

Workshop Facilitator:



Richard Boire  
President  
Boire Analytics

#### Accreditations:

- Unparalleled experience in data science and data analytics as a Canadian practitioner.
- CMA Board Chair 2009-2013:
  - Customer Insights and Analytics Council (Canadian Marketing Association)
- Program Advisory Committee Member
  - University of Toronto Continuing Education
  - Seneca College-Toronto
  - Centennial College -Toronto
  - George Brown College-Toronto
- Part-time professor at the following institutions:
  - George Brown College
  - Seneca College
  - Centennial College
- Published white paper on Best Practices in Data Mining for Canadian Marketing Association in 2003
- Published whitepaper on "Is Predictive Analytics for Marketers Really that Accurate" in May 2013 of Journal of Marketing Analytics
- Published series of papers on Big Data and Artificial Intelligence
  - Artificial intelligence(AI), automation, and its impact on data science Conference: Dec/2017 IEEE International Conference on Big Data (Big Data)
  - Understanding AI in a world of big data: Big Data and Information Analytics (American Institute of Mathematica Sciences-Jan.2018)
- Authored book in 2014 published by Palgrave Macmillian and available in Amazon on "Data Mining for Managers: How to Use Data (Big and Small) to Solve Business Problems"

# Using Data Analytics and Data Science to Your Business Advantage

**Making sense of Big Data, Artificial Intelligence and Machine Learning in Today's World**

**December 7 - 10 from 9am to 12pm**

#### Free Takeaway

Participants will receive:

- Boire Analytics' whitepaper on "Best Practices in Data Mining" compilation of trainer's Data Science and Data Analytics news articles in the last year
  - A snapshot of the many powerpoint presentations delivered at various conferences over the years such as:
    - "Top 10 Tips to Successful Predictive Analytics" to the Kiev Direct Marketing Conference
    - "Predictive Analytics in the New Economy" to Canada Post and the Canadian Marketing Association
    - "Practitioner's Viewpoint to Data Mining -Key Lessons Learned in the Trenches and Case Studies" at the Knowledge Discovery and Data Mining In San Diego
- Bonus:
- Bring your business problems to the course. The instructor will stay after hours on each day to address specific issues and challenges that each participant faces in their business.

Capitalise on the expert knowledge to gain maximum value on these vital issues:

- **JUSTIFY** Data Analytics/Data Science as a key corporate competitive advantage in order to stay on top in the respective industries
- **IDENTIFY** the four steps approach in building a Data Analytics/Data Science solution with proven results
- **EXPLORE** the appropriate tools in developing Data Analytics/Data Science solutions to achieve optimum productivity
- **GAIN INSIGHT** on aligning the solutions with the organization's business objectives from a whole new perspective
- **FORMULATE** Data Analytics/Data Science as part of the corporate culture to ensure performance sustainability
- **ENHANCE** Return On Investment (ROI) and business dollar benefits with Data Analytics/Data Science
- **REVIEW** stakeholder's roles and responsibilities from a Data Analytics/Data Science perspective
- **MASTER** the top 10 key tips in building successful data analytics/data science solutions with well-recognized tools and practices.
- **LEVERAGE** the decades of applied data analytics / data science knowledge and its application within our new digital ecosystem.

## Testimonials from Richard's current and past clients:

"Richard has provided my clients with expert analytic insight into their business. He has helped streamline Data Mining plans and identified un-tapped opportunities. I would highly recommend Richard"

"Richard co-chaired the database marketing and business intelligence council of the CMA while I was a member of said council. His contribution of effort and energy was and continues to be enormous; Richard is a large factor in the success of the council."

"Richard has developed and facilitated workshops for the CMA for over a decade with highly positive feedback. He is a wealth of knowledge when in the area of analytics and database marketing. His easy going presentation style is welcomed by participants which allows for greater audience participation. I would highly recommend Richard to speak on any database related topic. "

"Rich Boire has been an authoritative, popular and well-read contributor to Direct Marketing magazine in Canada for more than 15 years. He's one of the most-respected and sought-out speakers and consultants on analytics in all sectors of the marketplace. We've enjoyed working with him on articles and seminars, and he is a frequently invited speaker for any and all events we produce in this area."

## Workshop Overview

The growing importance of data analytics is now recognized as a major competitive advantage in business today. Harvard Business professor Thomas Davenport's best selling business book 'Competing on Analytics' is a testimonial to the ever-growing importance of this discipline.

With the explosion of information, businesses are now able to produce results and ultimately measure performance for any given initiative. But how solutions are developed from this information, and more importantly, how do businesses action these solutions. This is about adopting the discipline of data analytics and data science where businesses use information to solve a given business problem. This discipline can utilize simple techniques such as Boolean type business rules in their decision-making or use more complex mathematical techniques such as machine learning and artificial intelligence as a means of formulating these decision rules. The simple notion of making business decisions based on intuition and one's prior experience is becoming more the exception rather than the rule. Businesses are now adopting data analytics and data science to provide a more quantitative and scientific approach in their decision-making.

As with any discipline, though, there is a process and approach that is critical in creating the necessary steps for building successful solutions. Within this process and through many years of experience in building analytical solutions, much learning has amassed on what works and what does not work.

Recognizing that the birth of analytics and data science began in direct marketing and the credit card areas, we demonstrate how this knowledge and discipline is leveraged within the new digital ecosphere of Big Data and AI. In our ever-increasing digital economy, data is at the core of all decisions. New analytics and digital platforms offer the promise of solution development. But these promises are meaningless, or at least sub-optimal, without knowledge of data and how it can be used in the development of solutions. Most importantly, the course's many case studies and examples reinforce the core competitive advantage of the analytics and data science practitioner which is:

### **The ability to align the right data with the right tools to solve the right business problem.**

Through this seminar, attendees are provided with a comprehensive perspective in how to both build and deploy data analytics/data science within their respective organizations. At the same time, we will present how programming code is utilized from raw data to the development of a predictive/machine learning model.

## Day 1 - December 7

### Overview of data analytics/data science as a key business imperative

- Defining data analytics and data science
- Identifying the role and impact of data analytics/data science within the different business disciplines
- How data analytics/data science evolves within a given Business
- A brief overview of the difference between advanced vs. non-advanced analytics

#### Case Study: American Express

- **Background and history that led to their major challenges**
- **How advanced data analytics was introduced to the organization**
- **How overall performance was improved**
- **What other challenges remained after the first solution was developed**
- **What were the subsequent challenges that continued to arise and how advanced analytics evolved to meet these challenges**

### Formulating an effective data analytics solutions

- What are the 4 required steps/phases
- Roles and responsibilities of key stakeholders within this process
- Building the right organization structure with data analytics as a core discipline
- Establishing the right balance between software/hardware and people in building tools

#### Case Study: Retailer

- **What is the process used to identify the analytical requirements of an organization**
- **How do we use both the existing organization's human resources as well as potential outside human resources to address these above analytical requirements**
- **Who are the key stakeholders both within and outside the organization that will be our key partners**
- **What kind of software currently exists and how does it address our analytical requirements**
- **Identifying other tools that will be required to fill any analytical requirement gaps**

### Embedding data analytics solutions within the organization

- Building the data analytics team and identifying the appropriate skill sets
- Understanding what are the business expectations of data analytics solutions
  - Use of gains charts/decile tables to demonstrate the impact of advanced analytics solutions
  - Use of cohort reports to demonstrate impact of non advanced analytics solutions
- Championing the C-Suite through the creation of quick wins
  - Examples using high value and RFM techniques
  - Analytics reports at executive level: KPI's and Dashboard reports
- Increasing automation of analytics reporting - advantages/disadvantages
  - What are the advantages/disadvantages of increasing automation
  - Empowering the business end-User and the creation of Pivot Tables.
  - Exploration of other tools such as Tableau
- Using data analytics within the online environment
  - Using log data and how it differs from the off-line structured environment
  - The key information that is extracted from a page click
  - Open Rates/Click Through Rates and understanding its impact on Consumer Behaviour integrating offline behaviour and online behaviour to maximize the performance of a given predictive analytics solution
  - Evaluating solutions within the online environment
- Text Mining: Using analytics within an unstructured data environment
  - What is the difference between structured and unstructured information
  - What is the process used to build a given solution
  - What kind of statistical analysis is deployed in this process
  - How do we integrate the unstructured information solution within an overall predictive analytics solution
  - The use of sentiment analysis as another analytics tool

## Day 2 - December 8

### Identifying and managing business problem

- How to gather the right information
- Increasing ones understanding of the domain knowledge of the business
- Prioritizing the analytics solutions' options

## Case Studies: Telecommunications Company/ Courier Organization/Retail Organization

- Defining the process
- What are the right questions to ask
- Analyzing historical results to obtain a better understanding of the business
- Using Analytics to acquire more domain knowledge of the business

## Gain practical insight on data auditing

- Review on the Extract, Transform, and Load (ETL) process
- The data audit process and its importance in better understanding the data environment
- Creating source vs. derived variables
- Creating the dependent variable vs. independent variable

### Case study: Retail Photography Company

- Defining the process
- Identifying your source files
- Conducting the data audit
  - Creating Frequency Distribution Reports and Data Diagnostic Reports to gain better insight on the data
- From the above reports, determine how to organize, summarize, and manipulate the data into the analytical file

## Day 3 - December 9

## Implementing advanced analytics tools

- Correlation analysis
- Exploratory data Analysis reports
- Value/behavior based segmentation vs. cluster Segmentation
- Factor analysis
- Decision-tree analysis CHAID (Chi-Square Automatic Interaction Detector)
- Logistic regression vs. multiple regression vs. neural nets
- Comparing the advantages and disadvantages of the above techniques
- Evaluating the Business
- Benefit of a given solution and its ultimate ROI

### Case Studies from the following sectors:

#### Banking/Finance, Insurance, Non Profit, Etc

- What is the process in actually creating the solution
- How these above tools are used to build the solution

- Integration of segmentation and modeling into overall predictive analytics solution
- Eliminating the 'black box' of predictive analytics and providing information regarding the solution that is meaningful to the business user
- How to clearly demonstrate the \$ impact of a given solution

## Establish the optimum measurement framework

- What is the quality control process in ensuring that solutions are being correctly implemented
- Identifying your measurement objectives
- Creating the Right Measurement Framework

### Case Studies and Examples to Demonstrate Actual Payback of Predictive Analytics Solution

- Finance/banking
- Property and Auto Insurance
- Travel

### The case studies will examine the following:

- With a developed solution, what are the reports that need to be created to help ensure effective implementation
- What does the analyst need to do when results between implementation and when the solution was developed are drastically different
- Given the specific environment of the organization, what is the process for identifying the measurement objectives
- How does the analyst marry the data to create the appropriate testing framework and matrix
- How does the analyst use the data to create the appropriate measurement reports in evaluating a given solution

The Case studies will also cover the various functional areas such as:

- Marketing and such tools as profiles, response models, attrition models, profitability models
- Insurance Risk models that can be used to predict the price or premium for automobiles and property
- Analytical Solutions that can be used to improve operational processes within a given organization
- Insurance Pricing Solutions that are more business-oriented towards the actuarial community.
- Data Discovery exercise that provides a strategic roadmap for the organization in its journey to become more data-driven
- How an ongoing analytics process and culture provides solutions to a wealth management organization

## **Day 4 - December 10**

### **Demystifying the Confusion of Big Data in Customer Level Data Analytics/Data Science Solutions**

- What are the similarities between big data analytics and small data analytics
- What are the differences between big data analytics and small data analytics
- How do we leverage Big Data Analytics alongside Small Data analytics for better decision-making
- Defining Strategies vs. Tactics using Big Data Analytics
- Case Studies in Developing Big Data Analytics Solutions using Twitter Data, Mobile Data, and weather data.

### **Mastering the top 10 tips of building successful Data Analytics/Data Science solutions**

- Key Pieces of learning to consider when building predictive analytics solutions
  - How to create Quick Wins
  - Identifying when Results are Overstated
  - Where to Emphasize efforts: Statistics vs. the Data

### **Artificial (AI)**

What is the definition of artificial intelligence (AI)

What is machine learning and what are the unique advantages of AI over other forms of machine learning

Why has AI catapulted to the forefront as an analytics tool

Comparison of AI techniques vs. traditional machine learning techniques in predicting consumer behaviour

## **Why Should Attend?**

The Business Managers:

Data Science /Data Analytics knowledge without business knowledge yield unsuccessful solutions. In these sessions, attendees learn how to bridge this gap which ultimately provides a more solid understanding of how these two areas complement each other. The intention of the seminar is not to convert attendees into hard-core data scientists. Rather it is to increase attendees' comprehension of the output and more importantly its impact on the overall business problem. At the end of these sessions, participants will have the knowledge and tools to manage the development of data analytics solutions which are most impactful to the organization.

Data Science and Analytics Practitioners:

As indicated above, analysts and data scientists need to have that hybrid perspective of business knowledge and data science/analytics knowledge. Developing a strong foundation in acquiring domain knowledge regarding any project is key to really understanding what is important to the business. Through the adoption of this philosophy, analysts and practitioners can then develop the right solutions and more importantly the right output that ultimately results in the right business narrative for business success.

## Who Should Attend?

Executives, Directors, GMs, VPs, Senior Managers, Managers with responsibility for or who work with these individuals in the following functional areas:

- FUNCTIONAL ANALYSTS: Customer Analytics, Customer Relationship Managers, Risk Analysts, Business Forecasters, Statistical Analysts, Database/ Market Research, Inventory Flow Analysts, Direct Marketing Analysts, Medical Diagnostic Analysts, Market Timers, E-commerce System Architects and Web Data Analysts
- BUSINESS/ DATA ANALYSTS who interpret the models communicate the results and make actionable recommendations to the key business stakeholders
- DATA SCIENTISTS/MACHINE LEARNING/PREDICTIVE ANALYTICS MODELERS who wish to expand their skills and analytical toolbox as well as hone proficiencies in maneuvering elusive data science mining obstacles that stand in the way of superior model accuracy
- IT/ MIS PROFESSIONALS/DEVOPS ENGINEERS/SOFTWARE ARCHITECTS/DATABASE DEVELOPERS who wish to expand their skills in this increasingly visible area within the corporate IT agenda. They may also require a solid understanding of the infrastructure required for supporting a data analytics/data science solution.
- PROJECT LEADERS and those in Portfolio/ Project Management Unit who must report on development progress, resource requirements and system performance
- ACADEMIA: Statisticians/ Qualitative Experts, Computer Science, Bioinformatics and those in academia who utilize statistical, predictive modeling and data mining techniques for research and development

From cross industries especially:

- Banking & Financial Institutions
- Insurance
- Telecommunications
- Consumer Products
- Manufacturing
- Conglomerate
- Retail
- Education
- Oil & Gas
- Logistics
- Utilities
- Non-Profit

Organizations that have benefited from Richard's expertise:

- ACE
- AEGON
- Affinion Group
- AIM TRIMARK
- Alberta Motor Association
- Alzheimer's Society of Canada
- Aon
- Assurant
- Bank of Montreal
- Bayer Health Care
- Campbells
- Canada Life
- Canadian Automobile Association
- Canadian Cancer Society
- Canadian Imperial Bank of Commerce (CIBC)
- Carlson Marketing
- Carswell Publishing
- CDW Canada
- Ceridian Corporation
- Coachman Insurance
- Compuquote
- Economical Insurance Company of Canada
- EnviroNics Analytics General Electric (GE)
- HBC
- Heart and Stroke Association of Canada
- Hewlett Packard
- ING Bank
- Kids Help Phone
- Laurentian Bank
- Lombard Canada
- Loyalty One
- Manulife Financial
- MBNA
- MD Financial
- National Bank of Canada
- NBC Universal Nestle
- Nissan Canada
- North Waterloo Farmers
- Mutual Insurance of Canada
- Ontario Lottery and Gaming Corporation
- Proximity Canada
- Rogers
- RSA
- Sears
- SHAW
- Staples Inc
- TD Bank Financial Group
- Virgin Mobile

## About your course facilitator:

Richard Boire's experience in predictive analytics and data science dates back to 1983, when he received an MBA from Concordia University in Finance and Statistics. His initial experience at organizations such as Reader's Digest and American Express allowed him to become a pioneer in the application of predictive modelling technology for all database and CRM type marketing programs. This extended to the introduction of models which targeted the acquisition of new customers based on return on investment. With this experience, Richard formed his own consulting company back in 1994 which was called the Boire Filler Group, a Canadian leader in offering analytical and database services to companies seeking solutions to their existing predictive analytics or database marketing challenges.

Richard is a recognized authority on predictive analytics and is one of the most experienced practitioners in Canada, with expertise and knowledge that is difficult, if not impossible, to replicate in Canada. This expertise has evolved into international speaking assignments and workshop seminars in the U.S., England, Eastern Europe, and Southeast Asia.

Within Canada, he gives seminars on segmentation and predictive analytics for such organizations as Canadian Marketing Association (CMA), Direct Marketing News, Direct Marketing Association Toronto, Association for Advanced Relationship Marketing (AARM) and Predictive Analytics World (PAW). His written articles have appeared in numerous publications such as Direct Marketing News, Strategy Magazine, and Marketing Magazine, Predictive Analytics Times, and the Canadian Marketing Association. He has taught applied statistics, data mining and database marketing at a variety of institutions across Canada which include University of Toronto, Concordia University, George Brown College, Seneca College, and Centennial College. Richard was Chair at the CMA's Customer Insight and Analytics Committee and sat on the CMA's Board of Directors from 2009-2012. He has chaired numerous full day conferences on behalf of the CMA (the 2000 Database and Technology Seminar as well as the 2002 Database and Technology Seminar and the first-ever Customer Profitability Conference in 2005). He has chaired the Predictive Analytics World conferences in both 2013 and 2014 which were held in Toronto.

He has co-authored white papers on the following topics: 'Best Practices in Data Mining' as well as 'Customer Profitability: The State of Evolution among Canadian Companies'. His publications include:

- Is predictive analytics really that accurate for marketers
  - Journal of Marketing Analytics-May2013
- Artificial intelligence(AI), automation, and its impact on data science
  - Conference: 2017 IEEE International Conference on Big Data (Big Data)
- Understanding AI in a world of big data
  - Big Data and Information Analytics (American Institute of Mathematical Sciences-Jan.2018)

In Oct. of 2014, his new book on "Data Mining for Managers-How to use Data (Big and Small) to Solve Business Problems" was published by Palgrave Macmillan.

In March of 2016, Boire Filler Group was acquired by Environics Analytics where his role was senior vice-president.

In Sept 2019, he launched his new company: Boire Analytics