Grant Thornton

An instinct for growth™

Certification in analytics using R and visualisation using Power BI

Learning & Development Academy
by Grant Thornton in India

Delhi, Mumbai

Learning & Development Academy

Organisations see data as an asset. Managed well, data can help define long-term business strategy, enhance systems and streamline business processes, better manage risks out of the business and help gain a competitive advantage.

Analytics is becoming a central focus of leadership agendas because of its potential to improve profitability, mitigate risk and ensure a sustainable organisation. Advances in technology are raising expectations for leadership, creating new needs and transforming the way we do business.

Yet many fail to realise its true potential. For some, the challenge is the sheer volume of data or identifying actionable insights, and for others, it is due to the cost and time implications.

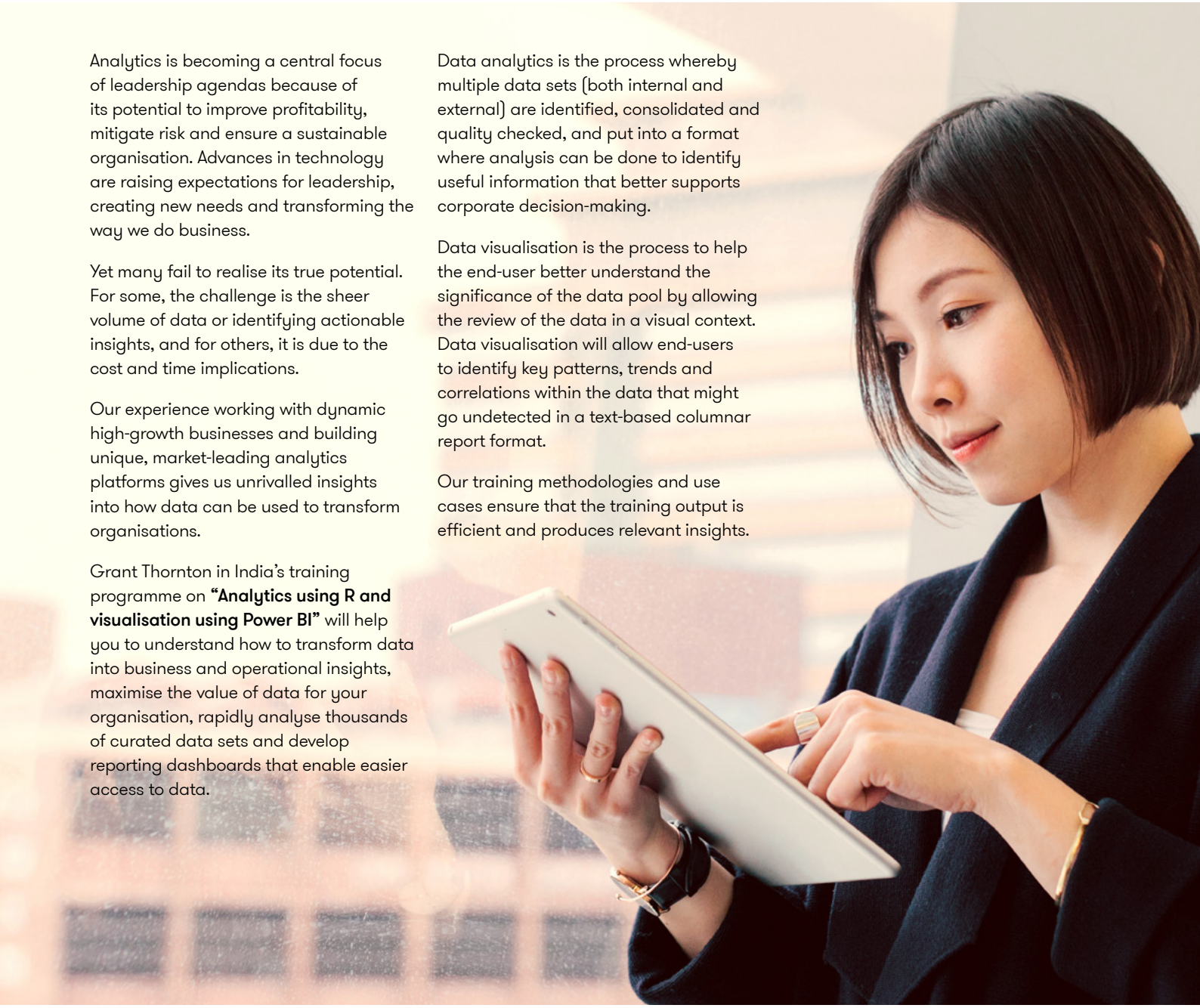
Our experience working with dynamic high-growth businesses and building unique, market-leading analytics platforms gives us unrivalled insights into how data can be used to transform organisations.

Grant Thornton in India's training programme on **"Analytics using R and visualisation using Power BI"** will help you to understand how to transform data into business and operational insights, maximise the value of data for your organisation, rapidly analyse thousands of curated data sets and develop reporting dashboards that enable easier access to data.

Data analytics is the process whereby multiple data sets (both internal and external) are identified, consolidated and quality checked, and put into a format where analysis can be done to identify useful information that better supports corporate decision-making.

Data visualisation is the process to help the end-user better understand the significance of the data pool by allowing the review of the data in a visual context. Data visualisation will allow end-users to identify key patterns, trends and correlations within the data that might go undetected in a text-based columnar report format.

Our training methodologies and use cases ensure that the training output is efficient and produces relevant insights.



Transform the business - and your function in it - by making forward-looking, rich content available for the enterprise's consumption.

Programme objectives

Using R and Power BI, this programme will help you to:

- understand analytics and visualisation techniques that can be applied to uncover customer potential, shape product and service designs, optimise business processes and support critical regulatory compliance requirements
- increase the effectiveness of decision-making that can yield significant returns
- help us answer a business question better, faster and more reliably
- identify profit-maximising decisions, understand trade-offs and improve communications, collaboration and trust
- transform the business — and your function in it — by making forward-looking, rich content available for the enterprise's consumption

Course and deliverables

The programme will focus on:

- structuring data, sourcing the right data, managing the planning, design and execution of an analysis, and helping communicate, interpret and implement the results
- identifying, remediating and resolving the risk analytics and data management deficiencies
- understanding your customer better through segmentation, identification and targeting, and supporting effective marketing strategies and campaigns
- creating high-performing structures, processes and technology-enabled delivery models
- gaining access to real-time, actionable customer and market information to make informed and multi-layered business decisions
- defining strategy, processes and key performance indicators as per industry best practices to monitor the overall performance against the competitors

No matter the industry, domain or position, this course is relevant because it helps in:

Creating value
Knowledge of analytics and visualisation can enhance ROI and Competitive advantage

Enhancing efficiency and effectiveness
Knowledge of analytics and visualisation can enhance ROI and Competitive advantage

Engaging, developing and delivering
Deliver rich and key information

Increasing insights
Knowledge of analytics and visualisation can enhance ROI and Competitive advantage

Collaborating
It integrates with existing applications

Who should attend

- Professionals
- Entrepreneurs
- Students
- Business analysts
- Business intelligence managers
- Statisticians and analysts
- Data scientists
- Project managers

Deliverables

- Four-day classroom training
- Our course material – Handouts
- Assessment tests
- Post-training support – Query management
- Certificate of completion

Case study (Retail)

Problem statement

- CXOs of a large Indian retail group unable to do group and BU level financial and operational performance monitoring across brands, products and stores
- Business data scattered among various sources like POS, ERP, CRM, flat files, etc.
- No provision for cross-dimensional analysis across organisation, business units and subsidiaries

Solution

- MIS standardisation across 9 BUs and 5 functions, and alignment of KPIs as per industry best practices
- Implementation of data governance and integration to bring data from ERP, POS and flat files in common DW
- Getting all the data for analysis on a single platform
- Technology enablement for cross-dimensional analysis across the organisation

Impact

- Rapid decision-making and quicker ROI
- Facility to do root cause analysis
- Actionable intelligence
- Single source of truth for business information
- Reduction in cost and duplication of work which used to happen in manually processed MIS

Case study (Automobile)

Problem statement

- Traditional spreadsheet-based reporting, which was non-interactive, time-consuming, and inaccurate
- Data collection and manual consolidation from existing ERP error-prone and time-consuming
- The finance team and power users unable to perform ad hoc reporting as well as slice and dice data for advanced MIS reporting

Solution

- Technology enablement of business process
- Provision to download data from a single source as per user requirement
- Getting all the data for analysis on a single platform
- Technology enablement for cross-dimensional analysis across the organisation

Impact

- Easy-to-access business information
- Facility to do root cause analysis
- Actionable intelligence
- Single source of truth for business information
- Reduction in efforts and duplication of work, which used to happen in manually processed MIS

Programme agenda

Introduction
- Data science
- R overview
- Why R

Variables and operators
- Introduction
- Variables and naming convention
- Assign variables
- Environment
- Operators
- Arithmetic operators
- Special numbers
- Logical operators
- Vectorised operations
- Types of vectorised operations
- Summary

Data structure - Atomic vector, factors, list
- Introduction
- Preview
- Data structure in R
- Atomic vectors
- Common operations on atomic vectors
- Factors
- List
- Common operations of list
- Summary

Data structure - Data frame, matrix, array
- Introduction
- Preview
- Data frame
- Common operations on data frame
- Matrix
- Operation on matrices
- Array
- Summary

Function
- Introduction
- Preview
- Function overview
- Function components
- Function naming guidelines
- Argument matching
- Argument with default values
- Additional arguments using ellipsis
- Lazy evaluation
- Multiple return values
- Function as objects
- Anonymous function
- Summary

R - Controls
- Introduction
- IF statement
- If-else Statement
- Multiple if-else statement
- Switch
- Vectorised if
- Repeat
- Repeat with break
- Repeat with next
- While loop
- For loop
- Apply
- Demo-apply
- Functions in apply
- Summary

R - packages
- Introduction
- About R packages
- Load R packages
- Demo
- Install R package
- Manage R package
- Summary

Import data
- Outline
- Working directory
- Import CSV files
- Import table
- Import from URL
- Import XML files
- Import Excel files
- Import other file types
- Import from database
- Summary

Exploring data
- Introduction
- Types of data
- Overall structure
- Dataset
- Demo - dataset
- Analysis of continuous data
- Central tendency (mean)
- Demo (mean)
- Central tendency (median)
- Central tendency: Why not sufficient?
- Spread (range)

Matrices
- Matrices
- Building your first matrix
- Naming dimensions
- Colnames() and rownames()
- Matrix operations
- Visualising with matplot()
- Subsetting
- Visualising subsets
- Creating your first function
- Section recap

Data frames
- Importing data into R
- Exploring your dataset
- Using the $ sign
- Basic operations with a data frame
- Filtering a data frame
- Introduction to qplot
- Visualising with qplot: Part I
- Preview
- Building data frames
- Merging data frames
- Visualising with qplot: Part II
- Section recap

An introduction to Power BI Desktop
- An overview of the workflow in Power BI Desktop
- Introducing the different views of the data model
- Taking a closer look at the query Editor interface
- Before we dive deeper recommended settings

An introduction to the Query Editor
- Just to be sure: What is the Query Editor?
- Before we start: About the attached project files
- Connecting Power BI Desktop to our data sources
- Editing rows
- Understanding append queries
- Editing columns
- Replacing values
- Formatting data
- Pivoting and unpivoting columns
- Splitting columns
- Creating a new group for our queries

Introducing the star schema

- Duplicating and referencing queries
- Creating the DIM region table
- Entering data manually
- Merging queries
- Finishing the DIM region table
- Introducing the DIM agegroup table
- Creating an index column
- Duplicating columns and extracting information
- Creating conditional columns
- Creating the FACT population table
- Performing basic mathematical operations
- Improving performance and loading data into the data model

Working on our data model data and relationship view

- Query editor v data model
- Introducing and understanding relationships
- Editing relationships
- Understanding cardinality
- Cross-filter selection and many-to-many relationships
- Active properties
- Understanding the differences between the M-language and DAX
- M v DAX applied calculated columns
- M v DAX conclusion
- DAX - Basic information
- DAX and calculated columns
- Calculated columns v measures
- Introducing DAX-measures
- DAX-measures continued
- Categorising data

Working in the report view to visualise our results

- Understanding the interface of the report view
- Creating our first visualisations
- Editing interactions and adding tooltips
- Adding colour saturation
- Understanding hierarchies and adding drill-down
- Formatting charts and sorting
- About slicers
- Introducing slicers
- Adding treemaps and tables
- Applying different filter types
- Creating (multi-row) cards
- Understanding combined visualisations and waterfall

Power BI Service and Power BI Mobile - How to continue?

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- Continuing our work and why we need Power BI Service
- Comparing Power BI Free, Pro and Premium
- Logging in to Power BI Service
- Understanding the interface
- Importing our data from Power BI Desktop to Power BI Service
- Understanding the dataset menu
- Working on reports
- Introducing dashboards
- Exploring our workspace
- Understanding gateways
- Comparing personal and on-premise Gateway and installing a gateway
- Working alone or collaborating with colleagues
- Collaborating in app workspaces
- Sharing the results
- Publishing the app
- Content packs from online services
- Power BI Mobile installation and understanding the mobile app

Other data sources

- Importing JSON data
- Importing data from REST APIs
- Preparation for setting up a MySQL server
- Importing data from a MySQL server (and other SQL servers)

Creating custom visuals (Power BI for developers)

- How do custom visuals work?
- Using data driven documents (D)
- Creating and using a visual
- Installing an IDE (code editor)
- Understanding the visuals.ts file
- Understanding the project structure
- Installing djs (data driven documents)
- Adding a first shape
- Connecting shapes to data
- Scaling shapes
- Managing visual capabilities to allow data input
- Starting the data extraction
- Limiting the data input
- Extracting data
- Displaying the user data
- Optimising the code
- Adding dynamic colouring
- Making bars selectable (cross-visual)
- Adding X-axis labels
- Adding custom visuals settings
- Extracting the visual configuration
- Informing Power BI about the custom configuration
- Next steps
- Packaging the custom visual

Our top programmes

Diploma in IFRS ACCA training

Finance for Non-Finance Professional

Certification in Financial Modelling and Valuation

Certification in Blockchain Technology

Excel Bootcamp

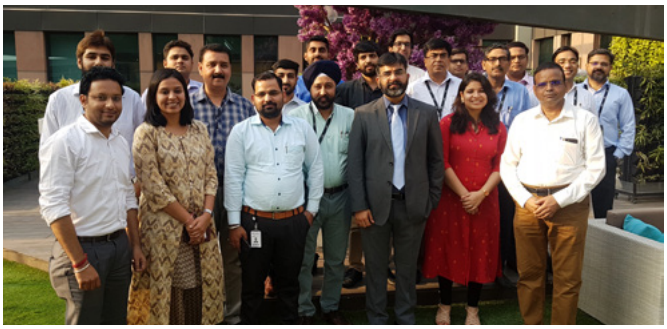
IFRS E-learning

Ind AS 116 and Ind AS 115 workshop

Workshop on Transfer Pricing

Workshop on GST

Snapshots of our programmes



Schedule

	Delhi	Mumbai	Online Live
Date	14, 15, 21, 22 March 2020	14, 15, 21, 22 March 2020	14, 15, 21, 22 March 2020
Venue	**Delhi office:** 6th floor, Worldmark 2, Aerocity, New Delhi - 110037	**Mumbai office:** 16th Floor, Tower II, Indiabulls Finance Centre, S B Marg, Prabhadevi (W), Mumbai - 400 013	Online Live training

Fees: INR 20,000 + taxes

For bookings, contact:

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Why Grant Thornton in India

- **Ranked No 1 in Training & Development** in India amongst Accounting Firms: Universum 2017
- Base in over **135 Countries**, with **53,000+ people** and one of the largest fully integrated **Assurance, Tax & Advisory firms in India with 15 offices across India**
- Standard, globally accepted training methodology
- Customised and cost-effective solution with post-training support
- Access to a network of international firms with relevant experience
- Knowledge of International GAAP, commercial application

To know more about our solutions, please contact:

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