Using business intelligence to improve your labor force

Jason Franklin — Senior Product Manager, Labor and BI
Using business intelligence to improve your labor force
Your presenter

Jason Franklin
Senior product manager, labor and business intelligence

Jason has more than 17 years of experience as a retail supply chain consulting professional with a focus on process and technology improvements.

Jason holds a degree in electrical engineering from Georgia Tech and has been featured in multiple material handling and logistics publications.
Using BI to improve your labor force

• Evolution of BI

• BI’s impact to labor

• Case studies
  – Missing ship times
  – Star performer
  – Execution monitoring

• Wrap-up

• Questions
Evolution of business intelligence

- Started as a niche industry; now has expanded to multiple players
- Evolved from IT-driven reporting to self-service model of today
- BI software revenues will grow from nearly $122B in 2015 to more than $187B in 2019

Data visualization

Quickly identify trends of complex data sets

- Visualization and self-directed data investigation are large parts of BI today
  - Traffic visualizations
  - Sports stats
  - Operational data
  - Many more...

- Allows users to digest large information sets by using visual trends to identify anomalies

Sources: Traffic visualization: bigbytes.mobyus.com; NBA stats: Grantland.com
Polling question

Does your organization currently use self-service business intelligence tools?

• Yes
• No
Data visualization

Capitalizing on Big Data:
Strategies outperforming companies are taking to deliver results

• 85 percent of industry leaders are driving value from acting on the insights that analytics provide

• 78 percent feel the data has the potential to change the way their companies do business

Source: “Analytics: A blueprint for value” – IBM Business Institute
Data analytics fosters innovation

Innovation from analytics is surging

- After declines in 2012–2015, the competitive advantage found from data analytics has risen 6 percent
- In 2016, 55 percent of companies said they were effective at using data, up from 49 percent
- Advancements in self-service BI and integration tools are driving the value
- Users are realizing more useful strategic insights through BI tools
- Machine learning and AI create opportunity for innovative thinking

Source: Analytics as a source of business innovation, MIT Sloan Management review
Polling question

Identify the percentage of decisions made using business intelligence data analytics.

- More than 75%
- 50%–75%
- 25%–50%
- Less than 25%
- Incidental use
State of the industry — labor

- E-commerce has created 355,000 new jobs, compared to 50,000 jobs lost in physical retail stores
- 84 percent of those trying to hire reported few or no qualified applicants for the positions — market at “full employment”
- Millennials’ labor participation at historic lows, largest portion of work force
- Salary expectations gaps ($15 minimum wage and expectations)
- 63 percent of warehouse operations say people are the most important

Labor challenges
- Finding people
- Improving skills of people
- Managing and retaining talent

Sources: Bureau of Labor Statistics; WERC; Georgia Center of Innovation for Logistics; MHI Material Handling & Logistics Roadmap

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BI value to labor

Operational examples

- How does this facility’s UPH compare to my other facilities?
- What are the total direct labor dollars for this facility?
- What is the overall performance of my inbound operations?
- Which operations have the highest CPU? How does that relate to on-standard time?
- What are the total costs related to vendors A, B and C?
- Which individuals have performances under 80 percent?

Strategic examples

- I have additional production in the Southeast. What is the most cost-efficient facility to send it to?
- Over the last eight weeks, the average UPH has dropped 20 percent. Why?
- We just landed a new account. Can my inbound operations handle the increased volumes?
- The off-standard time is very high in this area. Is the supervisor managing resources properly?
- My CPU for this vendor is 25 percent greater than the others. Are my rates correct?
- Which temporary service provides the best quality of temps?

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How BI impacts labor

• Labor programs generate mass amounts of data

• BI analytics drive focus to the areas of need

• Often, the first cause is not the root of the issue, just a reflection of the actual cause

• Multiple levels of investigation are needed, and a flexible BI system aides that investigation

• Other times it is necessary to include other data points in order to see the full picture
Polling question

What labor metric does your organization feel is most important?

• Performance
• Time utilization
• Total labor cost
• Accuracy
• Cost-per-unit
• Overtime
Data visualization case studies
Case studies

Scenario 1: Labor investigation
- Due to shipping misses stemming from third shift, a labor manager is tasked with finding what the issue is.

Scenario 2: Star performer
- One individual is far exceeding his counterparts. What is he doing differently from the rest of the workforce?

Scenario 3: Execution monitoring
- How can visualization help us in intra-day resource planning?
Wrapping it all up

• Business intelligence has evolved from IT-driven reports to self-service analytics

• Data visualization allows users to digest large information sets by using visual trends to identify anomalies

• Successful businesses are using data to drive decisions and innovation

• Fulfillment operations generate large amounts of data that can be mined for improvement opportunities
Questions?