



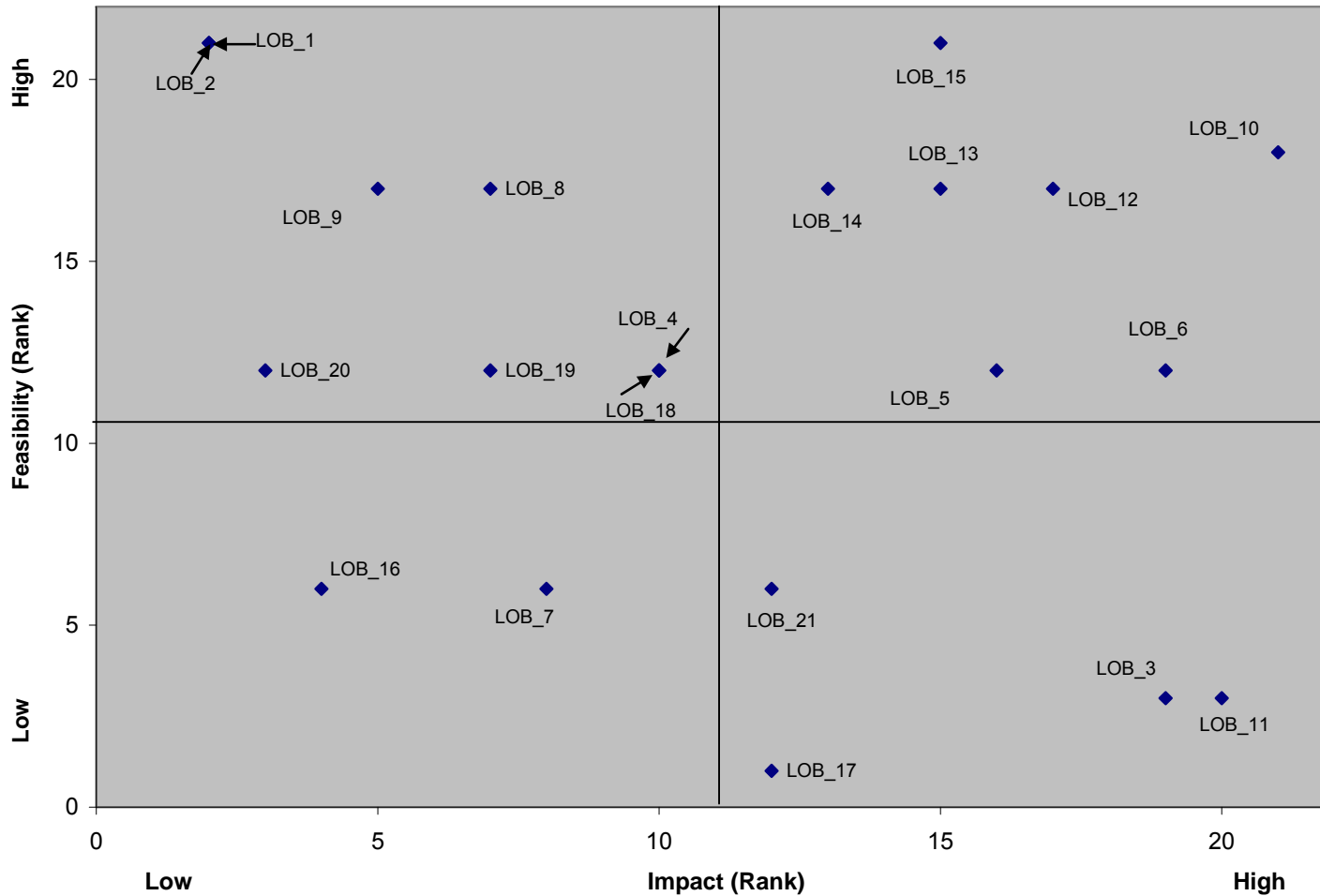
Analytic Data Mart Construction

Chuck Boucek

VP and Actuary
Analytic Data Management
CNA Insurance

Where to Start?

Data Mart Impact vs. Feasibility



What is Maturity of Current Data Assets?

- Maturity of data assets are significant for two distinct reasons
- Mature data assets can be adapted or used directly in an analytic data mart
 - Assessing the maturity of existing assets is a high impact activity
 - Data from external vendors is a prime example
- Maturity of assets affects development method
 - Greater maturity of data assets means that less iterative method can be employed
 - Lower maturity means that iterative techniques are required

Waterfall Does Not Work

- Waterfall method: sequential development method proceeding through requirements, development, testing, deployment phases
- Agile method: iterative development method where solution evolves via collaboration between cross functional teams
- Business users can describe the data they want but cannot tell how to create it making the drafting of requirements difficult to impossible
- Agile methods allow team to learn about data as the project progress
 - The challenge of agile method is to manage time and scope of work

It is Not an IT Project

- The project needs to be a collaborative team effort
- The data exists to serve a business need
 - Significant business involvement is needed to clearly describe the data to support desired analyses
- The IT staff has the knowledge of how the data natively resides. Significant IT involvement is needed to
 - Educate the team on how the data resides
 - Code the data elements
 - Test the results
 - Deploy the solution

You Need a Translator

- IT mindset on a project is different than Business people
- A translator is needed to bridge the gap between the two parties
 - The translator works with the business staff to understand the business need for the data
 - The translator works with the IT staff during the definition and construction phases of the project to direct the IT staff on specific coding of data elements

Translators Need to Create Clear Vision

- A high impact activity of the translator role is to create a clear view of what the IT team is to develop
- One of the best vehicles is a limited set of policies with the correct results defined
 - Policies should be selected to represent a broad range of policy characteristics
 - Policy set is used in testing results produced by developers
 - Policy set is used by developers during development
 - Development of correct results on the sample set will likely be iterative
- Testing methods
 - Actual versus expected
 - Data Profiling
 - Reconciliation to accepted source

The Data is Out There – But Where?

- In large insurers, data is often fragmented across multiple sources
- There is often more high quality data available than most people know
- Organizations often say they have “poor data quality” but this can mean
 - High quality data stored in codes rather than values
 - Inability to access existing data
 - Poor documentation
 - Poor data quality

Follow the Data Flows

- Understanding the key data flows is critical
 - Application → Policy Administration System → Data Mart
 - Claim Entry → Claim Verification → Data Mart
- Understanding the data flows is critical knowledge for the translator role
- Time spent with a claim coder or understanding entry of the app is time well spent

Do the Difficult Work First

- A common project management technique is to pursue the “low hanging fruit” first
- Initial focus on the more difficult work units is required in order to allow time to iterate to a solution
 - Flattening tall tables
 - Codes in error
 - Claim to exposure matching

Do You Need a Black Op?

- Generating interest for the company to invest in data construction can be difficult
- Interest can be generated by providing data to a critical project
- Constructing a prototype data mart and can build support for more extensive data work
 - Users can see benefit of more easily accessed information
 - Senior staff can see benefit as enabler of key project

Expect to Get Better at Data Mart Construction

- Construction of an initial data mart is likely to be a bumpy ride
 - Be careful of initial product chosen for data mart development
- Learning from the successes and mistakes is critical
- Document, Document, Document
 - Document the data mart development methodology
 - Have a clear documentation stream as you develop the data mart
 - Document the resulting data mart
- Have clearly defined roles for team members and teams