

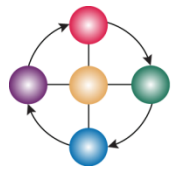
Customer Lifecycle, LLC
inspiration • insight • innovation

Integrating Data into a Holistic View

Operational Metrics Integration & Case Studies

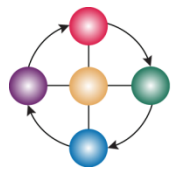
Quirk's Chicago Event
April 2019

“think what no one else has thought”



Discussion Overview

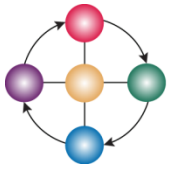
- 50,000 foot stratosphere view of the issue(s)
- Conceptual and practical “how to’s”
- Getting the answers you need (bring it close to home)
- Case study choices:
 - Acquisition – growing market share
 - Service – improving performance
 - Growth – eliminating barriers
 - Retention – reducing churn



Regardless of industry, our one commonality is...

We all have customers!!





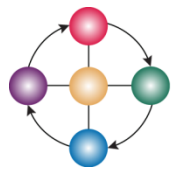
Where Organizations Still Struggle

Harvesting and integrating multiple sources of data, including various forms of unstructured data

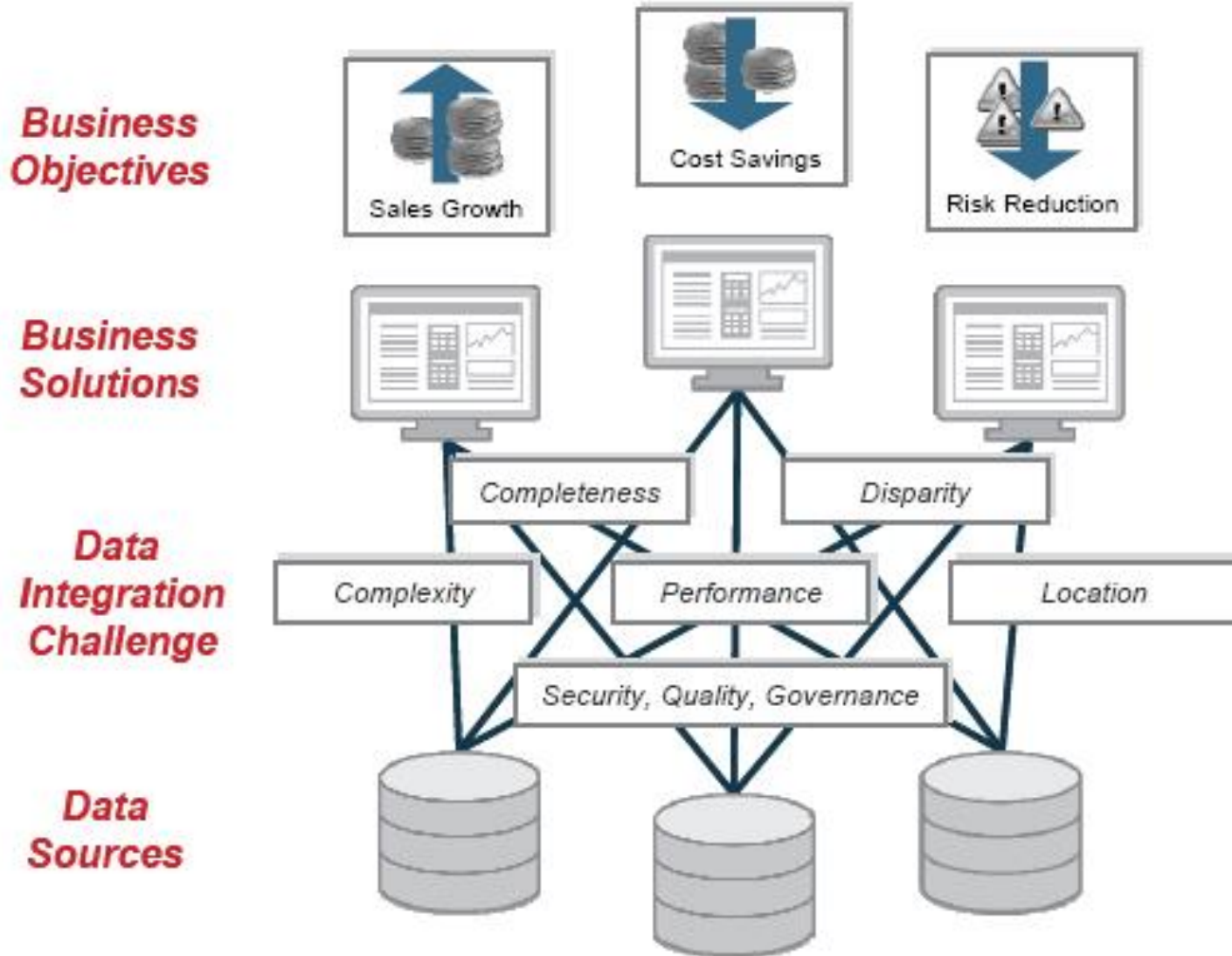
Linking the Voice of the Customer to other key business data and metrics

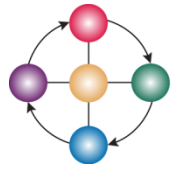
Using the Voice of the Customer to drive action and improvement





Define which business objective you are supporting





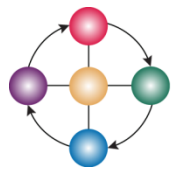
Bucket data sources by broad category

financial

operational
excellence

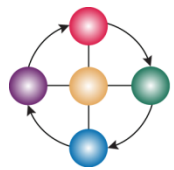
customers

employees



Integration process begins with understanding the data, gleaning it, and formatting it

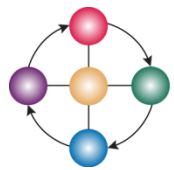
- First look for commonalities between the data sets, as granular as possible
- Select a unit of analysis such as company, location sites, individuals, households, customer groups, product groups to name a few
- The unit of analysis chosen varies by business objective
 - E.g., if your objective is to increase cross-sales, looking at aggregated purchases for the year will not be as helpful as looking at each purchase event—what was purchased and when
- When you integrate data, you'll likely have holes among certain data elements, where data may not have been captured consistently
- Determine what level of accuracy you're willing to live with
- Be prepared to spend some time to make the data sets ready for integration
- After you clean and format the data sets separately, you may use a statistical package with merging criteria to combine the data sets
 - Do iterative analysis, understand patterns, and so forth
- Then you can move on to integrating the data, mining it, setting up your hypothesis, and analyzing the information



Each source of data has specific identifiable variables

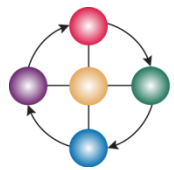
- Catalogue the various types of data available from each information source and note commonalities.
- The key to linking these various sources of data is a method of identifying each individual customer in each source of data.
- Data from secondary research will not have specific customer information; this data source can be used for guidance of business-related decisions.

Primary Research	Secondary Research	Financial Information	Customer Service Inquiries	Customer Profiles and Demographics	Information from Call Centers	Other Sources of Information
Survey research	Publications	Sales figures	Types of problems experienced	Name	Number of calls before problem resolution	Warranty information
Customer Satisfaction metrics	Literature reviews	Profitability	Frequency of experience	<u>Customer ID</u>	Number of rings before call is answered	Licensing information
Customer Loyalty metrics	Product reviews	Value to Citrix	Severity of problem	Segment	Call Center representative	<u>Customer ID</u>
NPS status	Trade press	Last sales contact	<u>Customer ID</u>	Persona	<u>Customer ID</u>	Other information about customer
Competitor ratings	R&D materials	Date of last sale		Age	Was a manager needed?	
<u>Customer ID</u>	Competitive Intelligence	<u>Customer ID</u>		Tech savvy		



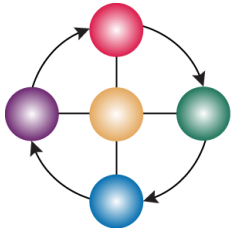
The challenge is finding the best way for you to identify your customers

- Does each customer have a specific **Customer Identification Number**? This can be alpha, numeric, or a combination of both.
- Can you tie employee interactions back to individual customers or accounts?
- If there are several identifiers, is there a master set of instructions on how they link to each other?
- Is that identifier in each source of data?
- If not, what other methods are there to link data by customer?
 - **Customer Name**—How consistently is this information entered across all sources? Is Robert the same as Bob?
 - **Customer Segment**—Is this available in each source of information? Is aggregated information by segment granular enough to address the question you need answered?
 - **Customer Persona**—Is this available in each source of information? If not, is it available in enough sources for you to get the information you need?
- Other ways of linking information depend on the specific pieces of information contained in each source of data.
- [It is not necessary to invest in a completely new CRM system](#) to effectively integrate and mine the data you currently have as long as you have a thorough understanding of the information in each source.



Most commonly used techniques in data mining

- **Artificial neural networks** – non-linear predictive models that learn through training and resemble biological neural networks in structure
- **Decision trees** – tree-shaped structures that represent sets of decisions; these decisions generate rules for the classification of a dataset
 - E.g., Classification and Regression Trees (CART) and Chi Square Automatic Detection (CHAID)
- **Genetic algorithms** – optimization techniques that use processes such as genetic combination, mutation, and natural selection in a design based on the concepts of evolution
- **Nearest neighbor method** – a technique that classifies each record in a dataset on a combination of the classes of the k record(s) most similar to it in a historical dataset (where $k \geq 1$); sometimes called the k -nearest neighbor technique
- **Rule induction** – the extraction of useful if-then rules from data based on statistical significance
- **Complexity science** – based on Chaos Theory of Mathematics, is used to ferret out relationships between unrelated variables



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**research is to see what everybody else has seen...
... and to think what nobody else has thought**

— albert szent-györgi, vitamin c researcher

