PLUG AND PLAY
The Death of the “One-Off” Supply Chain

Tuesday, January 24, 2017

Moderator: Lori Dearman, Executive Webinar Producer, WebAttract
The experts

Lisa Harrington  
President  
Lharrington Group LLC  
Strategic Consultant

Gary Keatings  
VP Global Solutions Design  
Center of Excellence  
DHL Supply Chain

Frank Vorrath  
VP Global Supply Chain  
Johnson Controls
Who is in the audience

A diverse audience of over 400 attendees registered from 30 countries, representing the following industries:

19% Technology
18% Life Sciences & Healthcare
11% Consumer
10% Engineering and Manufacturing
  9% Automotive
  6% Retail
  2% Energy
  25% Other
Poll 1

How many supply chains does your global organization have?

A. 1
B. 2-5
C. 6-10
D. 11 or more
The experts

Lisa Harrington
President
Lharrington Group LLC
Strategic Consultant

Gary Keatings
VP Global Solutions Design
Center of Excellence
DHL Supply Chain

Frank Vorrath
VP Global Supply Chain
Johnson Controls

#PlugandplaySC
42%\textsuperscript{1)} of respondents will reduce their number of supply chains over next 3-5 years.

32%\textsuperscript{1)} of respondents operate more than 10 different supply chains.

\textsuperscript{1)} DHL survey data point: 350 global respondents
One-off supply chains are unsustainable

High cost

Cumbersome/ lack agility

Risky: Complexity leads to quality & performance failures

69%¹ of companies are pursuing standardization

¹ DHL survey data point: 350 global respondents

#PlugandplaySC
What is the plug-and-play supply chain?

Core, standardized, easily replicated solutions, augmented by standardized bolt-ons

Two key foundations:
- Smart segmentation
- Standardization

Core solutions should satisfy 70-80% of the requirements in a market segment.
Poll 2

How far along is your organization in implementing a plug-and-play supply chain?

A. Have implemented a plug-and-play supply chain
B. Developing building blocks for a plug-and-play supply chain
C. Considering a plug-and-play supply chain as a pilot
D. Have not considered a plug-and-play supply chain
E. A plug-and-play supply chain is not for us
DESIGNING AND EXECUTING
THE PLUG-AND-PLAY SUPPLY CHAIN
Building blocks of standardization

How to design/build a plug-and-play supply chain

The method that works best follows 3 steps:

1. Identify and map all the SCs in scope in detail (mapping both operational processes and systems)

2. Build a model seeking to re-use the most common process steps/methods and eliminate as many as possible variants

3. Having a 1st pass model mapped in principle – test this with the business owners for each of the SCs to identify what can work and where bolt-ons will be needed

Core solutions should satisfy 70-80% of the requirements in a market segment.
### Key lessons learned

- Detailed mapping and gap analysis from the current supply chains in place to the future state model
- Critical analysis of each step to select/design the core versus bolt-on steps
- Dedicated team to deliver the change in every supply chain, partnering with local business owners to design the unique local bolt-ons
- Use supply chain plug-and-play as leverage to deliver business transformation

#### Map of optimized SC with key processes highlighted to be built as bolt-on variants

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Origin station</th>
<th>Destination station</th>
<th>VMI hub</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Delivery by vendor</td>
<td>• Repack/relabel to customer factory specs and/or VMI hub specs</td>
<td>• Multiple HOBL</td>
<td>• Receive against ASN</td>
</tr>
<tr>
<td>• Pick-up by DHL</td>
<td>• Consolidation into shipments</td>
<td>• Expediting; truck next port/faster vessels/sea-air solution</td>
<td>• Use labels origin</td>
</tr>
<tr>
<td>• PO management</td>
<td>• Container; record SSCC, PO, SKU optimized utilization</td>
<td>• May combine HOBL-MBOL</td>
<td>• RF operation/scanning</td>
</tr>
<tr>
<td>• Supplier management</td>
<td></td>
<td>• Create ASN; destination station</td>
<td>• Pick-pack</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Customs documentation</td>
<td>• Line-feed kitting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Document sharing online</td>
<td>• VMI management/support</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Customs clearance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Bonded warehouse</td>
</tr>
</tbody>
</table>

ILLUSTRATIVE EXAMPLE OF A FUTURE STATE SUPPLY CHAIN

#PlugandplaySC
How end users access the plug and play Library

DHL leveraged its unique access to information across a multitude of functions and industries to develop solution ‘templates’ for plug-and-play implementations, including:

• Warehouse data / Transport operations
• Sector performance statistics
• Volumetric and parametric data, etc.
• Robust template database
• Map supply chains against template solutions

The library of supply chain solutions has been a major contributor to minimizing start-up lead time and costs by as much as 70%.

#PlugandplaySC
Keys to plug-and-play implementation success

- C-level buy-in and commitment
- Organizational change management support
- Robust business case change – linked to high-priority transformational business change
- High quality, accurate data
- Continuous rigor required!
Poll 3

Implementing a plug-and-play supply chain would be challenging for my organization because (select your top two options)

A. Lack of data, analytics and visibility
B. Lack of executive support and buy-in
C. Siloed organization
D. Lack right supply chain partners to execute
E. ROI is too long term
The experts

Lisa Harrington
President
Lharrington Group LLC
Strategic Consultant

Gary Keatings
VP Global Solutions Design
Center of Excellence
DHL Supply Chain

Frank Vorrath
VP Global Supply Chain
Johnson Controls

#PlugandplaySC
Johnson Controls and its Supply Chain Excellence System
Who We Are today

130+ YEARS OF INNOVATION
117,000 EMPLOYEES
316,000+ VOLUNTEER HOURS Recorded in 2015

4+ MILLION CUSTOMERS GLOBALLY

MORE THAN 8,700 ACTIVE PATENTS

LEADER
- Building Products, Technologies & Integrated Solutions
- Energy Storage

$78 MILLION IN CHARITABLE CONTRIBUTIONS in the Past 5 Years

$30 BILLION ANNUAL REVENUE
PAID CONSECUTIVE DIVIDENDS SINCE 1887

HEADQUARTERS:
Cork, Ireland
Milwaukee, WI, USA
Shanghai, China

NEARLY 2,000 LOCATIONS WORLDWIDE
SERVING CUSTOMERS IN 150+ COUNTRIES
Our Supply Chain Excellence System

The Johnson Controls Supply Chain Excellence System

- Strategic Differentiation
  - Culture of Learning
  - Culture of Excellence
  - Strategic Business Partners
  - Visibility and Transparency

- Capabilities
  - People
  - Process
  - Technology
  - Metrics

- Core Fundamentals
  - Mindsets and Behaviors
  - Organizational Capabilities
  - Infrastructure (Maturity Model Framework, Assessments, Benchmarking)
  - Performance Measurement and Management

Strategic Business Partners
Culture of Excellence
Visibility and Transparency
Mindsets and Behaviors
Organizational Capabilities
Infrastructure (Maturity Model Framework, Assessments, Benchmarking)
Performance Measurement and Management
Our Supply Chain Excellence Maturity Model Framework

Supply Chain Strategy
- Supply Chain Strategy and Segmentation
- Network Design

Supply Chain Planning
- Demand Management
- Supply Planning
- Integrated Business Planning
- Supply Chain Capacity and Asset Launch Planning

Supply Chain Execution
- Order Fulfillment
- End-to-End Inventory and Lead-time Management
- Transport Management Execution
- Warehousing and Value Added Service

Supply Chain Compliance
- Trade Compliance
- Environment and Sustainability

Empowered People
- Training and Development / Learning Academy
- Capabilities

Enabling Capabilities

Supply Chain Performance Enablers
- Supply Chain Metrics and Performance Management
- Transactional CI Culture
- Supply Chain Value Stream mapping

Supply Chain Technology and Systems
- Supply Chain Foundational Technology and Master Data Governance
- Business Intelligence and Analytics

Supply Chain Integration and Collaboration
- Cross Functional Integration
- External Business Partner Collaboration
- End to End Visibility

Johnson Controls — Supply Chain Excellence
Our 5 Maturity Levels

React
- Siloed goals
- Revenue focus
- Siloed execution

Level 1

Anticipate
- Standard scalable functional processes
- Competing goals and metrics

Level 2

Integrate
- End-to-end supply chain processes
- Cross-functional trade-offs and singular value-chain goals

Level 3

Collaborate
- Outside-in external view
- Extended networks
- Outside-in mindset
- Tailored outcomes

Level 4

Orchestrate
- Optimize shared value
- Multi-enterprise ecosystem
- Customer solutions, shared joint value

Level 5

Minimum target level for all Supply Chain Networks on every SCE Objective
The One Johnson Controls Way

SCE Maturity Model objectives

IBP

Supply Chain

Define, Segment and Prioritize Supply Chain Networks

Capability Assessments

Maturity Model Qualitative

Metrics Quantitative

Solution Design
BU Strategy
Current Capabilities Future Capabilities Roadmaps SCOR Process Excellence

Capability Baseline
Quantitative Gaps + Qualitative Gaps => Business Case

Capability Roadmaps
• Aligned Goals and Objectives
• Priorities and Actions

Pilot Implementation
Proof of Concept
Benefits realized

Roll-Out Performance Measurement Management

Supply Chain Capability and Talent Development Engine
Our Supply Chain Academy

1. Employee involved
SC Role/Function
(Aligned Enterprise Wide)

2. Supply Chain Excellence
Maturity Model
Principles/Objectives

3. Competency Assessment linked to
maturity model and maturity stages, Annual
goals and objective setting

4. Curriculunm
Learning Objectives linked to individual development path

5. SCE Academy
Trainings/Offerings

Performance Based Learning
- Learn
- Do
- Coach
- Lead

Multiple Delivery Methods
- Classroom / group learn
- E-learning / webinar
- Experienced based
- Certifications

1A. Defined audience(s)

Executive Awareness Training to be change agents
(COMMUNICATION)

SCOR Process & Skills
Requirements linked to SC Role/ APICS SCOR
People

Incentives to drive development and mindset & behavior change

1. Individual Training Plans
2. Annual Training Budget
3. SC Recruitment and Talent Development
Our strategic business partners Gartner and APICS

Gartner Maturity Models
Industry Best Practices

High-Level Performance Metrics
Performance Benchmarking

Gartner Competency Model
Talent Development Framework

Business Partners Selections

SCE Maturity Model
- People
- Process
- Technology
- Metrics

End-to-End Processes
linked to the Maturity Model to achieve Process Excellence

End-to-End Metrics
Internal and External Benchmarking
Business Case development

SCE Academy
People and Talent Management
to develop and retain Talent

Johnson Controls
Strategic Partners

SCOR* Process
SCOR Metrics
SCORmark Benchmarking
SCOR People
Experience
Aptitude
Training

* Supply Chain Operations Reference model (SCOR)
Thank you for listening
The experts

Lisa Harrington
President
Lharrington Group LLC
Strategic Consultant

Gary Keatings
VP Global Solutions Design
Center of Excellence
DHL Supply Chain

Frank Vorrath
VP Global Supply Chain
Johnson Controls

#PlugandplaySC
The plug-and-play supply chain is a three-step process:

1. Customer-driven segmentation
2. Operational standardization
3. Continuous measurement and adjustment

#PlugandplaySC
Key learnings & takeaways

What’s the payoff?

- **88%** Greater efficiency & reduced costs
- **78%** Increased flexibility/resiliency/agility
- **59%** Improved quality
- **51%** Drive growth

1) DHL survey data point: 350 global respondents
The path forward: 6 essentials for success

Six pillars of “plug-and-play” success

1. Secure C-level AND team-member buy-in and support – long-term view and commitment is essential
2. Don’t wait for the “shock to the system”
3. Develop an over-arching strategy that guides everything
4. Get rid of averages and aggregates – good, actionable data is king
5. Design & institutionalize your building blocks (Legos, templates, models)
6. Invest, invest, invest – in the information supply chain
7. Measure, improve
Parting thoughts

This is a journey and a long-term investment

It’s about…

• making better decisions based on better information
• getting out ahead of opportunity to drive profit and growth
The experts

**Lisa Harrington**  
President  
Lharrington Group LLC  
Strategic Consultant

**Gary Keatings**  
VP Global Solutions Design  
Center of Excellence  
DHL Supply Chain

**Frank Vorrath**  
VP Global Supply Chain  
Johnson Controls