GS1 Digital
Lunch and Learn Session

Steve Bratt and Robert Beideman
GS1
Outline

• Growth of Web Commerce
• Is There a Unique and Critical Role for GS1?
• “GTIN on the Web” primer
• What Problems Will be Solved?
• What is our Approach?
• What Do We Need from the Community to Succeed?
Growth of Web Commerce
Globally, online will outpace offline sales growth by 3-5 X

Much of offline sales will be influenced by online research

In US, nearly 50% of offline sales will be influenced by online research

SOURCE: Forrester Research (2011)
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Mobile vs. Desktop Web Browsing
Largest future growth will be mobile and emerging economies

Source: Mary Meeker, Morgan Stanley, April 2010
Migration online is playing out at different rates across categories.

Researched online (2012), Percent

Gone to digital

Digital battleground

Still in-store

SOURCE: McKinsey iConsumer survey; team analysis

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One motivation for GS1 Digital
Manufacturers, retailers, regulators, and consumers are demanding increasing amounts of standard attribute data for products, need unique identification to hold it all together.
Is There is a Unique and Critical Role for GS1?
Universal support to increase GS1’s digital focus to address these trends, pain points, and regulations

GS1’s current level of focus on digital vs. ideal future level of focus

Average level of focus (1 = not very focused; 5 = very focused), N = 85

<table>
<thead>
<tr>
<th>Current</th>
<th>Ideal</th>
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<tbody>
<tr>
<td>2.7</td>
<td>4.4</td>
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“We create some standards but we don’t move fast enough to keep up with digital trends”

“We’re only at the starting point for consumer information, where there's an urgent need to move forward fast – consumers expect this and there will soon be regulatory demands in Europe”

We need GS1 to focus on the digital world, especially on product data and images

“Need to get more e-commerce players on the global board”

GS1 needs a dedicated, independent group devoted to digital trends

1 Q24: How much does GS1 focus on the digital world today?
2 Q25: How much should GS1 focus on digital in the future given the potential increase in online sales and digital nature of consumers buying behaviors?
3 Includes stakeholders from Global Office (N = 10), Member Offices (N = 28), and external organizations (N = 66). Scores came from stakeholder interviews and survey.

SOURCE: McKinsey May 2013 Survey; interviews with GS1 stakeholders

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What is GS1 Digital?

GS1 Digital is a framework for projects to adapt the existing GS1 System and to create new standards and services that address pain points and opportunities posed by commerce across the World Wide Web.

Current scope:

- **GS1 Source**
- **GTIN on the Web**
  
  ... other projects added as business needs are defined
What is GS1 Source?

A framework for sharing trusted product information in consumer-facing digital channels

Companies use GS1 Source to share information about their products

Application developers provide this product data to consumers
What is GTIN on the Web?

GTIN on the Web

Started in 2013

Leveraging the Web as a new “share” technology for the GS1 System of Standards

Relevant across all sectors and solutions, GTIN on the Web will enable the consistent representation of GS1 keys and attributes in online environments

GTIN on the Web is a key technology enabler to bridge the physical and digital world of commerce
“GTIN on the Web” primer
Global standards for Web page layout = YES
For product data on Web page = NO

The web page that you see...

What computers see in the underlying Web code

Search engines see global web standards for links, fonts, images, page layout ...

There are no global standards for embedding product IDs and attributed are in the code of a web page.

Search engines can only infer meaning.
Global standards for Web page layout = YES
For product data on Web page = **WHAT IF?**

If these were real standards, search engines could better understand product data.

The web page that you see...

What computers see in the underlying Web code...
Relationship of GS1 “Share” technologies
Consider GTIN on the Web a new “Share” technology

eCom
Key-based data exchange: GTIN

GDSN
Key-based data exchange: GTIN

GS1 Source
Key-based data lookup: GTIN

GTIN OTW
Attribute-based data search/linking using GTIN+

From
Send
publish
scan
search

private
To
receive
subscribe
lookup
find share...

Note distinction between:

GS1 Digital - GS1 Source: a mobile-enabled service based on standard definitions of consumer-facing data (e.g. ingredients, allergens, etc.)

GS1 Digital – GTIN on the Web: a new initiative to standardize the way industry and internet tools describe products, transactions, and events in the language of the web. Will explore several web standard approaches, leveraging existing keys (incl. GTIN)
What Problems will be addressed by GTIN on the Web?
Online search suffers because standard unique product identifiers are not used globally

Same Dixie item listed as “pack” by retailer 1 and “box” by retailer 2

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Retailer 1</th>
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</thead>
<tbody>
<tr>
<td>Product</td>
<td>Dixie combo pack 168</td>
</tr>
<tr>
<td>Price</td>
<td>$12.59</td>
</tr>
</tbody>
</table>

Without a unique ID, search engines cannot tell that “Pack” = “Box”

Retailer 2 does not appear in the following search...

Source: Google

Same Dixie item listed as “pack” by retailer 1 and “box” by retailer 2

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Retailer 2</th>
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</thead>
<tbody>
<tr>
<td>Product</td>
<td>Dixie combo box 168</td>
</tr>
<tr>
<td>Price</td>
<td>$10.21</td>
</tr>
</tbody>
</table>

Retailer : Retailer 1
Product : Dixie combo pack 168
Price : $12.59
Broad adoption of GTIN on the web could improve search accuracy – illustrative

1. Search engine finds initial search term on 1st retailer’s web page

   ![Google search](image)

   Dixie combo pack 168

2. Search engine sees GTIN in HTML code

   ![HTML code](image)

   <html>
   <meta name="GTIN" content="0012345678901"/>
   ...
   </html>

3. Search engine leverages both text-based and GTIN-based search, and finds 2nd retailer’s webpage

   ![Retailer details](image)

   Retailer 1
   Product: Dixie combo pack 168
   Price: $12.59

4. Search engine returns all results, regardless of initial search term

   ![Retailer details](image)

   Retailer 2
   Product: Dixie combo box 168
   Price: $10.21

   Retailer 1
   Product: Dixie combo pack 168
   Price: $12.59

   Retailer 2
   Product: Dixie combo set 168
   Price: $10.21
GTIN usage could also allow search engines to aggregate a full view of online data.

For many products (including this one), search engines require a GTIN from their retailers’ product feeds...

SOURCE: Google, Bing

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Key benefits will address key pain points

• Leveraging a structured data model means web crawling robots will *better understand content since it is will be machine-readable*
  • Search engines *prioritize content that they understand*

• Merchants will be able to differentiate their content, and drive *higher levels of traffic, conversions, and increased sales*

• Consumers can obtain *more relevant results* that they can trust, move seamless between on- and offline sales channels, and share products and opinions across social networks

• There will be *better integration along the supply and demand chains*, based on consistent use of the GS1 system of identifiers and attributes
What is our Approach?
Phased approach to a complex domain that is new to GS1

GS1 Digital Industry Engagement

GTIN on the Web

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Project 2

Technical Exploration and Incubation

MSWG 2013 / 14

Rat.

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Project N

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Technical Exploration and Incubation

MSWG

Rat.

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<table>
<thead>
<tr>
<th>Initial MOs in IE IG and/or Technical TF</th>
<th>New Organisations Engaged</th>
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<tr>
<td>Belgium &amp; Luxembourg</td>
<td>Google</td>
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<tr>
<td>Canada</td>
<td>schema.org</td>
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<td>China</td>
<td>W3C</td>
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<td>Colombia</td>
<td>Other connections</td>
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Objectives of the GS1 Digital Industry Engagement Interest Group

- To define requirements for the representation of the GS1 System of Standards in online environments

- To analyse business opportunities and needs of our Global base of member companies in the realm of demand-side, consumer-facing functions

- To coordinate and engage globally with a growing community of companies as directed by our Member Organisations, specifically those involved in online commerce and Web search and discovery across geographical boundaries

- To enable and facilitate our Member Organisations to engage their local communities and to cultivate relationships in the B2C space
Technical Task Force Activities

• Research and Development/Education
  • We have been working with W3C, Google, Auto ID Labs and others to determine the best approach for item data on the web
    – Research into current state of practice
      – Review of schema.org and Good Relations
      – Review of best methodologies for standard mark-up
      – Determination of set of attributes to test based on schema.org and available GDSN data.
    – Research how best to represent identifiers including AIs on the web

• Pilot
  • Pilot work has started
What Do We Need from the Community to Succeed?

The Ask
Do we need to be more open?

- Context: Standards work in the Internet world tends to be more open, with a focus increasingly driven by consumers

- Potential actions:
  
  1. Make standards, vocabularies, and classification schemes available to the public in Web formats
  
  2. Make already-public product data (e.g., labels) available to the public (with permission) in Web formats
  
  3. Make software tools and APIs available to developers to encourage broad innovative use of GS1 technologies
  
  4. Attract Demand-Side experts to participate in GS1 requirements and standards development
We need your help

- **Opportunities**
  - IE Interest Group ([robert.beideman@gs1.org](mailto:robert.beideman@gs1.org)) – Tuesday Afternoon Session
  - Technical Task Force ([eric.kauz@gs1.org](mailto:eric.kauz@gs1.org)) – Monday Afternoon Session
  - Bring your industry to the Pilot

- **Industry**
  - Brands, retailers (omnichannel and online only), search engines, social media, solution providers

- **Expertise**
  - This is *not* supply chain as usual
  - Marketing, social media, Web standards and design...
    - “those people down the hall”
  - MOs and user experts needed
Contact Details

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