Essential Management Analytics
Four Key Business Analytics for Managers
Abstract

The Emerging Need for Manager Centric Analytics

Recent advances in analytics provide better insight into the information that managers rely on when making better decisions. Management performance is closely tied to the results of the decisions made by managers. Performance is best enabled when managers have access to tools and methods that are easy to use, apply to a problem or issue, and make sense for the tasks a manager executes.

New Analytics Improve Decision Making Beyond Dashboards

What type of analytics do managers really need? New software tools provide a day to day analytic capability for increased manager performance. Managers at all levels require the convenience of *value added* analytics. Value added analytics are those that contribute to improved management performance. This means faster and better decisions and corrective management actions. When an incident occurs and a decision is needed then the manager needs more insight with alternativice and validation exposing the issue and executing a good corrective action.

What Emerging Analytics are Available?

Improvements in analytical algorithms supported by artificial intelligence, neural nets, and machine learning now provide managers with imroved insight. Once the sole realm of data scientists, analytic tools are now available that enable managers improve thjeir productivity. Additionally, statistical and semantic analytics are being used in new ways to provide alternate and better insights.

Extending the use of Analytics to Business Analysis

Added value comes from extending the use of these analytics to others in the organization, especially the various types of analysts that do business analysis. Easy use of analytics is not limited to managers. Business analysts, process analysts and others can take advantage of the new tools that are emerging that provide core decision support and analytic investigation.

This course is for managers and professionals seeking to gain skills in accelerated and improved analytics for decision making. Easy to use analytics provide the organization with efficient and effective means of correcting and governing the flow of work that delivers the goods and services to customers.

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Day One

The four types of Analytics for Managers

There are many tools and methods for financial analysis. What is missing are tools and analytics that help with the everyday decisions managers make. The focus today is applying analytical techniques to key indicators that provides operational as well as strategic insight value.

Section 1 – What do we mean by management analytics?

- Managers, models, and analytics
- The emergence of the digital twin for organizations
- Management models are the basis for the digital twin.
- The digital twin supports the use of analytics
- Types of management insight?
  - *Events, Incidents, Variable Change and Exceptions*

Video and Discussion: Management Analytics and Productivity

Sorting Out Analytics

Section 2 – The 4 key Analytics Every Manger Should Understand

- What are composite Algorithms?
- 1 - *Alignment* – From Direction to execution
- 2 - *Semantic Insights* – Comparative semantic analytics
- 3 – *Correlation and Impact* – Linking algorithms for increased value
- 4 – *Analyzing Organization Structure* – Insights from structural DNA

Exercise: What Analytics to Mangers Use today??

Section 3 – Issues and Concerns Regarding Analytics

- Historical bias
- Torturing the data until it confesses
- Using alternate algorithms for validation
- Numbers versus graphics
- Cherry picking data.

Demo and Discussion: How a Neural Net Works

Analytics Issues Awareness

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Day Two

Organizational Alignment – Confirming direction drives execution.

Organizational alignment identifies relationships from the external environment to the execution of the processes including related enablers. Alignment is a step beyond analysis of financials or quantitative analytics. Those are used to help identify the purpose of alignment such as improving profits or increasing the number of products or creating a higher quality service. Organization alignment is about whether the structure you have is the structure you need for success.

Section 4 – The four Perspectives of Alignment

- Alignment overview – Categories of Data
- The organization external environment.
- The strategic perspective
- Tactical structure
- Operational execution

Video and Discussion: Business Alignment

Using Alignment

Section 5 – Environment Analysis

- Using the PESTLE approach
- Categories of landscape data and their properties
- Where do you get the data?
- Defining category relationships)
- Applying Analytics to Categories

Demo Example: Analyzing Alignment Using Component Properties

Section 6 – Example 1 – Strategic Alignment

- The external landscape perspective
- The strategic perspective
- Linking the environment with strategies
- Applying analytics for insight
- Drawing conclusions from the results

Exercise and Discussion: Analyzing Strategies: Using Properties
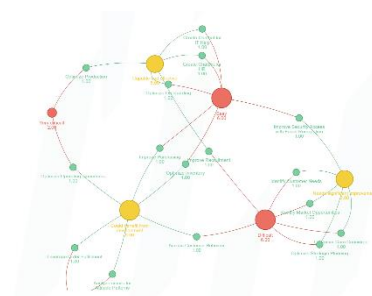
Property Diagram

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Day Three

Semantic Analytics – Similarity and Difference Insight

Semantic analytics are discovery analytics that provide the manager with insight into understanding indicators such as consumer preferences. Comparative semantic analytics are used to identify points of consolidation of processes, organizations, acquisitions, and mergers. Understanding where similarities and differences are in processes and organizations provides managers with a better planning horizon for change.

Section 7 – Sentiment and Keyword Analytics – What image do you have?

- Assessment of attitudes…
  - What do your employees think?
  - What is the image of the organization?
  - What do customers think? The enterprise context
  - Website sentiment – How your web site is viewed
- Example: *Analyzing Sentiment in Documents*
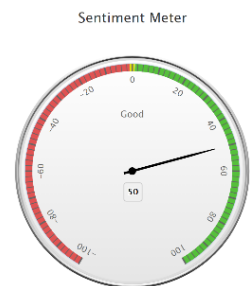
Discussion Exercise: Identifying Targets for Sentiment Analysis

Section 8 – Keyword Ranking, and Semantic Inferencing

- Frequency of keyword use Ranking and Wordles
- Semantic inferencing
- Inferencing value proposition
  - *Understanding the type and degree of impact*
- Interpreting the results of semantic analytics
- Example: *Assessing impact of change*

- *Demo/Discussion: Tracing Process Impacts*

Section 9 – Semantic Analytics and Consolidation

- Comparative analytics with semantics
- Types of consolidation opportunities
- Process improvement and consolidation analytics
- Removing duplication in processes, documents, systems etc.
- Example: *Process Consolidation*

Interactive Demo/Discussion: Assessing Impact of Change
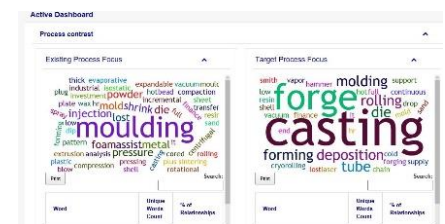
Comparative Process Analysis

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Day Four

Theme: Correlation/Impact Analytics Composite Algorithm

Managers and analysts often deal with day to day analysis for *decisions*. Plus, they deal with an evolving situation in every day management of tasks and responsibilities. Mostly these relate to performance. One of the emerging approaches is to link statistical algorithms with AI such as neural net analytics. This is termed a composite algorithm, an algorithm made up of other algorithms and analytics. Small data sets for these *decisions* make this approach practical and useful.

Section 10 – Correlation Matrices – Analyzing Correlations as a Set

- Analyzing correlations as a set of correlations
- Ranking correlations
- Filtering correlations for focus
- Correlation is not causation!
- Things correlation does not tell you.

Exercise and Discussion: Process Performance Correlation Matrices

Correlation Matrix
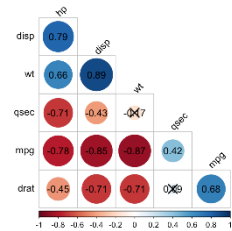
Section 11 – Using neural nets for Impact Analysis

- What does the neural net give you?
- The procedure for developing an impact matrix.
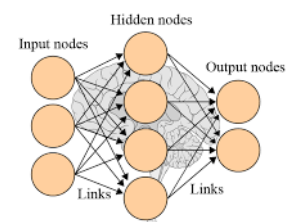- Ranking the impacts
- Interpreting the results

Demo and Discussion: Neural Net Impact Analysis

Section 12 – Relating Correlation and Impact

- Summaries of Correlation data
- Summaries of Neural net results
- The relationship 4 - box
- Interpreting the results

Exercise and Discussion: Linking correlation and impact.

Neural Net

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Day Five

Theme: Assessing Organizational Structure – DNA Analytics

To understand the impact of changes for example it is necessary to traced relationships from an origination point to a target point. This is called 'path to point analyses. For example to respond to the question 'What Strategies Impact our Processes?' we would trace the linkage from strategies to the processes. This often identifies hidden relationship the are a problem when deploying process improvement changes.

Section 13 – The 'Path to Point' Approach

- Identifying origination
- Identifying the target
- Building an analysis matrix
- Choosing the paths of interest!
- Executing a path analysis

Exercise and Discussion: Impact Analysis with Path to Point

Selecting Point of Focus

Section 14 – Focusing on Paths of Interest

- Pruning the paths
- Identifying the properties of interest for filtering
- Applying the properties use for pruning.
- Interpreting the results

Demo and Discussion: Path to Point Analysis

Section 15 – Uses of Path to Point Analysis

- Selecting Processes for Improvement
- Identifying congestion in infrastructure
- Integrating a merger or acquisition
- Identifying issues in a divestiture or consolidation

Final Q&A and Open Discussion

Exploring Linkages

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Learning Objectives

The manager and analysts who attend this course can expect to learn how to use key recent developments in management analytics.

- Describe the four key analytics managers need and use today.

- Explain how 'easy to use' analytics can help a manager.

- Applying analytics to identify performance issues.

- Identify when to use specific analytics for organization performance.

- Know when to apply the analytics in a process.

- Verify that the analytic is providing management insight.

- Comparing the results of multiple analytic types

- Using analytics to predict what might happen next.

This professional training session provides a hands-on, skill-oriented working knowledge of the latest composite analytic techniques that managers and analysts should consider and use. The learning approach uses discussions, interactive exercises, a case study, and group exercises that focus on outcomes that lead to improved management performance. Participants can apply this learning as soon as they get back to their office.

The analytics in this course typically support multiple needs of the manager such as: Decision making, Process improvement, Process consolidation, Organizational change, Hiring needs, Performance analysis, Financial analysis, Predictive and Diagnostic analysis, Traditional data analysis, Organization alignment, and more.

Who should attend?
Managers, Process Analysts, Business Analysts, Managers, Professionals, IT Specialists, IT and Business Architects.

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