



**BRIDGE**  
School of Management  
linking education to industry



## **PREDICTIVE BUSINESS ANALYTICS**

Internationally Certified program offered in partnership with  
**NORTHWESTERN SCHOOL OF PROFESSIONAL STUDIES, USA**

A Venture of:

**hindustantimes**

Academic partner:

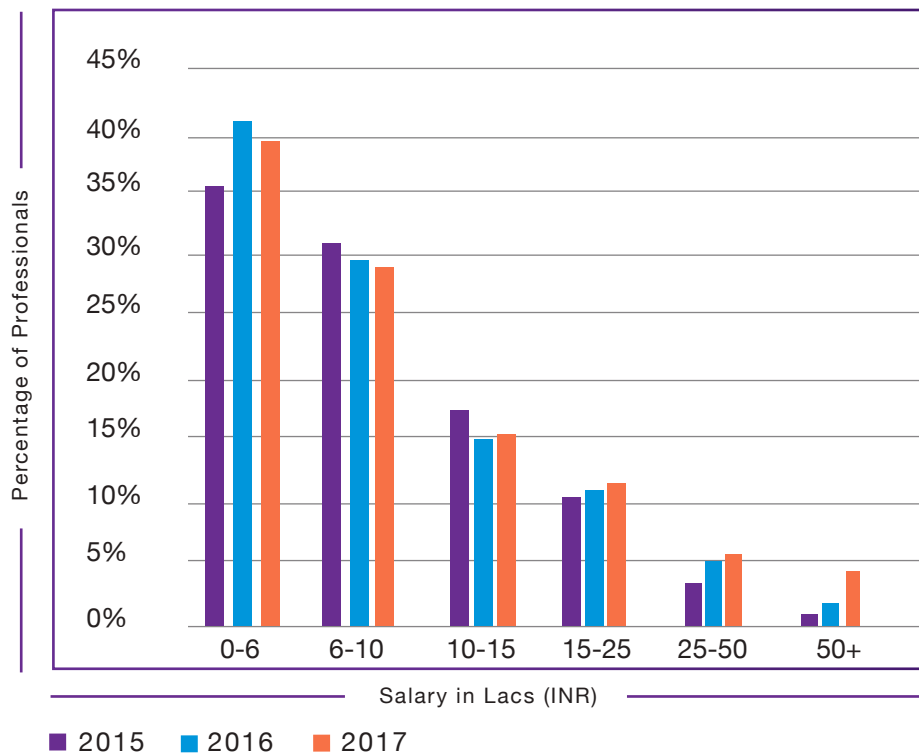
**Northwestern**

SCHOOL OF  
PROFESSIONAL STUDIES

# Data Analytics

In today's digital economy, the ability to collect large amounts of quantifiable data and transform it into actionable intelligence is a key factor to succeed in global marketplace. As a result, analytics experts who can mine insights from data and how to leverage it are high in demand.

Be a part of this data revolution and earn your certificate in Predictive Business Analytics.



## INR 11.7 Lacs

**Average Salary offered for Analytics  
in India across all experience and  
skill-set levels.**

Source: Analytics-India-Salary-Study-2017

## Northwestern University, USA



Northwestern University is a world-renowned educational institution with campuses in Evanston, Chicago, Illinois, and in Doha (Qatar). It is ranked 11th among the nation's best universities by U.S. News. Northwestern has twelve schools and colleges, including Kellogg School of Management, ranked 3rd among the nation's best business schools by U.S. News.

## Bridge School of Management

Bridge School of Management is a venture of HT Media Ltd. India's second largest and most trusted media company. It aims to address the 'education-employment mismatch' and intends to equip working professionals with hands-on knowledge and business skills for a global workplace. The school particularly emphasizes on providing an innovative learning environment while focusing on upgrading managerial, functional, and interpersonal skills. This not only goes beyond mere theoretical knowledge, but also enables working professionals to expedite their career growth.

Bridge School focuses on leadership skill-building by creating a unique platform that comprises of work-class knowledge base and industry-led subject matter experts. This approach has dual benefits – first, it imparts an unmatched learning experience for leadership teams, and second, it prepares them to face new challenges and improve their performances.

# Predictive Business Analytics Certificate Program (PBA)

The PBA program is expertly designed to expand your proficiency in the latest analytics technologies, applications and practices that are actively reshaping the business world. The program's rigorous and comprehensive curriculum is taught by world-class faculty of experts in business analytics.

The Predictive Business Analytics Certificate Program gives students a comprehensive and practical understanding of the predictive analytics process to harness the power of big data and analytics and gain valuable business insights applicable across a wide range of industries.

## Program Goals

Upon completion of the program, students will be able to:

- Apply analytics tools to real-world business contexts for improved decision-making
- Analyze the strengths and limitations of analytics and predictive modeling techniques for different business applications and varying data conditions
- Acquire hands-on experience working with leading statistical and machine learning tools and software packages (such as R, SAS, Tableau, SQL, Hadoop and MongoDB) in predictive modeling and the visual analysis of results
- Effectively communicate the actionable insights stemming from analytical work to multiple stakeholders
- Strategically navigate technology tools and trends to solve big data and analytics problems
- Manage data strategies and analytical projects
- Articulate the value of analytics as an integral part of an organization's decision-making process

# Program Details

The program is tailored for graduates from STEM (Science, Technology, Engineering and Mathematics) background who have an aptitude for numbers & quantitative techniques with a minimum of 50% marks in graduation. Highly numerate non-STEM students have successfully completed the PBA program as well and moved on to analytics roles in the industry.

The program is designed to enable students to

-  **Advance their career**
-  **Enhance their skills**
-  **Excel as a leader in analytics**
-  **Change career paths**

Professionals from diversified industries such as

**Financial Services | Banking | Insurance | Marketing | Health Care | Logistics | E-commerce** may enroll for this program.

## Duration & Course Delivery

Predictive Business Analytics Certificate Program is a 11.5 months blended program.

**Blended classes.**  
Online Learning During Weekdays &  
In-class room learning during

**Weekends (Saturday/Sunday)**



**Weekend classes of 8 hours**  
will be held at the Bridge center &  
online self-study requirement will be

**10-12 hours every week**



# Curriculum

## Module 0

### Foundations in Statistics

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- Descriptive Statistics
- Probability
- Normal Distribution & its applications
- Statistical Inference

**Additional Tool | Advanced Excel**

## Module 1

### Introduction to Business Analytics and R Programming

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- Fundamentals of business analytics and R
- Say hello to R
- Introduction to programming for analytics
- Descriptive statistics using R
- Reporting and Visualization in R
- Data manipulation using R
- Inferential Statistics using R - I
- Inferential Statistics using R - II

**Additional Tools | Introduction to Structured Database, RDBMS & SQL**

# Curriculum

## Module 2

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### Modeling Methods

- Actionable Insights, Statistical review and Simple Linear Regression
- Multiple Linear Regression
- Regression Diagnostics
- Variable Selection Methods
- Logistic Regression
- Classification Trees
- Regression Trees
- Multinomial Logical or Multinomial Logistic Regression

## Module 3

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### Advanced Modeling Methods

- Cluster Analysis
- Discriminant Analysis
- Support Vector Machines
- Principle Components Analysis
- Neural Networks 1
- Neural Networks 2
- Time Series 1
- Time Series 2

**Additional Tools | Hadoop, NoSQL, MongoDB, Hive**

# Curriculum

## Module 4

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### Analytics & Communication Management

- The Analytics Project Lifecycle
- Pre-Analysis
- Data Gathering
- Execution
- Post-Analysis and Adjustment
- Data Visualization
- Visualization Infrastructure
- Additional Data Visualization

**Additional Tools | Analytics using SAS**

## Module 5

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### Elective Course: Marketing Analytics OR Risk Analytics (Choose any 1)

#### Marketing Analytics

- The Strategic Marketing Process and Segmentation Analytics
- Product Design via Conjoint Analysis
- Conjoint Simulators and Choice Models
- Product Positioning via Perceptual Mapping
- Competitive Analysis
- Pricing and Marketing Mix Models
- Digital Marketing Analytics: Experimentation and Attribution Modelling
- Group Project Report and Presentations



# Curriculum

## Risk Analytics

- Introduction to the Concept of Risk
- Discrete and Continuous Probability Distributions
- Joint Distributions and Convolutions
- Factor Models
- Principal Component Analysis
- Advanced Time Series: ARIMA / GARCH Models
- Simulation and Monte Carlo Methods (Advanced)
- Bayesian Networks / Event Tree Analysis (Advanced)

# Certification

The student will be awarded a Certificate in Predictive Business Analytics by the Northwestern University and BRIDGE School of Management. The certification will require a minimum level of academic performance and also cover areas such as attendance, discipline and adherence to school policies.



# Faculty

## ■ **Anil Chaturvedi**

Over 25 years of professional experience at companies such as AT&T Bell Labs, Kraft Foods, Capital One, and Accenture. Co-authored the book Mathematical Tools for Applied Multivariate Analysis. PhD from Rutgers University and PGDM from the Indian Institute of Management Ahmedabad.

## ■ **Lance Levenson**

Quantitative portfolio manager and Data Scientist, Consultant in the quantitative trading and predictive modeling spaces. Master's degree in financial/applied mathematics from the University of Chicago. Bachelor's degrees in astrophysics and mathematics from Arizona State University.

## ■ **Ciju Nair**

Vice President, Analytic Consulting and Innovation - Millward Brown North America with over 15 years of experience. A PhD in marketing from the Olin Business School at Washington University in St. Louis. An MBA from Mumbai's S. P. Jain Institute of Management and Research. A graduate degree in mechanical engineering from the Coimbatore Institute of Technology.

## ■ **Bryan Bennett**

Educator, Presenter of Consumer Insights, executive leadership, customer relationship management, and healthcare technology. MBA from Northwestern University's Kellogg School of Management.

## ■ **Mark Clare**

Founder of New Value Streams Consulting with over 20 years of experience. Author - "Solving the Knowledge-Value Equation." Patent Holder in artificial intelligence. MS in Physics. MA in Analytic Philosophy

# Faculty

## ■ Anuj Batta

Senior Director (Data Sciences and Analytics), Matrix Nodes; and Faculty, Analytics at NIIT University. Formerly AGM at HCL, Manager at Adobe, Senior Consultant at Sapient. Over 13 years of experience. EPBA (MISB Bocconi), EPBM (IIM,Cal), MCA (UPTU), MBA (NIMS).

## ■ Manit Banga

Country General Manager for India and Practice Head for Predictive Analytics and Artificial Intelligence, Elevondata. Formerly, Associate Director, IBM for 11 years. Total 20 years of corporate experience. PBA (Bridge), Black Belt, PGDBM (SGRRIM).

## ■ Imran Khan

Member of Leadership team at AbbVie, (formerly Abbott Laboratories) Chicagoland area, MBA with a concentration in Information Systems and Strategic Management from the University of Illinois at Chicago. MS in Medical Informatics from Northwestern University. BS in computer engineering from the University of Illinois.

# Placements

## BRIDGE SCHOOL TRANSFORMING CAREERS

Bridge transforms careers by providing comprehensive support including

**Career & Behavioral Assessment | Career Coaching |  
Interview Workshops | Internship preparation | Identifying job opportunities**

**80%**  
of students placed  
before course  
completion

**4 out of 5**  
have changed their sector  
of work after joining Bridge  
PBA Program

**35%**  
is the average  
salary hike offered  
to our students

**6.5 Lacs**  
is the average  
salary offered to  
our students

**3 out of 5**  
have gone to an  
upward designation  
change

### AVERAGE SALARY OFFERED TO WORKING PROFESSIONALS - 9 LACS



**Harshvardhan Vyas | Manager | HCL | 12.5 LPA**

- Earlier working with Pearson Group
- Enrolled for Bridge's PBA course



**Megha Golecha | Sr. Manager Analyst |  
Interactive Avenues | 12 LPA**

- Earlier on a sabbatical for 4 years
- Enrolled for Bridge's PBA course



**Rahul Buttan | Manager | Home Credit | 9.6 LPA**

- Earlier Working
- Enrolled for Bridge's PBA course

### AVERAGE SALARY OFFERED TO FRESHERS - 4 LACS



**Shivangi Singh | Consultant | Mindflow Partners | 6 LPA**

- Fresher with a Master Degree in Statistics from Panjab University
- Enrolled for Bridge's PBA course



**Sumer Karayi | Executive | Indigo | 5.14 LPA**

- Fresher with a Bachelor Degree in Engineering from Manipal University
- Enrolled for Bridge's PBA course



**Jasdeep Singh | Assistant Relationship Manager |  
American Express | 4.5 LPA**

- Fresher with an MBA Degree from ICFAI, Hyderabad
- Enrolled for Bridge's PBA course

## Students Speak



“Joining Bridge School for Predictive Business Analytics was the best decision for my Corporate Career growth. I managed to learn through real-life experiences of Industry Leaders whereas content from Northwestern ensured that I was learning the best tools & techniques all relevant in the Analytics Domain. ”

**Shivangi Singh**  
PBA Batch 2016



“I was always interested in Analytics, and wanted to advance my career in this field but lacked a formal education in it. The PBA course at Bridge School gave me a good understanding of this area, and as we had a good mix of Academia and Business leaders teaching us it gave us a balanced view of theory and practical application “

**Megha Goleccha**  
PBA Batch 2016



“Predictive Analytics Program from Bridge has radically helped me in upgrading my skills as a BI & Analytics professional. The content designed by Northwestern is comprehensive and covers most of the statistical techniques used by organizations in the Analytics domain today. Faculty is experienced and extremely supportive.”

**Harshvardhan Vyas**  
PBA Batch 2016

# Industry Relations

## BFSI



## CONSULTANCY



## TECHNOLOGY



## REAL ESTATE



## FMCG



## AUTOMOBILES



## OTHERS





**BRIDGE**

School of Management

linking education to industry

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Gurugram

Pin 122002

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