

Connecting data initiatives with business drivers



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Introduction

Scanning any CIO's yearly list of business imperatives, it would not be a surprise to see "improving data quality" somewhere among the top 10. However, because of the hurdles in justifying an investment in data management best practices, data quality seems to suffer from a perennial lack of funding.

Although proactive data quality management is widely recognized as a best practice, its value is often hard to quantify in a way that engages business sponsorship. Therefore, to demonstrate that data quality management yields tangible results, data management professionals must articulate how improved data quality leads to measurable business benefits.

When it comes to data, everyone recognizes the concept of "garbage in, garbage out." Linking data errors to negative business impacts helps to highlight ways that improving data quality will improve the business as well. If poor data quality impedes the achievement of desired business objectives, then being able to identify "low-hanging fruit" improvements will help to provide immediate benefits and contribute to a strategic plan for data quality management.

Data management professionals must articulate how **improved** data quality leads to **measurable** business benefits.

Understanding business drivers

Most business activities rely on the use of information, with clear connections between the quality of the data and the achievement of positive business results. So in order to quantify this relationship, we must look at how data errors and inconsistencies interfere with success. One can link the occurrence of data errors with specific business processes, providing a method for identifying the activities impacted by poor data.

We can begin with high-level categories for adding value, or rather, the business drivers, such as:

- Revenue growth and generation
- Business growth and expansion
- Asset management
- Risk and compliance management

We can drill down through these business and see all the related activities that stem back to good data quality

management. Although data management staff members are not typically trained in business analysis, nor are business sponsors always familiar with data practices, a high-level scan allows anyone to consider the information needed to perform any of the business activities shown in the table below.

For example, in Table 1, the task “Review existing portfolio and segment based on various criteria” is intended to segment the customer database by customer type to help refine marketing messages and improve targeting. At the very least, from a data requirements standpoint, customer segmentation requires customer profile information (including demographic details), customer transaction information (to review historical behavior and associated trends), and reference information associated with the segmentation variables.

Table 1: Typical tasks associated with revenue-growth activities

Activity	Examples of tasks
Acquire new customers	Target new geographic regions Target untapped areas within existing geographic regions Generate and manage sales leads Improve quality of sales leads Improve customer experience Reduce sales cycle time Improve sales closure rate
Increase same-customer sales	Review existing portfolio and segment based on various criteria Focus on high profitability products Cross- and up-sell Increase customer satisfaction Integrate with customer life cycle events

Information requirements and data dependencies

Having established the relationship between business drivers and corresponding data requirements, the next step is to evaluate how well the available data meets business needs. There are two parts to this next step:

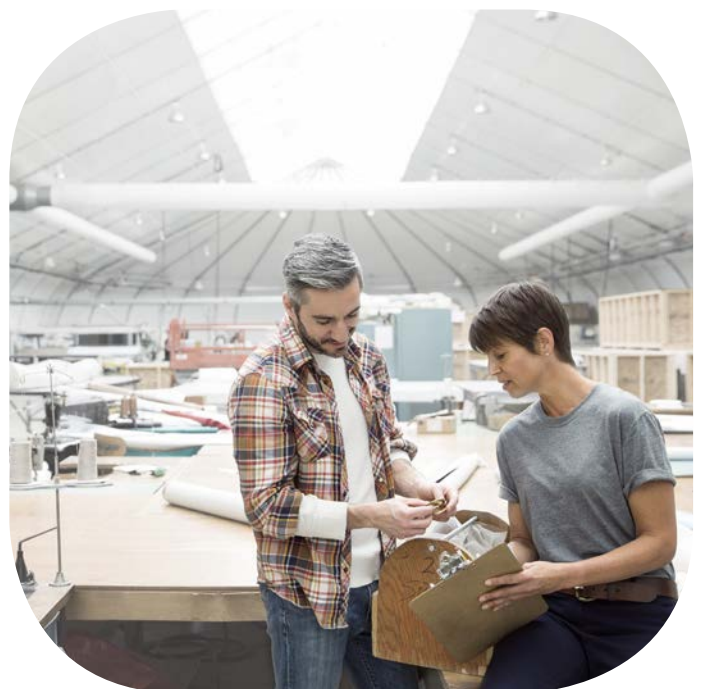
1. Finding candidate datasets that can meet the information requirements (e.g. documenting the list of existing data assets and reviewing their meta-data to see if it matches the business needs).
2. Calculating how poor data quality impacts business results (e.g. interviewing business subject matter experts to expose ways that data errors impact the business).

A data analyst can work directly with the business sponsors to classify and prioritize the data errors while differentiating between critical and non-critical issues. This may show that improving data quality can justify negative impacts that reduce efficiency or profitability, or provide positive impacts to increase efficiency and profitability. Some principal evaluation categories include:

- **Revenue growth** – Inaccurate customer data, invalid reference datasets, or invalid segmentation could lead to missed opportunities, customer attrition, or delays in product delivery.
- **Expense management** – The inability to resolve supplier identities prevents accurate spend analysis, which may expose the organization to unnecessary spend, barriers to effective negotiation, as well as potential overpayments to rogue vendors.

- **Asset management** – Inaccurate tracking of inventory and parts reduces service efficiency and increases time to repair while raising questions about the productive lifetime of components.
- **Risk and compliance** – Minimal data governance can expose an organization to investment risks, loss of capital, and fraud, while risking compliance with government regulations, industry expectations, or self-imposed policies (such as privacy policies). Inaccurate location information can lead to failures in delivery, increased shipping, and mailing costs as well as increased credit, natural disaster, or default risks in relation to property locations.

An assessment of your datasets will expose potential data errors. This assessment can combine subject matter expert experience with hard measures drawn from a statistical data profile. For each potential business impact, one can estimate a cost factor related to identified data errors. Then, one can link potential improvements in data quality to the improvements in generating value. Lastly, using the hard measurements derived from the statistical analysis provides a quantification of the benefits of improving data quality.



Costs, benefits, and low-hanging fruit

Evaluating how data errors reduce the effectiveness of any business activity provides the “cost” aspect of justifying data quality improvement. Researching the root cause of a particular issue may suggest potential solutions. But in some cases, the solution(s) may actually cost more than the costs related to the problem.

Very simply, if the cost to fix the problem is less than the costs associated with the business impacts, it makes sense to fix the problem. But if the cost to fix the problem exceeds the costs of the business impacts, it may be better to tolerate those impacts until a more cost-effective solution can be determined.

Variables related to the equation include impacts on customer service, strategic placement in a competitive market, and reductions in exposure to known risks that can be incorporated into the cost-benefit analysis. In turn, this analysis allows you to prioritize improvements based on different variables, such as cost to implement, overall positive impact, time to value, or organizational trust.

Any data issues with a high business impact and a low cost to remediate can be considered “low-hanging fruit,” otherwise known as the opportunities for immediate action that will have a measurably large, positive impact. To identify the low-hanging fruit for each data issue:

- Review the impacts
- Assess the costs to remediate
- Determine performance metrics that measure improvement

Subtract the cost to remediate from the cost of the impacts, and the difference between the two values can be referred to as your return on investment. The corresponding data issues can be ordered in terms of greatest return on investment. For each of the issues, develop a reasonable plan for designing and implementing a solution, along with related performance metrics that will demonstrate the value improvement. Inserting controls that validate data will prevent the introduction of errors, and this increases the benefit by integrating data quality best practices directly into the business applications.



Look for the simple solution

As an example, let's take "Target untapped areas within existing geographic regions" from Table 1 to work with. Some examples of data issues, their corresponding business problem, and some potential solutions are presented in Table 2 below.

Table 2: Data issues hindering the ability to "target untapped geographic areas within existing regions"

Type of data errors	Business problem	Potential solutions
Inaccurate customer name data	Inability to link customer records together for aggregated analysis and classification (by age, demographic details, household, family, purchase history, etc.)	Modify data input processes to validate correct entry of customer data if possible Attempt automated identity resolution with existing customer data records for validation
Inaccurate customer location data	Inability to aggregate customer activity by location and by hierarchical regions, making it difficult to assess geographic distribution	Modify data input process to ensure correctness of location information upon data entry Incorporate automated address standardization and correction technology

When considering methods for improving the quality of data, always look for simple approaches that can add significant value. In this case, modifying the data input process may result in reducing newly introduced errors. However, subjecting location data to address standardization and correction may provide immediate benefits while limiting the need to modify existing production processes.

Conclusion

Business processes affected by poor data quality may be improved by data corrections. Data validation either at the point of capture or through batch cleanses, along with standardization and deduplication of data will increase the value of your data significantly. Understanding how data requirements relate to business drivers helps narrow the scope of opportunities for improving data quality to those providing the greatest bang for your buck. When assessing the information, data dependencies, and associated data quality expectations of any business improvement activity, deploying simple solutions with measurable improvements will continually justify the ROI of data quality.

When you're ready to take the next step, check out our data quality buyer's guide to help you understand what things to look for in a vendor before purchasing.

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