

MGT 349/505 Data Analytics for Managers – Boot Camp‡

“There is nothing so useless as doing efficiently that, which should not be done at all. [...] Efficiency is doing things right; effectiveness is doing the right things.”
Peter F. Drucker

The Management Problem

Every company seems to be jumping on the **Business Analytics (BA)**, **Big Data** and **Machine Learning** bandwagon. Indeed, success of computational methods has been spectacular: IBM’s **Watson** supercomputer wins the first ever man versus machine Jeopardy! competition, **Google’s AlphaGo** beats Go world champions, and millions entrust **Amazon’s Alexa**, a robot, with answers to everything.

Yet surprisingly little is understood how to deliver BA success consistently. Many executives still remember the disaster with previous data-centric initiatives, such as **customer relationship management (CRM)** with a failure rate of more than 50% (ZDNet/Gartner 2009).

This course is focused on how to create BA success stories. In order to avoid the fate of CRM, we follow Peter Drucker’s rule of *doing the right things first* and introduce a simple, yet powerful **3-step data analytics process** to guide our course and your team assignment.

This course is designed for **Team Leaders, Marketing & Product Managers** or **Consultants** who will learn HOW TO design, manage, and implement a BA project.

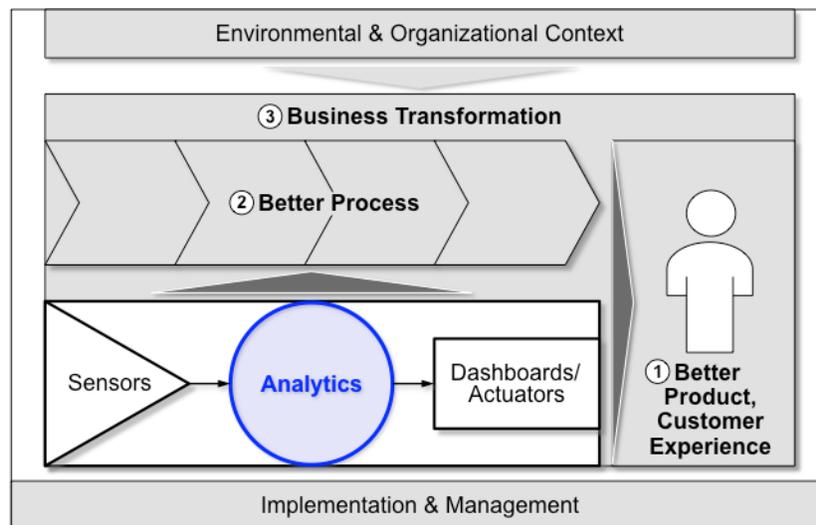


Figure: Business Analytics & Big Data Framework - Your “Course Map” (Langdon 2013)

‡ Aligned with “Essential Practice Skills for High-Impact Analytics Projects” by **INFORMS**, the Institute for Operations Research and the Management Sciences, <https://www.informs.org>

Simple, Modular Course Design

The entire course has been mapped out in a single, simple diagram, your “Course Map.” It depicts the key building blocks and relationships for a BA success story.

First, the framework illustrates how success with analytics requires a broader perspective in which analytics is only one element or gear in a more complicated clockwork. Second, the “Map” introduces analytics as one link in a 3-link chain of **sensors-analytics-actuators** and how this chain can affect business in 3 ways:

(1) **Better product**, (2) **better process** and (3) **business model transformation**.

There will be sessions for each key element, such as a module on “sensors.”

Your Resume Bullet Points & Learning Objectives

This course teaches you to:

- Delineate **BA impact** on (a) customer experience, (b) business processes, and (c) business model.
- Prepare a C-level **Business Analytics Proposal** complete with (a) statement of **objectives**, (b) a **causal model** draft as a first step toward the algorithm, (c) a **data collection** strategy, and (d) an implementation **schedule**.
- Design an exploratory **[Pre-test]**, create a convenience **[Sample]**, and conduct a **[Hypothesis Test]** using different data types (Big Data).

The course is called a Boot Camp, because each meeting is split into a lecture and a lab. And each lab is focused on one piece of your course assignment. So you create your assignment step-by-step or session-by-session with each lecture providing new tools for the next step and lab.

Schedule 4+1 all Saturdays

4 meetings (10am - 4pm): April 8, 15, 22 and 29

1 “Shark Tank” presentation session/pitch of proposals (10am - Noon): May 6

Faculty Bio

Professor Chris S. Langdon is a data scientist and his research is focused on quantifying IT-enabled strategies using next generation analytical tools, such as computational simulation (chris.langdon@cgu.edu).

Chris serves as the President of Pacific Coast Research Inc., an award-winning predictive analytics specialist, and co-founder of the Special Interest Group on Agent-based Information Systems (SIGABIS) of the Association for Information Systems (AIS)/Wirtschaftsinformatik. He started his career as a consultant with Accenture and later joined the faculty of the University of Southern California (USC).

His research on next generation analytics has won grants, such as from Microsoft, and results have appeared in leading publications, including *Communications of the ACM*, *Harvard Business Review*, *Information Systems Research* and Institute of Electrical and Electronics Engineers (IEEE) journals. Over the past two decades, Chris has become known for his success applying analytics research results for *Fortune* Global 100 clients, such as Daimler/Mercedes-Benz, Deutsche Telekom, Nissan and Sony - in the US, Europe and Asia.

Chris was educated at the Darmstadt University of Technology, Germany, and the University of Illinois at Urbana-Champaign and received graduate degrees in engineering and economics, and a Ph.D. in economics, all *summa cum laude*.