Key Business Initiatives

Key business initiatives include what the organization plans to achieve with their business strategy over the next 9-12 months; usually includes business objectives, financial targets, metrics and timeframe.

A Business Initiative supports the business strategy and has the following characteristics:

• Critical to the immediate-term business and/or financial performance (usually 9 to 12 month timeframe)
• Documented (communicated either internally or publicly)
• Cross-functional (involves more than one business function)
• Owned or championed by a senior business executive
• Has a measurable financial goal
• Has a well-defined delivery timeframe
• Delivers compelling financial or competitive advantage

“The underlying foundation for the Big Data MBA book is that the days where business leaders to abdicate data analytics to IT are over; that data analytics will be as essential to tomorrow’s MBA’s as financial analysis, management sciences, marketing and operations research. That while it is not practical to convert the business users into data scientists, that the success of any organization’s big data initiatives are highly dependent upon the business users thinking like a data scientist. The business potential of big data is only limited by the creative thinking of the business users.”

– William Schmarzo

Bill Schmarzo, author of Big Data: Understanding How Data Powers Big Business and Big Data MBA: Driving Business Strategies with Data Science, is responsible for setting the strategy and defining the Big Data service line offerings and capabilities for the EMC Global Services Big Data Practice. As part of Bill’s CTO charter, he is responsible for working with organizations to help them identify where and how to start their big data journeys. He’s written several white papers, 100’s of blogs and is a frequent speaker on the use of Big Data and advanced analytics to power organizations’ key business initiatives. He is also a University of San Francisco School of Management (SOM) Fellow where he teaches the “Big Data MBA” course.

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List info sources:

- EXAMPLE: Blog.chipotle.com
- EXAMPLE: Analyst reviews

Step 1: Identify [Client] Business Initiatives

EXAMPLE: Increase same-store sales

EXAMPLE: Blog.chipotle.com

EXAMPLE: Analyst reviews

EXAMPLE: Blog.chipotle.com

EXAMPLE: Analyst reviews

EXAMPLE: Blog.chipotle.com

EXAMPLE: Analyst reviews
We want to develop personas for each of the business stakeholders to better understand their work characteristics and job characteristics. Understanding this helps to capture the decisions and questions that these stakeholders must address with respect to the targeted key business initiative.

A persona is a one to two page “day in the life” description that makes the key business stakeholder “come to life” for the data science and user experience (UEX) development teams. Personas are useful in understanding the goals, tasks, key decisions, and pain points of the key business stakeholders. The persona helps the data science team to identify the most appropriate data sources and analytic techniques to support the decisions that the business users are trying to make and the questions that they are trying to answer. Personas are created for each type of business stakeholder affected by the given business initiative.

**EXAMPLE:** How will local events affect inventory needs?

**EXAMPLE:** Lack of insight of inventory at neighboring stores
Strategic Nouns

Strategic nouns are critical to data scientists’ thinking process because these are the entities from which to gain new, actionable insights, that ultimately help build analytic profiles.

Examples of strategic nouns include:

- Customers
- Patients
- Students
- Employees
- Stores
- Products
- Medication
- Trucks
- Wind Turbines

Identify business entities or strategic nouns that either impact or are impacted by the targeted business initiative. Write a brief description of each.

EXAMPLE: Stores, Products, Competitors
Business Decision

What decisions do the business stakeholders need to make about the strategic nouns in support of the targeted business initiative? What data insight would support those decisions? These help to form the basis for generating an actionable analytics recommendation that can accelerate a targeted key business initiative.

Capturing and validating these decisions is critical to the “Thinking like a Data Scientist” process. Leading organizations like Uber and Netflix are disruptive because they build a business model that seeks to simplify their targeted customers’ key “decisions.” One of the customer decisions Uber addresses is “How do I easily get from Point A to Point B?” One of the customer decisions Netflix addresses is “What content (movie, TV show) can I easily watch tonight?”

EXAMPLE: How much to stock? When should I order? How much staffing is required?

Document business stakeholder key decisions and write brief descriptions

- EXAMPLE: How much to stock? When should I order? How much staffing is required?

- _______________________________________________________________________________

- _______________________________________________________________________________

- _______________________________________________________________________________

- _______________________________________________________________________________

- _______________________________________________________________________________

- _______________________________________________________________________________
Brainstorm Business Questions

What Happened?

Descriptive (BI)
- How many widgets did I sell last month?
- What were sales by zip code for Christmas last year?
- How many of Product X were returned last month?
- What were company revenues and profits for the past quarter?

Predictive
- How many widgets will I sell next month?
- What will be sales by zip code over this Christmas season?
- How many of Product X will be returned next month?
- What were company revenues and profits for the past quarter?

What Will Happen?

Predictive
- How many widgets will I sell next month?
- What will be sales by zip code over this Christmas season?
- How many of Product X will be returned next month?
- What were company revenues and profits for the past quarter?

Prescriptive
- Order [5,000] component Z to support widget sales for next month
- Hire [Y] new sales reps by these zip codes to handle projected Christmas sales

What Should I Do?

Prescriptive
- Order [5,000] component Z to support widget sales for next month
- Hire [Y] new sales reps by these zip codes to handle projected Christmas sales

Descriptive Analytics
- EXAMPLE: How many customers will visit this week?
- EXAMPLE: How many customers will visit next week?

Predictive Analytics
- EXAMPLE: How many customers will visit this week?
- EXAMPLE: How many customers will visit next week?

Prescriptive Analytics
- EXAMPLE: Increase chicken order by 15% next week
Using “By” Analysis

“By” analysis technique exploits a business user’s natural “question and answer” enquiry process to identify new data sources, dimensional characteristics, variables and metrics that could be leveraged by the data science team to build predictive and prescriptive analytic models that predict business performance.

The “By” analysis leverages a business stakeholder’s natural curiosity to brainstorm new:

- Metrics, measures and key performance indicators
- Dimensions [e.g., strategic nouns] and the attributes and characteristics associated with those dimensions or strategic nouns
- Areas for potential analytics exploration

The “By” analysis uses a simple “I want to [verb] [metric] by [dimensional attribute]” format to capture the business stakeholder brainstorming process and uncover new data and analytic requirements.

EXAMPLE: Most popular product by season
EXAMPLE: Stores by square footage
Creating Scores

The purpose of the “Score” technique is to look for groupings of strategic noun dimensions and attributes that can be combined to create a more predictive and actionable score.

These scores are critical components of our process by supporting the decisions that we are trying to make, and/or what actions or outcomes we are trying to predict with respect to our targeted business initiative.

Scores are very important constructs in the world of data science, and can help to cement the business stakeholders’ buy-in to the data science process.

A familiar example of scoring is the FICO score, which combines multiple questions and dimensions about a loan applicant’s finance history to create a single score that lenders use to predict a borrower’s ability to repay a loan.

### Step 7

**Create [Client] Actionable Scores**

Client key business initiative: ____________________________

<table>
<thead>
<tr>
<th>Strategic noun dimensions ...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXAMPLE: Economic Potential</strong></td>
</tr>
<tr>
<td><strong>EXAMPLE: Local Vitality</strong></td>
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<td>[ ]</td>
</tr>
</tbody>
</table>

**Example:** Economic Potential

**Example:** Local Vitality
Facilitate the development of a compelling and actionable user experience by starting with a simple “Recommendations Worksheet.”

The Recommendations Worksheet ties the decisions that our business stakeholders need to make to the predictive analytics or scores that the data science team is going to need to build.

The “Recommendations Worksheet” captures the potential recommendations that could be delivered to the business users (or consumers) in support of those decisions.

Finally, the worksheet captures the potential scores (and the supporting variables and metrics) that can be used to power the recommendations.
Identify Data Sources

Throughout Step 5 (Brainstorm Business Questions) and Step 6 (Leverage “By” Analysis), participants are going to uncover all sorts of new data sources that “might” provide value with respect to the targeted business initiative and the key business decisions. Data sources are likely to come from:

- Historical operational and transaction systems data (ERP, Financials, HR, Supply Chain, Sales Force Automation, Marketing, etc.) for which data is captured, but likely not on readily accessible platforms
- Internal unstructured data sources including email conversations, consumer comments, clinical studies, research papers, and notes from employee and customer interactions
- External data sources including social media, newsfeeds, weather, traffic, economics, research papers, white papers, and public domain data from government and college institutions

End User: You’ve been exploring potential data sources that might help you achieve your business objectives. Below is a list of potential data sources that you might consider leveraging. Please indicate which sources you plan to use, and why. (This is a sample list; you should conduct your own research to identify potential data sources that are relevant to your business initiative.)

<table>
<thead>
<tr>
<th>Potential Data Sources</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point of Sales Transactions</td>
<td>- Traffic Patterns</td>
</tr>
<tr>
<td>Market Baskets</td>
<td>- Yelp</td>
</tr>
<tr>
<td>Product Master</td>
<td>- Zillow / Realtor.com</td>
</tr>
<tr>
<td>Store Demographics</td>
<td>- Twitter / Facebook / Instagram</td>
</tr>
<tr>
<td>Competitive Stores Sales</td>
<td>- Twellow / Twellowhood</td>
</tr>
<tr>
<td>Store Manager Notes</td>
<td>- Zip Code Demographics</td>
</tr>
<tr>
<td>Employee Demographics</td>
<td>- EventBrite</td>
</tr>
<tr>
<td>Store Manager Demographics</td>
<td>- MaxPreps</td>
</tr>
<tr>
<td>Consumer Comments</td>
<td>- Mobile App</td>
</tr>
<tr>
<td>Weather</td>
<td>- ...</td>
</tr>
</tbody>
</table>

Potential Chipotle Data Sources

- Point of Sales Transactions
- Market Baskets
- Product Master
- Store Demographics
- Competitive Stores Sales
- Store Manager Notes
- Employee Demographics
- Store Manager Demographics
- Consumer Comments
- Weather

End User: Please list the data sources you have identified for this project and explain why you believe they are valuable to the initiative.

Client key business initiative:
Once a wide range and variety of data sources have been identified throughout the “Thinking like a Data Scientist” process, it is now time to determine the value of the different data sources vis-à-vis the business value that data source brings in support of the key business decisions.

From a process perspective:

- List the data sources as row headers in the first column
- List the key business decisions as column headers in the first row.

(Note: this will likely require a couple of pages)

As a group, assess the business value of each data source with respect to the decision. I recommend using Harvey balls (scale of 0 to 4) because it produces a very easy to read chart. The Harvey ball font can be found at: http://www.ambor.com/public/hb/harveyballs.html

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Decision #1</th>
<th>Decision #2</th>
<th>Decision #3</th>
<th>Decision #4</th>
<th>Decision #5</th>
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</thead>
<tbody>
<tr>
<td>Point of Sale Transactions</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Market Basket</td>
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<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Store Demographics (Zip Code)</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td>3</td>
</tr>
<tr>
<td>Local Competitive Stores</td>
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<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Store Manager Demographics</td>
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<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Comments</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Social Media</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Weather</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Local Events</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Traffic</td>
<td>3</td>
<td>1</td>
<td>1</td>
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<td>1</td>
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<td>Zillow</td>
<td>1</td>
<td>2</td>
<td>2</td>
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</tr>
</tbody>
</table>
Assess Implementation Feasibility

Next, we want to determine the implementation feasibility of the data sources over the next 9 to 12 months. There are a number of feasibility that need to be considered. We have jumpstarted the process by pre-identifying some of the more common impediments:

- List the data sources as row headers in the first column
- List the key business decisions as column headers in the first row.

(Note: this will likely require a couple of pages)

Have the IT group assess the implementation feasibility of each data source over the next 9 to 12 months. I recommend using Harvey balls (scale of 0 to 4) because it produces a very easy to read chart. The Harvey ball font can be found at: http://www.ambor.com/public/hb/harveyballs.html

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Ease of Acquiring</th>
<th>Cleanliness</th>
<th>Accuracy</th>
<th>Granularity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point of Sales Transactions</td>
<td>4</td>
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<tr>
<td>Market Baskets</td>
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<td>4</td>
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<tr>
<td>Store Demographics (Zip Codes)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Competitive Stores Sales</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Store Manager Demographics</td>
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<tr>
<td>Consumer Comments</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
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</table>
The Prioritization Matrix is a vehicle for driving IT and business stakeholder alignment around the top priority use cases. The Prioritization Matrix provides a framework around which the business users can debate and decide the business value (vertical axis) of each use case in relation to the other use cases. Simultaneously, the IT stakeholders can debate and decide the implementation feasibility (over the next 9 to 12 months) of each use case in relation to the other use cases.

Each use case is placed on a separate Post-it note.

The workshop participants debate and decide the placement of each use case on the prioritization matrix based upon business value and implementation feasibility (over the next 9 to 12 months) vis-à-vis the placement of the other use cases.
Additional Resources

- Big Data Products, Platforms
  emc.com/bigdata

- Big Data Strategy and Use Case Implementation Services
  emc.com/services

- Interactive Guide: Think Like a Data Scientist
  emc.com/thinkdatascientist

- Bill Schmarzo Blog series
  infocus.emc.com/author/william_schmarzo/

- Books by Bill Schmarzo
  wiley.com (search “William Schmarzo”)

- Certification and Training for Big Data/Data Science
  edu.corp.emc.com (search “big data”)

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