We (IT) can't bother the business about DQ."** You are not bothering the business if you provide value to it. We have to firmly believe in the business value of DQ before instigating interest from others. To gain strong confidence in the value of DQ, pay strong attention to align DQ with business objectives and to identify high-value use cases.

- **"We need to improve DQ for all data,"** or its variation, **"Higher DQ is always better."** DQ is situational because not all data demands high DQ. Business objectives and use cases determine DQ requirements. DQ comes with costs, time and trade-offs with other initiatives. Sometimes, it is better not to cleanse data — for example, legacy systems that will be retired soon or advanced analytics that require raw, unbiased data. The real question is, "How good is good enough (for a particular use case)?"

- **"DQ can be measured objectively."** Although DQ metrics can be useful to assess and monitor the state of DQ, the perception of DQ often depends on a user's knowledge of data. One Gartner client said, "Data is good when users know the data, whereas data is poor when they don't know the data." This implies that it is critical to understand the users' perceptions of DQ and knowledge on data.

- **"Since our data is always bad, we can't do anything about it."** Small changes can make a big difference in DQ and business. You can start by paying close attention to the low-hanging fruit, such as openly sharing data definitions and enforcing good documentation practices. You can also focus on high-value use cases, which limits DQ scope and enables iterative delivery.

**Gartner Recommended Reading**

*Some documents may not be available as part of your current Gartner subscription.*

"Initiate and Sustain a Business Glossary to Improve the Value of Business Analytics and the Logical Data Warehouse"

"Legacy Data Migration Is a High-Risk Project — Be Prepared!"

"Information Quality in Enterprises Today: Up to Our Armpits in Alligators"

"Solution Path for Building the Next-Generation Data Warehouse"

"Solution Path for Creating a Business Analytics Strategy"

"Solution Path: Data Governance"

"Solution Path: Master Data Management"

"Embrace Sound Design Principles to Architect a Successful Logical Data Warehouse"
"EIM 1.0: Setting Up Enterprise Information Management and Governance."

"Magic Quadrant for Data Quality Tools"

"How to Use Tai Chi to Find and Act on Business Intelligence and Analytics Opportunities That Are Hidden in Plain Sight"
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