A blurred photograph of a supermarket aisle with shelves of products and people shopping.

Data Quality White Paper
FMCG Suppliers:
How to implement a GS1-compliant
Data Quality Management System

A close-up photograph of a shopping cart filled with fresh produce, including dark grapes and leafy greens.

Regain control of your product data quality by following GS1 GDSN standards and implementing best practices of the GS1 Data Quality Framework

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1 What is Data Quality

1.1 General Data Quality Explanation

1.1.1 Why is data quality needed?

Master data sits at the core of your business.

Just imagine what happens if you do not have your customer's address. You will not be able to send them an invoice! Imagine what happens if your customer does not have your correct address. They will not be able to place an order with you! Could you be losing business simply because your potential customers do not have your correct contact details?

Customer and supplier address data is very important master data, but it is very obvious when that type of data is wrong (your invoice will be returned). The handling of Item master data is more complex. Item master data is needed for ordering and invoicing, the same as address data. How often do you have problems figuring out which actual products your customer wants, because they did not supply a GTIN¹, or a correct product number, or the product description was not specific enough to figure it out.

On the other hand, your customers (retailers) may be struggling to manage logistics from their distribution centres to the stores, because they do not have the correct dimensions of your products. Route planning of the delivery trucks is automated and is recalculated on a daily basis based on the orders coming from the stores. If the route planning system does not have the correct dimensions of the products, it will be always wrong in determining how much truck space will be needed to fulfil orders.

This is not only about costs of transportation space but it is also about sustainability and the impact on the environment.

In this white paper we will focus on techniques for improving the quality of Item master data.

Are you losing business because your potential customers don't have your correct details?

SUMMARY

So, to answer the question – high quality master data is needed by you and your customers to run business processes as efficiently as possible. There is a specific impact on supply chain processes like the order, invoice and despatch advice processes. But there is also a high impact on all kinds of eCommerce processes as we will see later on.



¹ GTIN = Global Trade Item Number – a globally unique item identifier, the basis of which originates at GS1.

1.1.2 What can happen if you provide bad data quality

In this section we will explain what problems you could cause your customers if you provide them with bad data, and how it would then impact your financial results.

Route planning

As already mentioned, retailers are using automated route planning to plot how their trucks deliver goods from distribution centres to stores.

If the dimensions of the products are missing, the retailer systems often use default values. As a result there will either be too few or too many products picked to load on to a truck (depending on whether the products are larger or smaller than the default values).

Just imagine the size differences between a chocolate bar and a pack of toilet paper!

Of course, it's not only a distribution problem; process efficiency in the distribution centres and retail stores are also heavily impacted. For example, packing lanes in the distribution centre cannot be reused if their contents are not entirely loaded onto the outbound delivery truck. This may then cause problems with stock durability if you are dealing with fresh food. In the retail stores, staff resources are planned based on expected orders and if incomplete loads are received the cost of wasted resource can be high.

We did a review at one retailer, we found that 70% of their items did not have any logistic dimensions at all! As you can imagine they had a massive issue with their route planning and instead of looking at the data quality of their item master data they invested into implementing a new route planning system. The result of which should come as no surprise; the same problem re-occurred!

We calculated for this retailer a yearly cost saving of up to €10 million if they were to improve Item master data quality and simply use transport more efficiently.

Ordering

What is going to happen when your customer accidentally orders using the wrong GTIN, for example case instead of pallet? Your customer will complain about the wrong delivery and they will quickly run out-of-stock of the products.

This will impact you financially in two ways:

1. You are not making the revenue you could have made if you would have delivered the whole pallet.
2. You will get a bad supplier scoring because you have not fulfilled the order correctly. Yes, we know your customer made the mistake, but have you ever investigated why your fulfilment rating is always so bad? Or do you always think that it is just normal?

Invoicing

Let's assume that you know what your customer has done wrong. You know that your customer has ordered using the wrong GTIN. So you choose to deliver the pallet instead of the case, even though the order documentation states that a case should be delivered.

We reviewed one retailer and found 70% of their items did not have any logistic dimensions at all! We calculated for this retailer a yearly cost saving of up to €10 million!



But then what happens during the invoicing process?

You send an invoice with the correct GTIN – the GTIN of the pallet. Your customer now tries to process the invoice automatically and compares it to the order he has sent to you. Guess what? It does not match!

Now the manual resolution process starts. This requires time and resource from both parties. The customer will call you and you have to jointly figure out what is wrong with the invoice. And just keep in mind that your customers – retailers – have to deal with thousands of invoices on a daily basis.

This manual invoice resolution process will not only create costs on both sides, but it also impacts you financially because the delays may mean your customer does not pay the invoice on time. We all know that managing cash flow is paramount in any business.

e-Commerce

The practice of e-Commerce – meaning B2C online shopping – is very well established. Most retailers offer an online shop as an additional channel to reach customers.

The key to success in the online channel is high quality product information.

Where does this product information come from? Hopefully the information comes from you. Then you are in control of the quality of your product information and you are directly in control of your sales success.

Product information in the online shop is comparable to the physical packaging in the store. How much do you invest into the packaging design to attract and influence the consumer to buy your product?

To be successful in your customer's online shops you have to supply good quality product information (including good quality images, good and extensive product descriptions, nutrition and allergen information, etc.) to your customers.

If you are providing high quality product information to your customers then you must monitor their web sites to ensure that they are using that data to represent your products in their shops.

This is how you can increase sales!

Liability

There are regulations and legal requirements regarding product information, whether it is shown on packaging or on a retailer's website. You are obliged to provide certain key product information to your customers, regardless of the channel they use to sell the products.

Your customer will hold you liable if the data you are providing is not correct, current or complete.

The key to success in the online channel is high quality product information.



1.1.3 What is Data Quality?

Having discussed what might happen if you provide bad data to your customer, the question now is “what is bad data?” or more precisely “what is data quality?”

Actually the term data quality is not as simple as it appears to be at first glance, for it covers a number of specific areas:

Data Quality always depends on the environment and the requirements, compared to your product information.

1. **Completeness:** Your product data should be complete. For example, each item must have a GTIN, and every item must also have dimensional information (length, width, height).

But also consider products like music in mp3 format which are bought and downloaded online? They do not have any dimensional information at all!

As you can see, Data Quality is more complex than you might think.

Completeness depends on the product category you are looking at (e.g. all physical items definitely need the dimensional information; non-physical items typically do not have them).

Achieving a high level of quality is also complex because the concrete definition of completeness depends on the business processes you need the data for, as well as the nature of the data. If you are selling online, you will need images. If your customer is selling online, then they will need product images – and it might be best if you provide them.

So even a simple concept like completeness is not trivial and really depends on how you, or your customers, will use the data.

2. **Consistency:** This is a much simpler part of data quality, because it does not depend on how the data will be used. An example of consistency is the data used within the packaging hierarchy. If you have the ‘each’, the ‘case’ and the ‘pallet’ items and all three data records have the attribute ‘Quantity of next lower level Trade Item’ then this should be consistent with the attribute ‘Quantity of base items contained’ through all three records.

3. **Accuracy:** Data should be as accurate as possible. This applies especially to measurements like dimensions but also to allergen information. If a product is called “nut-free” this should be accurate and the product should not contain any trace of nuts.

4. **Correctness:** If you have data for an attribute, you want that data to be correct. If the weight is “100g” your data should not read “200g”.

5. **Currency:** Products tend to change over time. Maybe the size changes slightly or the net content changes. What you want to know is “is that data record still valid?” or “when does a change become applicable?” - how current is the data?



In summary, it is evident that Data Quality is not an absolute measure. You cannot take a product record out of context and determine its data quality. Data Quality always depends on the environment and the requirements, compared to your product information. In other words, the data, and the quality of that data, should match the requirements.

The generic dimensions (completeness, consistency, accuracy, correctness and currency) of Data Quality, in conjunction with the requirements from business processes and the actual product information, define what Data Quality is in your environment and therefore make Data Quality measurable.

WHAT NEXT?

In the next chapters we will investigate what requirements we are facing regarding Data Quality in the FMCG and Retail Industry. One of the key requirements is that you, as a supplier, have to provide item data to your customers – the retailers. And from this requirement to exchange data, other requirements regarding your product information and its data quality arise.

Data quality is not an absolute measure.



1.2 Requirements from GDSN

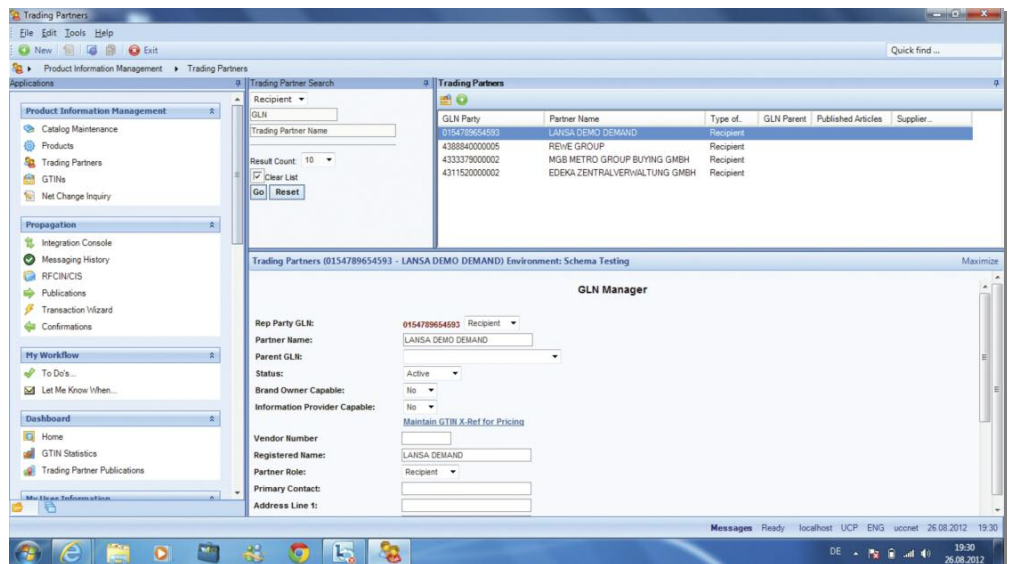
GDSN (the Global Data Synchronisation Network, see <http://www.gs1.org/gdsn>) places many requirements on product information and data quality.

First of all, participation in the GDSN requires that your data is compliant with GS1 standards² This means;

1. Your organisation needs a GLN (Global Location Number – this is something like a globally unique company ID, but for details please visit: <http://www.gs1.org>)
-> *Completeness*
2. Each and every one of your items needs a GTIN (Global Trade Item Number – which is a globally unique article number)
-> *Completeness*
3. Your item information has to be structured in a way that the information can be mapped onto the standardised attributes of GS1 (they can be found here: <http://gdd.gs1.org>)
-> *Completeness*
4. Your item information has to comply with the GDSN Validation Rules (see here: <http://gdd.gs1.org/gdd/public/gdsnvalidation.asp>)
-> *Consistency & Accuracy*
5. Your item model itself has to be compatible to the Standard GS1 item model, e.g. your item model has to provide the packaging hierarchy, assortments and so on.
-> *Consistency & Accuracy & Currency*

Finally if all your data complies with all these rules, GDSN places another burden on you. GDSN does not only have requirements regarding the data itself, but also on how you are going to exchange that data with your trading partners.

GDSN places many requirements on product information and data quality.



² Definition of the GDSN, GS1 or the GSMP are beyond the scope of this document. For full definition of these terms, their purpose and applicability, please visit <http://www.gs1.org> and <http://www.gs1.org/gdsn>.

The protocol defined by GDSN to exchange product information does not help with the more static approach of Data Quality described above, but it does help to ensure and improve Data Quality in the dynamic process of exchanging product information between trading partners.

The key interaction here is via the so-called 'Catalog Item Confirmation' message which allows the data recipient (your customer – the retailer) to send you back some information on whether an item was accepted or if there was some reason for not accepting the item.

HOW LANSA CAN HELP:

Ok - we are not offering you all this information without trying to position a solution to help! Our software product - LANSA Data Sync Direct - is a Product Information Management (PIM) solution, which can handle all this complexity out-of-the-box!

The GDSN data model is pre-configured, all the GDSN validation rules are built in, and even the GDSN protocol is included. You can connect out-of-the-box to all of the major GDSN data pools. And on top of that our product allows very simple and easy integration into your existing IT systems.

Implementing LANSA Data Sync Direct helps you to comply with all the Data Quality requirements of GDSN.

Implementing LANSA Data Sync Direct helps you to comply with all the Data Quality requirements of GDSN.



1.3 Requirements from Retailers

You might expect that a standard like the GDSN, which has been developed globally by major retail and industry players, should cover most of the requirements retailers can have regarding the data that you, as a supplier, have to provide to them.

Far from it!

The GDSN follows the lowest common denominator approach. Retailers typically have requirements that go beyond what the GDSN defines. The reason for this is that different retailers use the data you are going to provide for different business processes. Depending on the business processes they want to feed with your data, requirements will differ.

A very typical example is whether they want to feed their online-shop with your data or not. If they want to do this, you will have to provide the relevant B2C data including good quality images. If they just want to support the planogram process they might only need some simple images and the correct dimensions of the consumer unit and break packs.

That information is typically optional within the GDSN, but mandatory for a retailer to be able to fulfil the requirements of their business processes.

The good thing with retailer requirements and the GDSN is that they typically fit nicely with each other:

- The GS1 Global Data Dictionary (GDD) defines more than 1,500 attributes - retailers are typically only using a subset of those.
- Most of the attributes in the GDD are only optional - but if retailers use an attribute, they actually depend on that data for their processes - therefore it is often mandatory from their perspective.
- Retailers typically have a 'Supplier guide for Data Synchronisation' where they describe which attributes they use and depend on, and which additional validation rules they have – just ask for it

The GDSN follows the lowest common denominator approach. Retailers typically have requirements that go beyond what the GDSN defines.



HOW LANSA CAN HELP:

LANSA Data Sync Direct allows you to customize all those retailer requirements inside of the PIM depending on the retailers you are working with (trading partner management). The PIM system then becomes the single point of truth where your product information gets tested and quality assured to meet all of your customer's differing requirements.

1.4 The GS1 DQF KPI's

Now we begin to touch on a really interesting topic – the GS1 Data Quality Framework. GS1 and some of their very active data synchronisation members became aware that data quality is key if you want to synchronize data and if you want to trust the data suppliers are providing you.

As a consequence GS1 and their members have developed a framework which gives you concrete advice on how to implement a Data Quality Management System to ensure the quality of your item data specific to the FMCG and Retail Industry.

We recommend reading the original documents here: <http://www.gs1.org/gdsn/dqf>.

The key components of the GS1 DQF are the KPI's³ which GS1 has defined. Those KPI's give you precise advice on how to measure the Data Quality of your product information that you want to exchange through the GDSN.

The GS1 DQF KPI's are structured in four areas:

1. *Generic attribute accuracy*: this area covers generic attributes like GlobalTradeItemNumber, ClassificationCategoryCode, TradeItemDescription and NetContent.
2. *Dimension and weight accuracy*: contains the attributes Depth, Width, Height and GrossWeight.
3. *Hierarchy accuracy*: covers the packaging hierarchy and the attributes that are related to it – Total Quantity Of Next Lower Level Trade Item, Quantity of Trade Items Per Pallet Layer and Quantity Of Layers Per Pallet.
4. *Active / Orderable*: indicates whether an item is still active and orderable.

What is the intention of all these KPI's? The GS1 DQF suggests that with these KPI's you can produce measures to determine the Data Quality of your product information.

So how would you do that? Ideally you would physically go into your warehouse and pick a random sample of items. You would record all the KPI information for those item samples by re-measuring and re-weighing, then you would compare the data you have taken in the warehouse to the data you have in your central master data management system.

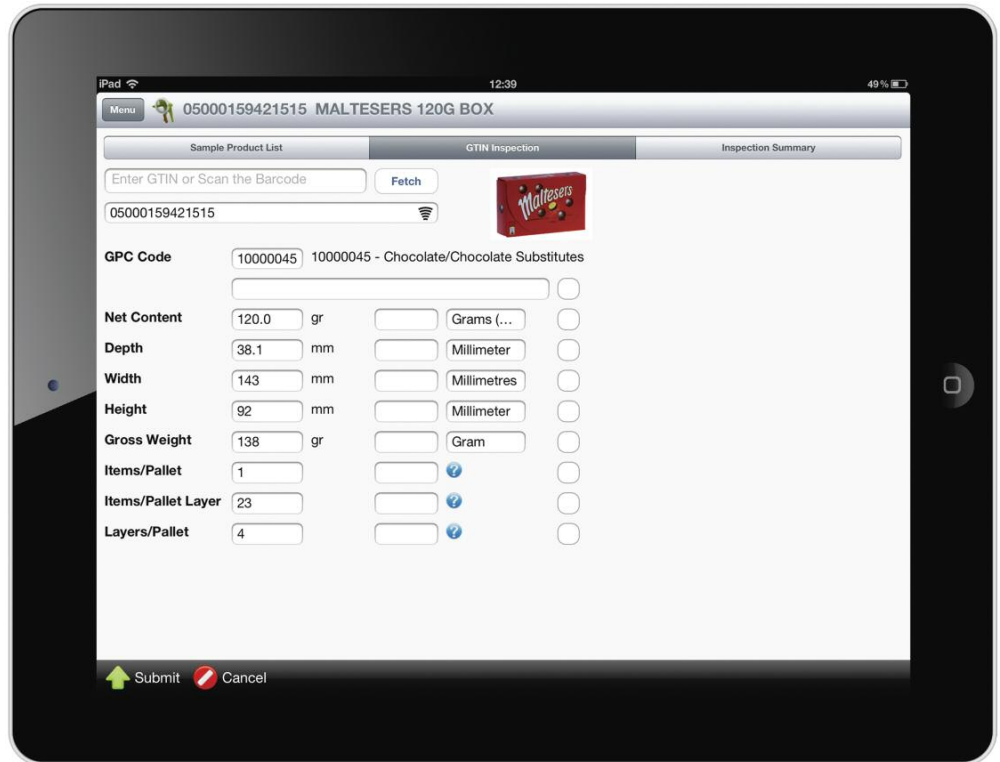


³ KPI = Key Performance Indicator

Data quality is key if you want to synchronize data and if you want to trust the data suppliers are providing you.

By looking at the nature of the KPI's you can see that the GS1 DQF is mainly intended to ensure Data Quality for the supply chain processes, logistics and EDI processes. It does not include KPI's related to Data Quality for other processes like planogram or e-Commerce.

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HOW LANSA CAN HELP:

Wouldn't it be great to have a mobile inspection application (running on an Apple iPad for instance) for your Data Steward? The Data Steward could go into the warehouse, easily capture all the GS1 DQF KPI relevant information, and get an automated report on the actual Data Quality of the items stored in your central item master data management system.

Look out for the DSD Inspector from LANSA!



1.5 What are your additional requirements?

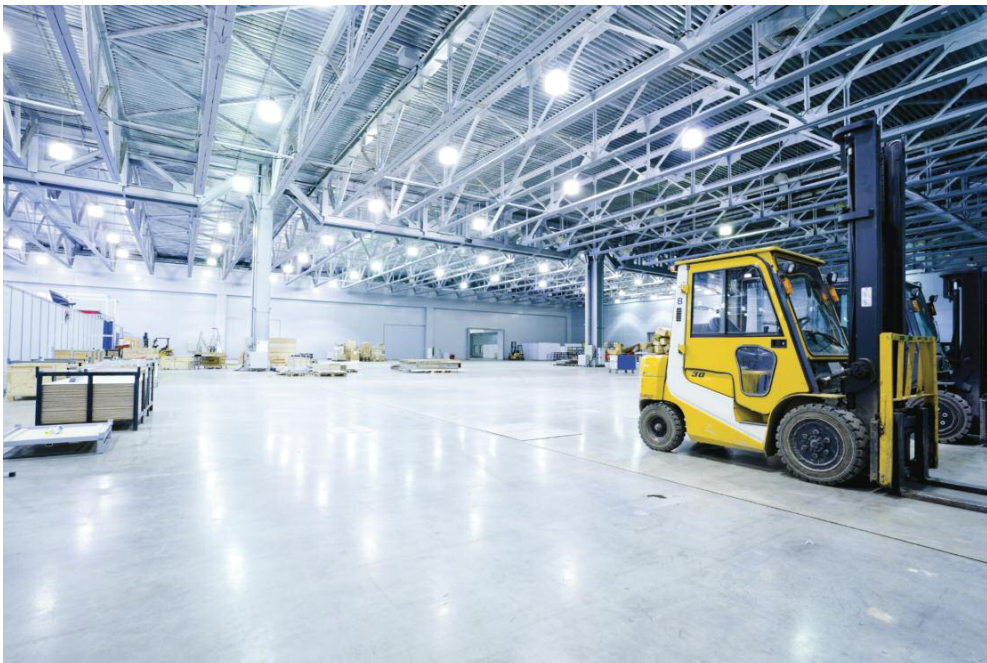
Up until now we have discussed data quality requirements placed upon you by your customers; but what about your own organisation's requirements?

We assume that you are using the same item data for your business processes and your internal systems, and that this data is what is being exchanged with your customers.

Therefore you should now ask the following questions:

- Which of your business processes need item master data?
- Which systems hold item master data?
- What is their requirement regarding data quality?

What are your organisations requirements?



2 How to achieve Data Quality? An Implementation Template

This chapter should be used as a template to help you to build a Data Quality Program. We suggest six building blocks that you should cover in the Program:

1. *Vision*: You need to have a vision to know why you are starting this program and what you want to finally achieve.
2. *Strategy*: How are you going to achieve your vision?
3. *Metrics*: You need to measure your achievements on a regular basis.
4. *Organisation*: How are you going to organise yourself for Data Quality?
5. *Processes*: What will be the processes you follow to improve Data Quality?
6. *Technology*: How will your IT systems support your Data Quality efforts?

In the following sections you will find suggestions for implementing a Data Quality Program. By taking these suggestions you will be able to implement this program in your organisation with the minimum of effort.

2.1 Vision

"Our product information quality shall meet our customer's expectations"

This vision might seem at a first glance very generic. But if you explore it in more detail it gives you very good guidance.

You have to look at who your customers are, and who will receive your item data electronically. What are their expectations and their requirements?

2.2 Strategy

"Establish a Data Quality Management System"

This is how you want to achieve your vision. By building a Data Quality Management System you are simply saying that you want to establish a system, consisting of organisation, processes and IT to really manage your Data Quality effectively.

At this point we could ask ourselves what is actually the difference between a "Data Quality Management System for Master Data" and "Master Data Management as a business process".

In both cases you want to establish a documented system of metrics, organisation, processes and IT to increase the quality of your master data.

So the following strategy would be equivalent;

"Introduce Master Data Management as a business process"

2.3 Metrics

When you are building a Data Quality Management System, the key is to have metrics to measure your Data Quality efforts and achievements on a regular basis. We would suggest a monthly report on these metrics.

² Definition of the GDSN, GS1 or the GSMP are beyond the scope of this document. For full definition of these terms, their purpose and applicability, please visit <http://www.gs1.org> and <http://www.gs1.org/gdsn>.

Look at who your customers are, and who will receive your item data electronically. What are their expectations and their requirements?



In the following we suggest external metrics, which should give you an indication on how well you are communicating with your customer on your item data, and internal metrics that really should cover the actual Data Quality of your product information.

External KPI's

1. Number of retailers with whom you are connecting electronically (please extend or adjust this list to include the B2B processes which are relevant to you)
 - a. GDSN
 - b. EDI Orders
 - c. EDI Invoice
 - d. EDI Despatch Advice
2. Number of retailers who are still asking for manual data via paper, Excel spread sheet, Word document, email, etc
3. Number of retailers for whom you are entering your item data manually into a retailer portal
4. Number of items published to the GDSN
5. Number of CIC's⁴ received (separated by synchronized / review / rejected)
6. Number of manual escalations where you have synchronised data with your customer, but you have received some feedback and you had to take some manual actions to correct the errors.

Let's look at internal and external metrics...



Data issue tickets will be sent by your internal Data Stewards.

Internal KPI's

- B2B / GDSN driven: Regarding Data Quality for B2B processes and GDSN the GS1 DQF does make perfect sense. Therefore you should integrate their KPI's into your Data Quality Management System and also follow their rules for measuring those KPI's. To give you a complete implementation template we list them here:
 1. Generic attribute accuracy: GTIN, ClassificationCategoryCode, TradeItemDescription, NetContent
 2. Dimension & weight accuracy: Depth, Width, Height, GrossWeight
 3. Hierarchy accuracy: Total Quantity Of Next Lower Level Trade Item, Quantity Of Trade Items per Pallet Layer, Quantity Of Layers Per Pallet
 4. Active / orderable
- B2C driven: The following attributes are key if you or your customers employ e-Commerce and therefore need B2C related product information. Here you should measure the filling rate of those attributes or the availability of the appropriate content:
 1. Images
 2. Package Information
 - a. Nutrition
 - b. Allergen Information
 - c. Ingredients
 - d. Product description
 - e. Product marketing text
 - f. Application instructions
 - g. Storage instructions
- Number of Data Issue Tickets: Data Issue Tickets will be sent by your internal Data Stewards. See explanation of Data Steward in the 'Organisation' subchapter and 'Ticket System' in the 'IT' subchapter.



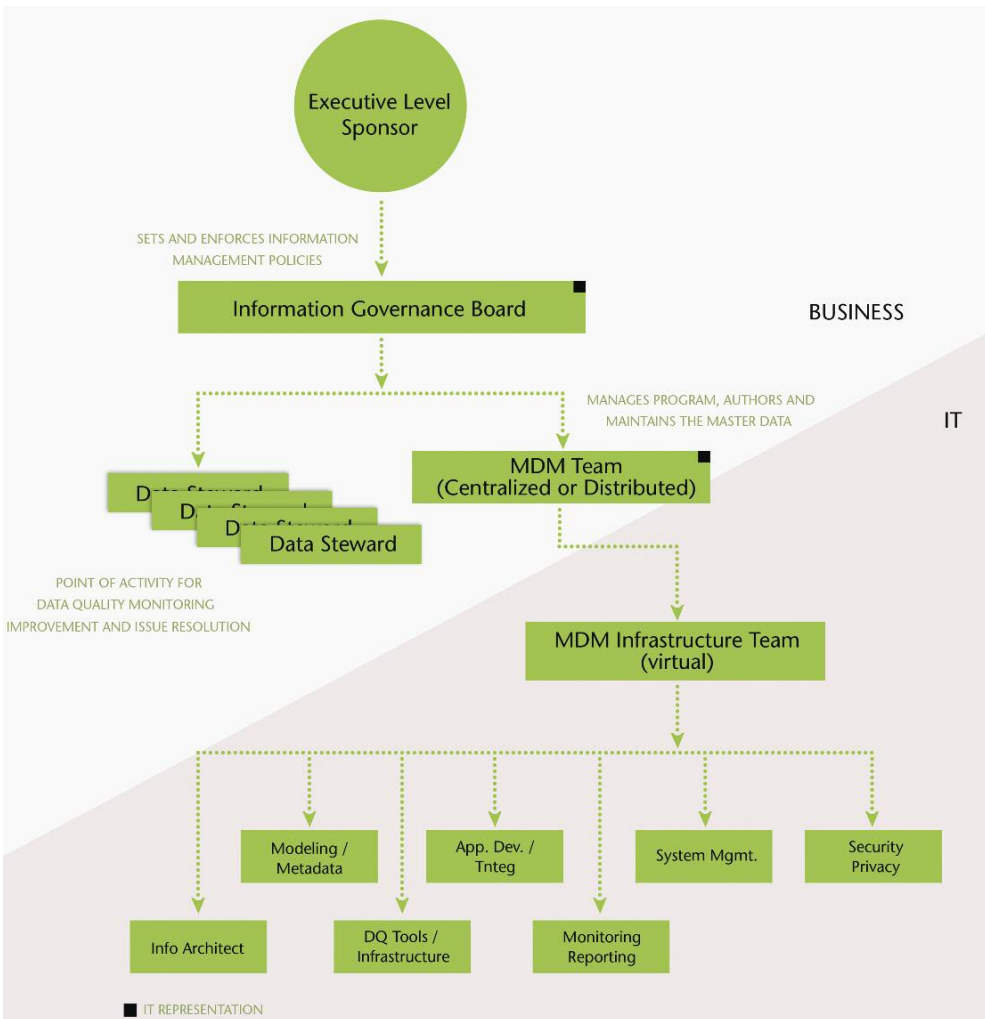
⁴ CIC = Catalog Item Confirmation – This GDSN standard message, sent by a data recipient to a data source, is used to describe the disposition of item data that has been published and received via the GDSN. A full definition of the CIC message can be found at:http://www.gs1.org/1/productssolutions/ecom/xml/implementation/tmg_2_1/XML-Guidelines/CatalogueItemSynchronisation/docs/CatItemSynch_Glossary.html

2.4 Organisation

When implementing a Data Quality Management System the very first questions you have to ask and to answer from an organisational perspective are:

1. Who manages the product information and who owns it?
2. Who is responsible for the Data Quality of the product information?

Our suggestion is (which is also suggested by Gartner) that the business has to lead a Master Data Management organisation; which generically should look like the following:



The business has to lead a Master Data Management organisation



Looking at roles and responsibilities...

A quick description of the different roles & responsibilities:

1. The **Information Governance Board** should consist of executive level sponsors. They should set and enforce information management policies. On this board you should have representatives from the business - this is key - but you also should have representation from your IT executives.
2. The **MDM Team** is responsible for managing the MDM program. They are the authors of the master data and are responsible for maintaining it and thereby own the data. This team communicates with the Data Stewards to improve Data Quality where necessary and they also communicate with the customers to whom they are publishing the data.
3. **Data Stewards** sit in the business unit and they are responsible for data quality monitoring, improvement and issue resolution. They do NOT maintain the data themselves but work closely with the MDM Team to get the master data quality up to the level required by the business.
4. The **MDM Infrastructure Team** is a virtual team responsible for all aspects of the IT implementation needed for the MDM business process.
5. In the context of **GDSN** we only want to highlight the importance of the **Data Modelling and Information Architecture** role. If participating in the GDSN this role is key because it is the link to the GSMP process, defining change requests and also anticipating and adopting the changes coming through the GSMP / GDSN.

Please use this template as a guide. In the real world you must look at your own organisation and see how you can adopt the different roles and responsibilities within that organisation.

Did you find the answers to the questions we posed at the beginning of this chapter?

- Who manages the product information and who owns it?
Answer: The MDM Team
- Who is responsible for the Data Quality of the product information?
Answer: The Data Stewards in the business

2.5 Processes

In this chapter it is difficult to suggest a standard template because there is a significant dependency on the nature of your organisation and processes you have in place.

But we would like to highlight the processes you have to look into and which you definitely have to define;

1. The **Item maintenance** process should only be executed by the MDM Team. Within that process you should look at how you are guaranteeing highest data quality. For example you could establish that the approval process adopts a 'four-eyes principle'.
2. The process to **Manage Customer Feedback** on the data you are providing is key to improve your data quality. Customer Feedback should be recorded and the MDM Team should be working on that in a structured process.
3. **Internal Data Inspection** should be performed by the Data Stewards. Results should also be recorded and communicated to the MDM Team. The MDM Team then has to work on improving the data.



2.6 IT

Have we already stated that 'Data Quality' and 'Master Data Management' is NOT an IT project? No? Ok, we will do it now!

'Data Quality' and 'Master Data Management' is NOT an IT project!

You can imagine and design the perfect IT environment that supports Data Quality Management and Master Data Management, but then you have to invest in a central Master Data Management system, including middleware or an integration hub. You will then have to integrate all your business applications via this middleware to your central Master Data Management System.

If you have already planned to rebuild your whole IT infrastructure then this would be the way to go. But if you only want to establish a Data Quality Management System and Master Data Management as a business process, you can take a much more pragmatic approach

There are two things that you should have:

1. **A single source of the truth** for the product information that is published to your customers. It is not necessary for this to be your internal single source of the truth. In many cases there is an ERP system already established (like SAP for instance) which is the master for item data. The problem typically is that the ERP system does not hold all the data that your customers demand and it is quite complex to connect the ERP system to a GDSN data pool.

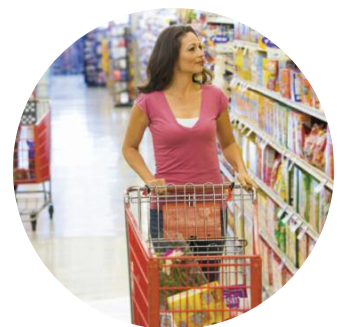
So the solution is to implement a lightweight PIM with built-in GDSN connectivity (like LANSA Data Sync Direct to which we referred earlier) integrated with your ERP system(s). Simply feed this PIM the core item information from the ERP and then perform the necessary data enrichment steps and finally publish to your trading partners from the PIM. The rest of your IT infrastructure stays untouched.

This would be a pragmatic approach.

Once you adopt this approach you can start, over time, to use the PIM more and more as an internal single source of the truth for your product information, and connect other internal business applications to it.

2. You need a **ticket system** where your data stewards can send data issue tickets to and where your MDM Team can track the issues and their resolution. A ticket system also provides you with the tools to measure how many issues you have, what the average resolution times are and so on.

*It's not an IT
project!*



3 What are your challenges?

In this chapter we will list the most common challenges that you might be facing. Do not think that you are the only one having these issues. Many companies have these challenges today, but there are also a lot of companies who have solved them.

We will attempt to give you a possible solution to these challenges, but we also highlight how you might solve them when using a PIM product like LANSA Data Sync Direct.

So the solution is to implement a lightweight PIM with build in GDSN connectivity, integrated with your ERP systems.

3.1 Do you have all your product information in one place?

It is a common situation that you do not have all product related information in one place. Typically your ERP system has all the core item master data that is needed to sell your product. Nutrition and Allergen information very often can only be found in some Word or Excel files. B2C information (marketing text, feature descriptions, etc.) are often not available in a structured way at all. Sometimes you only have it on your website and on the packaging itself.

How to solve that challenge?

In principle the best approach is to establish one central PIM where you store all your product information. This PIM ideally would be the 'single source' of product information for all your other IT systems.

But this approach is typically a very drastic change and therefore always needs a huge project.

A more pragmatic approach is to establish a more lightweight PIM – like LANSA Data Sync Direct – with the focus to consume all the product information from your existing systems and consolidate that data. The main purpose then is to publish the consolidated data to your customers.

3.2 You do not have some of the required product information at all?

Sometimes you don't have the required information in your systems at all.

An example of this might be 'case' level GTIN's (which are mandatory in GDSN). If you have not assigned any GTIN's to your case level items, you must create and assign new GTIN's for this purpose. This information will need to be recorded in one of your systems. If not needed in your central ERP system, it might be an option to manage these GTIN's in a lightweight PIM like LANSA Data Sync Direct.

A similar issue is often evident with pallet GTIN's and pallet information in general. Pallet GTIN's are not mandatory in GDSN, but providing certain pallet information at other levels of packaging is absolutely mandatory within GDSN. Depending on your business, you might not have that information in your ERP. As before, manual data enrichment could easily be performed within a lightweight PIM like LANSA Data Sync Direct.

What about dimensions? What about images? What about marketing text?

I think you are getting the idea. If you have established a lightweight PIM as your single source for publishing product information to your customers, it is a very good option to also use it for manual data enrichment.



This requires that your tool supports manual data enrichment including user and role based access control. Note that LANSA Data Sync Direct does all this for you.

3.3 Your customer requires your data to pass additional validation rules?

In an earlier chapter we explained why retailers may have additional validation rules. It would be surprising if your customers do not have any validation rules that go beyond GDSN.

Do you want to work in trial and error mode? If you have not implemented customer validation rules within your system, and if you do not ensure that the data is valid from your customers' perspective, there is always the possibility that invalid data might be sent to your customers. You would always be waiting for a CIC review message - or even worse, a telephone call! Your customer will be the one to tell you that you are not in control of your data quality!

The solution is quite simple: You have to implement your customers' validation rules in a central place. If you have implemented a lightweight PIM, like LANSA Data Sync Direct, this is where you would implement those validation rules centrally.

3.4 Different people are responsible for different parts of a product?

In larger organisations it will be unusual for one person to be responsible for the oversight of all product information. Therefore you want to have multi-stage approval process that you can configure and adapt to your organisation. Before publishing an item record you want to have the right people to sign-off the information. This is what a lightweight PIM with built-in workflow automation can do for you.

*The rest of your
IT system stays
untouched.*



4 Implementation checklist

The following checklists will help you to structure your implementation of a Data Quality Management System for Item Master Data in the FMCG and Retail Industry.

4.1 Analysis phase

The intention of the analysis phase is to document how you are managing your master data today. During the analysis you want to find out what is currently not defined, what is working badly, and confirm what is already is working well.

But mainly the focus should be on current issues and flaws. The following checklists

Finding out what is working well and what is working less so.

Question to look at	Your answer
What is your current master data management organisation?	
Who owns the data?	
Who manages the data?	
Who is checking the quality?	
Who is the contact person for your customers?	
What are your current master data management processes?	
Item Creation process	
Item Change process	
Item Deletion process	
Approval process	
Customer feedback process	
What is your IT landscape?	
Which systems do create / edit / enrich item master data?	
Which systems consume item master data?	
What is the data flow between your systems? Is complete and correct data synchronization between your systems ensured?	



4.2 Definition phase

The intention of the definition phase is to define where you want to be with your master data and data quality management and how you will arrive there.

In Chapter 2 we proposed a template on how to build a Data Quality Management System. We introduced six building blocks for such a program. Those six building blocks you should define here.

We strongly advise you copy and paste what we have proposed in Chapter 2 into the following list. But please make sure that you adapt it to your requirements!

Building Blocks	Your definition
Vision	
Strategy	
Metrics	
Organisation	
Processes	
IT	

Defining your six building blocks.

4.3 Implementation phase

During the implementation phase you have to facilitate the changes to arrive from where you are now (what you have documented in the analysis phase) to where you want to be in the future (what you have documented in the definition phase).

For the implementation phase you should accurately document the necessary changes.

Type of changes	Your changes which you have to implement
Organisational changes	
Process changes	
IT changes	



5 Credits

This white paper was prepared as a contractual work for LANSA

About Lansa



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LANSA is a leading provider of business process integration and data synchronization software, and Data Sync Direct is the most widely-installed ERP and MDM integrated solution for Global Data Synchronization Network (GDSN) participation. LANSAs product suite spans the entire supply chain process with GDS being a core component amongst our other offerings for eCommerce, EDI, Supplier Portal and RFID. Customers include Alpura, Bigelow Tea, Brewers Distributor, Carlisle Foodservice, Pernod Ricard and Wells & Young's Brewing Company. Established in 1987, LANSAs supports thousands of companies around the world with its products and services.

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GS1 UK is a not for profit organisation, funded by its 26,000 members and part of the global GS1 Network. It has over 35 years of experience working with businesses across many sectors including retail, food service and healthcare. Its members range from small manufacturers to leading brands such as Unilever, P&G, Kraft and Nestle and retailers such as Sainsbury's, Tesco and Morrison's. GS1 UK aim is to make it faster, safer, cheaper and safer for its members to serve their customers through the development and deployment of open, global standards.

About the Author Björn Bayard



Björn is a visionary entrepreneur and founder. He is always looking at customer challenges and how to turn those challenges into a product and thereby leveraging solutions to the mass market. In 1997 he build one of the first PIM (Product Information Management) / MDM (Master Data Management) solutions. Today more then 7,500 companies are using this technology to manage their product information.

Today Björn is running his own Consulting business, helping customers in the areas of product information management (PIM), master data management (MDM) and Data Quality Management (DQM). You can find his business website here: <http://www.bayard-consulting.com>.