



The Global Language of Business

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Best Practice

Getting it Right first time

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1 Introduction

The industry has recognised that there is a real need for manufacturers and retailers to review their data governance processes, and to make critical improvements to data quality at the source, not only to meet the growing customer need for information but also to remain competitive in a crowded marketplace.

When a manufacturer develops and introduces a new product, they have the opportunity to take into account the data needs of their trading partners and the end consumers. As such, when creating, storing and sharing product information, the manufacturer can use GS1 Standards to get the product data right the first time. Using GS1 Standards and a sound data governance process at the start, manufacturers and retailers can provide accurate, consistent and validated product data, making the supply chain more efficient and secure, and ensuring the parties that need product data will have more confidence that the data is accurate and trusted.

Customers also demand accurate, complete and trusted data when they visit a shop or purchase products online.

Poor quality data can lead to:

- Loss of brand confidence due to poor experiences with online searches
- Inaccurate sales data due to inaccurate product data and misidentification
- Distribution issues due to inaccurate data and automated warehouse systems for receiving and storing products, e.g. weight, case and pallet information
- Truck full-load capability issues due to inaccurate weights and measures

Manufacturers and retailers should review their data governance processes to improve data quality and meet the growing customer need for information.

2 Document purpose

Audience: GS1 Member Organisations, Manufacturers and Retailers.

Objective: To outline a best practice methodology based on the business process for New Line Introduction to improve data quality, including the identification of data owners, and a process for auditing and monitoring data for on-going consistency and accuracy.

This best practice methodology for New Line Introduction is based on best practices that use proven techniques and services developed by GS1 Member Organisations in collaboration with industry from across the world to improve the quality of data prior to data synchronisation.

With the demand for good data governance, this document will outline how to create a process for data governance and how the process must meet strict data quality parameters to support the demand for accurate and consistent data as it travels through the information supply chain.

3 Benefits of good, quality data

Consumers have more access to technology and information than ever before, and are becoming more demanding on accurate and timely product data in order to make purchasing decisions. Therefore it's important to have the right product information at the time they need it, whether the item is being purchased onsite or online. Manufacturers and retailers must make **data quality** a priority as a result.

Retailers also must look at how to increase their visibility via Omni-Channel, which in turn benefits the manufacturer by having their new product line available for search engines, where consumers

can make informed purchase decisions based on accurate and complete information. The objective of establishing a best practice methodology for New Line Introduction is to improve data quality and internal processes, including the identification of data owners and a process for auditing and monitoring data for on-going consistency and accuracy.

Manufacturers and retailers experience the same business benefits from good data quality. These include:

- Reduced delivery times and costs; ensures the “right product is delivered to the right place at the right time and for the right cost”
- Increased availability of products; accuracy in inventory management, improvements in planning
- Streamlined administrative processes; ship notices and invoices are accurate

4 A Journey through the information supply chain

Good data quality is key for all sectors: from retail to healthcare, transportation and logistics to fresh foods. To understand the impact of poor data quality, it's important to understand the journey that a product takes as it travels through the information supply chain. Everything starts with the New Line Product information, which is created at the point of manufacture.

Manufacture: At the creation of a new product, the GS1 identification keys such as the GLN (Global Location Number) and GTIN (Global Trade Item Number) are fundamental and essential for data quality. They ensure identification of products, shipments and locations throughout the supply chain. These identification keys also enable product ordering, tracking and invoicing. In order to ensure good data quality for New Line Introduction, all attributes need to be complete and accurate. Typically, when a manufacturer creates a new product line, not all the product information is available when demanded by the retailer; its key that in post-production, the item data is re-checked, any updates are sent to the trading partner and all internal systems are updated with any changes.

Transport and logistics: As the new product leaves the factory, the journey commences, not only for the shipment but also for information about the new product line. If product data is incomplete, this could lead to errors such as poorly optimised transportation, where the trucks are not filled to full capacity, which is neither environmentally friendly, nor financially efficient. If transportation is not optimised, drivers run the risk of being issued penalties, for example, due to overweight trucks caused by bad data about the product weights. It is the manufacturer's obligation to measure, validate and communicate the product information post-production to their internal system, ensuring transport and logistics optimisation, and externally to their trading partners before they receive the new products into their warehouse/distribution centre.

Warehouse – distribution centre: As the new product reaches the trading partner's warehouse, or distributor's warehouses, everyone involved depends on a steady and unbroken stream of information based on good data quality. Bad data quality can lead to problems in the warehouse due to information errors: fork lift truck operators may not be able to put pallets away because of incorrect measurements on the dimensions of pallets and cases, for example. With good quality data from the manufacturer related to the dimension of the products, cases and pallets, handling and storage at the distribution centre can be optimised.

Trading partner: When the new product line arrives at the retail store, any bad data associated with it can have significant consequences. Bad product data can lead retailers to reject new items at delivery because what is delivered is not what was ordered, resulting in delayed product launches and lost sales. The planogram information provided to a store could lead to the new product line not fitting the shelf correctly e.g., overhanging the shelf or the product being smaller than the dimensions provided, leading also to the trading partner not optimising the space allocated. New line introductions often suffer with errors in invoices due to incorrect pack quantity information. Also, due to increased online shopping; manufacturers are required to provide more product data to their consumers digitally to ensure a seamless shopping experience, online or onsite.

Consumer: When bad quality data is associated with the product, consumers will also suffer the consequences. If the net content is incorrect, the consumer will be unable to determine which product provides the best value for money. Secondly, all ingredients or possible traces of ingredients need to be listed; for example, to identify products as appropriate for vegans or for

those following a kosher diet. This way the consumer can select the correct products that fit their lifestyle choices. Finally, people who have certain health conditions or allergies need to be able to check the label to ensure what they are consuming is safe for them. If the correct information is not available when shopping online, this could lead to serious risks to consumer safety, in some cases a matter of life or death.

5 Top management involvement

Top management (Managing Director or Chief Executive) should demonstrate commitment and determination to implement a data quality governance process within their organisation. Without top management commitment, no data quality initiative can succeed. Top management must be convinced that a compliance statement will enable the organisation to demonstrate to its trading partners a visible commitment to data quality. Top management should realise that a data quality governance process will improve overall business efficiency.

It is important that top management demonstrate its commitment to the development and implementation of the data quality governance process related to New Line Introduction by:

- Communicating to the organisation the importance of having a data quality governance process.
- Helping in the definition of the organisation's data quality policy and make this known to every employee.
- Ensuring that data quality objectives are established at all levels and functions.
- Ensuring the availability of resources required for the development and implementation of the data quality governance process.

6 Data governance: The five-step process

Data governance is a key element setting out parameters for how data is managed and created within an organisation. A formally outlined and documented data quality governance process will identify the owners of data attributes and make them accountable for data management across the organisation, and ensures that product auditing is conducted at the final stage of the process (post production). The process enables product data to be accurate, complete and verified when data is communicated to trading partners.

Outlined in the next section are the five steps to deploy a successful data quality governance programme linked to the business process for New Line Introductions.



Note: The Five Step Process was reproduced with permission from 1WorldSync, Inc. ©2015

6.1 Step 1: Appoint a data steward, either an individual or department as the sole owner of the product data

Once there is top management commitment, manufacturers should identify a single department or individual to shepherd/gather the new line attributes for verification and sign off. This person will need to be empowered to execute the control mechanisms and documentation. Roles and responsibilities need to be clearly defined, communicated and understood. The data steward should also be held accountable for training data owners throughout the business organisation.

The selected data steward will act as the interface between various business functions and will serve as the organisation's "data quality governance champion." This person should have:

- Total backing and empowerment from the CEO.
- A demonstrated commitment to quality in general and to the data quality governance process.
- The authority - resulting from rank, seniority, or knowledge - to influence managers and others of all levels and functions.
- Detailed knowledge of quality methods in general and data quality in particular.
- The ability to educate and drive awareness within the organisation.

- Responsibility for communications across the organisation to show how these initiatives supports the main organisational objectives, mission and vision.

6.2 Step 2: Assign data owners throughout the organisation

A good data governance process clearly identifies owners of data within their organisation who provide product attributes to the data steward for the New Line Introduction process. Within most manufacturers, there are many people responsible for providing pieces of information (attributes). For step 2, it is critical that all of the data owners are identified and made accountable to the data steward for not only providing the initial information, but also for any updates that need to be communicated both internally and externally on the product on-going, especially at the final production stage.

- Data quality awareness programs should be conducted to communicate to the data owners the aim of the data quality governance process.
- Clearly documented process and training of the governance process to the data owners for the business process on how to provide data attributes for the New Line Introduction is key. Either the data steward or department as the sole owner of the product data should conduct the training.
- The training should cover the basic concepts of data quality management along with the standards and their overall impact on the strategic goals of the organisation, the change processes, and the likely work culture impacts.
- Data governance documentation/guidelines need to be developed and used within the training sessions and should include, for example: procedures and work instruction; auditing principles; data gathering and industry standards. These should be aimed at the data owners within the manufacturers' individual business units.

6.3 Step 3: Adhere to GS1 standards and rules

This section outlines the need to adhere to the GS1 standards and rules for the business process of New Line Introduction, not only at the preliminary stages but also at the post-production - finished product stage.

During the creation of a new product, the key **Foundational Attributes** are defined to support the data accuracy. The data set can grow overtime:

- GTIN
- Brand Name
- Declared Net Content or Unit of Measure
- Pack Quantity

Once the GTIN of that product is shared with a trading partner, a change to any of these attributes, independent of which stage in the product development process (pre-production or production), **will require strict adherence** to the GS1 GTIN allocation rules.

During initial item setup, key **Fundamental Attributes** are also defined,

- Linear dimensions/unit of measure (Height, Width, Depth)
- TI/HI
- Country of origin
- Gross weight/Unit of measure

Once the GTIN of that product is shared with a trading partner, a change to any of these attributes, independent of which stage in the product development process (pre-production or production), **will require strict adherence** to the GS1 GTIN allocation rules

6.4 Step 4: Audit all new items post-production

Physical comparison auditing of the new product before the final dispatch to trading partners is critical and ensures good data quality. As such, audits must take place to ensure high quality data is used and exchanged with trading partners. Below are guidelines on how best to structure these physical comparison audits within the data quality governance process.

Because product attributes for new product lines are evolving as the product is developed and therefore have a higher risk of changing, it is important to look at the foundational and fundamental attributes during the physical comparison audit procedure. Once checked and validated following the physical comparison audit completion, product attributes should be communicated both internally and externally, along with any future changes or updates.

The internal physical comparison audit approach should be documented as part of companies' data governance process, and should include both the each and case:

- Defining the scope of the inspection/audit for New Lines (normally at the end of the production line)
- The information sources that will be compared
- Goals and objectives for the inspection for post-production New Lines
- Foundational and Fundamental attributes to be compared for New Lines (see below)
- Recorded the results of the physical comparison on lines leaving the final production.

6.5 Step 5: Communicate data on finished products, both internally and externally

The need for strong communication is critical. A documented communication plan needs to be defined and communicated across the organisation. It needs to encompass both internal and external communication.

When the inspection is complete on the final production line, the product information is recorded and any updates need to be reflected in internal systems, then it **must** be communicated externally to trading partners. It is recommended to use the GDSN, as it makes the supply chain smoother, quicker and more efficient with the most accurate and reliable data about products. However, data exchange can depend on business sectors, and companies may have different ways of sending and receiving and sharing data. Regardless of the method, it is critical the most current data is exchanged to guarantee on-going data quality.

7 Management review and on-going continued improvement

When the deployed data quality governance process has been operating for three to six months, it is recommended to conduct an **internal management Review** to see if the implemented data governance procedures needs to be updated and, if so, changes communicated across the organisation. The review should be conducted to ensure the continuing suitability, adequacy and effectiveness of the data quality governance process.

The input to a management review should include information on:

- Results of audits
- Reports from the data quality governance process
- Data user and stakeholder feedback
- Process performance and data and product conformity
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Changes that could affect the data quality governance process

- Recommendations for improvements

Reviews should also address:

- Improvement of the effectiveness of the data quality governance process and its processes to ensure data quality and accuracy
- Improvement of customer-related requirements with respect to data quality governance process
- Resource needs
- Pitfalls to effective implementation (examples could include lack of CEO commitment, failure to involve everyone in the process, and failure to monitor progress and enforce deadlines)

Implementation of a data governance process is only the beginning of a process to maintain and sustain data quality through time. Organisations should continually seek to look for continued improvement and effectiveness, along with suitability of the data governance process through the use of:

- Quality policy
- Quality objectives
- Audit results
- Analysis of data
- Corrective and preventive actions
- Management reviews

8 Monitoring data quality

Key performance indicators (KPI) for data quality

An analysis of the data quality output of an organisation will always offer clear indications of whether the data quality governance process is working. Therefore, in order to be able to measure the degree in which product information can be considered of good quality, a series of objective, parametric measures should be documented across the organisation. These measures can be expressed as key performance indicators (KPI) that can be periodically monitored to verify the accuracy of the data.

Within a collective effort supported by key industry members, a KPI model from the Data Quality Framework v3.0 was defined as a means to:

- Provide trading partners with a neutral, common set of KPIs for data accuracy.
- Cover the most commonly synchronised attributes across all regions.
- Offer a basic structure to validate the effectiveness of data quality governance process deployed within an organisation.

Though some of the KPI models are focused entirely on measurements of the accuracy of basic data elements (such as Brand Name, GTIN, Dimensions), it is applicable to almost all business processes including New Line Introductions.

The KPI model could be used for any of the following scenarios:

- Report the results of product audits.
- Reference to compare the accuracy of the data performance of two different entities
- To track progress on improvements.
- Compare the progression of data accuracy within the organisation by striving always to improve the results obtained every time the KPIs are measured.

9 Supporting documentation and reference guides

Where to find and how to use supporting documentation:

- [*Data Quality Framework v3.0*](#)
- [*Implementation Guides for the Data Quality Framework v3.0*](#)
- [*GTIN Allocation Rules*](#)
- [*GS1 Packaging Rules*](#)

10 Conclusion

All trading partners face challenges with maintaining quality data. When developing and launching a new product line, the manufacturer has the opportunity at that moment to take into account the data needs of its trading partners and customers down the line. Using best practices in data quality and GS1 standards, the manufacturer can get the product data right, right at the start. Having an internal data governance process will help ensure the synchronisation and alignment of product information across trading partners. With accurate, consistent and synchronised data traveling through the supply chain, the supply chain will be more efficient and secure, and the parties that need product data will have more confidence that the data is accurate and timely.