Traceability Capability in Foodservice: NRA Survey Results
Survey of foodservice chain operators, conducted Aug-Sep 2017

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Traceability defined

Traceability is the ability to verify sources and locations of product. It involves each trading partner collecting and maintaining product information that supports batch/lot or serial number visibility of the product’s movement through the distribution channel.

- Three levels of traceability:
  - **Internal traceability** enables a business to link its *internal process information* to a unique product number, a batch/lot or serial number, and relevant dates (production date, best by date, etc.).
  - **External traceability** communicates product identity, batch/lot or serial number, and relevant dates with transport information *between trading partners*, at least one level up and one level down the distribution channel.
  - **End-to-end traceability** enables supply chain partners to identify automatically the direct source and direct recipient of specific traceable items at the batch/lot or serialized (item) levels *from source supplier to point of consumption* (e.g., restaurant).
Key Findings: Traceability Capabilities

• Operators say they have better “External Traceability” than “Internal Traceability”
  • 73% report that they can verify sources and locations of most or all items at batch/lot serial number level with trading partners, while only 50% say they can verify this data for most or all items in their own locations
  • Few operators (16%) manage their own traceability data
  • Only 43% indicate they have “end-to-end” traceability for most or all items.

• Larger chain operators report better traceability capabilities
  • 90% of large chain operators (5000+ locations) report both internal and external lot-level traceability for most or all items
  • 70-75% of medium and small chain operators report external traceability for most or all items, and only 50-60% report internal traceability for most or all items

• Over 90% of operators say they can acquire traceability information within 24 hours; 55% can acquire in less than 4 hours
Key Findings: Traceability Platforms and Tools

• More than 80% of operators utilize existing manufacturer or distributor systems (less than 20% using proprietary systems)
• Only 43% of operators indicate that they use barcodes at case levels or with lot/batch information
  • Large operators are more than twice as likely to use barcodes than medium or small operators
  • 60-70% of barcode users scan in-bound to distributor and in-bound to operator
  • Only 9% of barcode users scan within restaurants
• Only 26% of operators indicate that they are using GS1 standards
  • Large operators are more than three times as likely to use GS1 than medium or small operators
  • GS1 adopters report that about half of their trading partners use GTINs (56%) and GLNs (41%), and about half of their products and systems utilize GS1-128 barcodes
• Only 9% of operators are using GLNs for their locations. 45% indicate they are planning to use
  • None of the small operators indicate that they are using GLNs
### Sample of 101 respondents, including:

<table>
<thead>
<tr>
<th>Restaurant &amp; Pub</th>
<th>Captain D’s</th>
<th>Green Chef Corporation</th>
<th>Nando’s</th>
<th>Saladworks</th>
<th>Tropical Smoothie</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;W</td>
<td>Centralized Supply Chain Services, LLC</td>
<td>Happy Joe’s</td>
<td>National DCP</td>
<td>Sizzler</td>
<td>University of Notre Dame</td>
</tr>
<tr>
<td>American’s Navy</td>
<td>Chick-fil-a</td>
<td>Hersheypark</td>
<td>Nordstrom</td>
<td>SMG world</td>
<td>Wendy’s Supply Chain Co-op, Inc.</td>
</tr>
<tr>
<td>Arby’s</td>
<td>CKE Restaurants</td>
<td>IHG</td>
<td>Pizza Luce</td>
<td>Teriyaki Madness</td>
<td>Wienerschnitzel</td>
</tr>
<tr>
<td>Bent Tree Country Club</td>
<td>Denny’s</td>
<td>Independent Purchasing Cooperative</td>
<td>Real Mex Restaurants</td>
<td>The Cheesecake Factory</td>
<td>Wood Ranch</td>
</tr>
<tr>
<td>Brinker International</td>
<td>Fairmont</td>
<td>Ledo Pizza</td>
<td>Rubio’s</td>
<td>Toppers</td>
<td>Zaxby’s</td>
</tr>
<tr>
<td>Café Rio</td>
<td>Focus Brands</td>
<td>Lineage Logistics</td>
<td>Ruth’s Hospitality Group</td>
<td>Torchy’s Tacos</td>
<td></td>
</tr>
</tbody>
</table>
Sample includes a mix of small, medium, and large chains

Number of Store Locations (Sample N = 101 Chains)

- 38% <100 Locations
- 31% <1000 Locations
- 20% <5000 Locations
- 7% <10000 Locations
- 4% >10000 Locations
What are the goals of your current strategy or approach to traceability?

• Common themes:
  • Managing safety
  • Verifying sources, quality, locations
  • Accuracy and speed
  • GS1 implementation
  • Tracking from farm to table
  • 100% traceability
  • Vendor contact and control
What is the biggest challenge you face in trying to achieve the traceability you need?

• Common themes:
  • Getting supplier/distributor investment and compliance
  • Justifying and controlling costs
  • Adopting standards and uniform systems
  • Getting the right people and tools
Traceability capability

We can verify sources and locations of product at the batch/lot serial number level

Small Chains (<100 locations), Medium Chains (200 – 5000 locations), and Large Chains (>5000 locations)
Threshold effect for traceability

![Bar chart showing traceability X average chain size for different number of locations served. The traceability capability categories are: For no items, For some items, For most items, and For all items. The number of locations served for each category are: 1,183 for no items, 1,884 for some items, 3,199 for most items, and 3,120 for all items.}
Internal vs external vs end-to-end traceability

| Q3: Please indicate the level of traceability you currently have: "We can verify the sources and locations of product at the batch/lot serial number level." |
|---|---|---|---|---|
| **Within our own locations: Internal Traceability** | 19% | 21% | 34% | 26% |
| **With trading partners at least 1 level up and down the distribution channel: External Traceability** | 9% | 18% | 57% | 16% |
| **From source suppliers to point of consumption: End-to-end Traceability** | 24% | 32% | 33% | 10% |
**Q3: Please indicate the level of traceability you currently have:** "We can verify the sources and locations of product at the batch/lot serial number level."

<table>
<thead>
<tr>
<th>Chain Size</th>
<th>Level of Traceability</th>
<th>Small Chains (&lt;100 locations)</th>
<th>Medium Chains (200 – 5000 locations)</th>
<th>Large Chains (&gt;5000 locations)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within our own locations: Internal Traceability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>With trading partners at least 1 level up and down the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>distribution channel: External Traceability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>From source suppliers to point of consumption:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End-to-end Traceability</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**For very few item(s)** | **For some item(s)** | **For most item(s)** | **For all item(s)**
--- | --- | --- | ---

Small Chains, Medium Chains, and Large Chains are categorized based on the number of locations they have.
Data are mostly maintained by partners

Q4 - Where do your Traceability data reside

- Trading partners (vendors, distributors, others) maintain information: 73%
- Internal system maintain information: 16%
- Third party system collect data from trade partners and restaurants/locations and maintain location off site: 8%
- Other (please specific): 4%
Large chains more likely to maintain data along with partners

**Q4 - Where do your Traceability data reside**

<table>
<thead>
<tr>
<th>Category</th>
<th>Internal System Maintained Information</th>
<th>Trading Partners (Vendors, Distributors, Others) Maintain Information</th>
<th>Third Party System Collect Data from Trade Partners and Restaurants/Locations and Maintain Location Off Site</th>
<th>Other (Please Specific)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Chains</td>
<td>20%</td>
<td>40%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Medium Chains</td>
<td>13%</td>
<td>77%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Small Chains</td>
<td>13%</td>
<td>79%</td>
<td>0%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Small Chains (<100 locations), Medium Chains (200 – 5000 locations), and Large Chains (>5000 locations)
Most chains get trace data within one day

Q5 – On average, how long does it take you to acquire traceability information when you need?

- Less than an hour: 14%
- 1 to 2 hours: 15%
- 2 to 4 hours: 25%
- 4 to 8 hours: 16%
- 24 hours: 22%
- 48 hours: 3%
- More than 48 hours: 3%
- Other (Please specific): 3%
Large chains report slightly faster access to information

### Q5 – On average, how long does it take you to acquire traceability information when you need?

<table>
<thead>
<tr>
<th>Time Interval</th>
<th>Large Chains</th>
<th>Medium Chains</th>
<th>Small Chains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than an hour</td>
<td>36%</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>1 to 2 hours</td>
<td>21%</td>
<td>20%</td>
<td>14%</td>
</tr>
<tr>
<td>2 to 4 hours</td>
<td>21%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>4 to 8 hours</td>
<td>7%</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>24 hours</td>
<td>8%</td>
<td>2%</td>
<td>14%</td>
</tr>
<tr>
<td>48 hours</td>
<td>10%</td>
<td>2%</td>
<td>11%</td>
</tr>
<tr>
<td>More than 48 hours</td>
<td>2%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Other (Please specific)</td>
<td>0%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>7%</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Small Chains (<100 locations), Medium Chains (200 – 5000 locations), and Large Chains (>5000 locations)
Most chains rely on partner systems

Q6 – What tools/platforms are you using to support traceability efforts

- Existing manufacturer/distribution for systems: 81%
- Barcodes at case level: 43%
- Barcodes that have lot/batch and date information: 43%
- GS1 standards: 26%
- Standard registries: 5%
- Other tools/platforms: 5%
- Other Standard: 2%
Large chains twice as likely to barcode

Q6 – What tools/platforms are you using to support traceability efforts

- Barcodes at case level: 80%
- Barcodes that have lot/batch and date information: 75%
- Existing manufacturer/distribution for systems: 64%
- Standard registries: 80%
- GS1 standards: 85%
- Other Standard: 39%
- Other tools/platforms: 39%

Small Chains (<100 locations), Medium Chains (200 – 5000 locations), and Large Chains (>5000 locations)
Barcoding occurs mostly in the upstream supply chain

Q8 – At what points are you requesting barcode scanning (select all that apply)

- Suppliers delivery to distributor: 75%
- Distributor at warehouse: 71%
- Distributor at delivery to operator: 62%
- Operator in restaurant: 9%
- Other (Please specific): 7%
About half of products/transactions using GTINs

What % of trading partners use GTINS in transactions with you?
What % of trading partners use GLNs in transactions with you?
What % of your products are labeled with a GTIN only barcode?
What % of your products are labeled with a GS1-128 barcode?
What % of your distribution system is scanning GS1-128 barcodes for traceabilities purposes?
What % of your distribution system is scanning GS1-128 barcodes for other purposes (e.g., to gain efficiencies)?
Less than half of chains using GLNs

Q10 – Are you using Global Location Number (GLNs) for the restaurants/locations you operate/franchise?

- Using now: 9%
- Planning to use: 45%
- Not planning to use: 47%
Larger chains using GLNs more

Q10 – Are you using Global Location Number (GLNs) for the restaurants/locations you operate/franchise?

- **Large Chains**
  - Using now: 27%
  - Planning to use: 55%
  - Not planning to use: 18%

- **Medium Chains**
  - Using now: 11%
  - Planning to use: 50%
  - Not planning to use: 39%

- **Small Chains**
  - Not planning to use: 69%

Small Chains (<100 locations), Medium Chains (200 – 5000 locations), and Large Chains (>5000 locations)
Most GLNs owned by chains

Q11 – Who owns the Global Location Numbers (GLNs)?

- Restaurant brand or location operator: 78%
- Distributor: 11%
- Other (please specific): 11%