

THE ROLE OF BUSINESS ANALYSTS IN DIGITAL TRANSFORMATION



❖ THE ROLE OF BUSINESS DATA ANALYTICS

Definition of Business Data Analytics

- Business Data Analytics (BDA) is the practice of learning from data to solve business problems.
- It supports evidence-based decision-making, rather than relying on intuition or bias.
- BDA is multidisciplinary, but in this course, the focus is on the business discipline.

Purpose of Business Data Analytics

- To help stakeholders make informed decisions based on data.
- To apply both existing business analysis techniques and new analytical skills.
- To support organizations in gaining insights that lead to action and better business outcomes.

Nature of the Discipline

- Not just technical (although it involves tools and methods).
- Not only strategic (although it informs strategy).
- It's a business discipline with a strong focus on applying insights to real-world business challenges.

The 5-Step Business Data Analytics Process (from IIBA Guide)

1. Identify Research Questions
 - Understand and define what business question needs answering.
 - Clarify the problem or opportunity being explored.
2. Source Data
 - Gather relevant data from various sources (internal systems, external data, etc.).
 - Ensure the data is accurate, complete, and relevant.
3. Analyze Data
 - Use analytical techniques to explore the data.
 - Look for patterns, trends, and relationships.
4. Interpret and Report on Analytics Data
 - Translate data findings into meaningful insights.
 - Present results in a clear, business-friendly format (charts, reports, dashboards).
5. Use Analytics Results to Support Decision-Making
 - Apply insights to inform business decisions.

- Help stakeholders take data-driven actions.

The 4 Types of Analytics in Business Data Analytics

1. Descriptive Analytics
 - Purpose: Understand what happened in the past.
 - Example: Monthly sales reports, customer behavior trends.
 - Question it answers: "What happened?"
2. Diagnostic Analytics
 - Purpose: Discover why something happened.
 - Example: Root cause analysis of a sales drop.
 - Question it answers: "Why did it happen?"
3. Predictive Analytics
 - Purpose: Forecast what is likely to happen in the future.
 - Techniques used: Machine learning, statistical modeling.
 - Example: Predicting customer churn or future sales.
 - Question it answers: "What is likely to happen?"
4. Prescriptive Analytics
 - Purpose: Recommend actions based on data.
 - Example: Suggesting the best marketing strategy or pricing model.
 - Question it answers: "What should we do?"

Why Business Data Analytics is Growing

- Massive growth in data availability (Big Data).
- Advanced tools and technologies make data analysis easier and faster.
- Organizations want:
 - Deeper insights
 - Improved customer engagement
 - Better risk management
 - Operational efficiency
 - Reduced waste
 - Competitive advantage

Why Your Business Analysis Skills Are Valuable

- You already:
 - Understand business needs.
 - Communicate effectively with stakeholders.
 - Know how to define problems and evaluate solutions.
- These skills complement data analytics work, helping bridge the gap between technical teams and business stakeholders.

❖ Differentiating business data analytics

1. Business Analysis (BA)

- **Focus:** Understanding business needs and providing context for analytics projects.
- **Key Responsibilities:**
 - Identify business problems or opportunities.
 - Define the scope of analytics work.
 - Act as a liaison between business stakeholders and technical teams.
 - Communicate insights from data in business terms.
- **Tools Used:** JIRA, Visio, Miro.
- **Role:** Business-facing; sets the stage for analytics and supports decision-making.
- **Title:** Business Analyst.

📌 2. Data Analytics (DA)

- **Focus:** Applying data analysis techniques to transform raw data into actionable insights.
- **Key Responsibilities:**
 - Sort, clean, process, and analyze data.
 - Identify patterns, trends, and correlations in data.
 - Help businesses make better, informed decisions.
- **Tools Used:** SQL, Power BI, Tableau.
- **Role:** More technical than business analysis, but still closely aligned with business goals.
- **Title:** Data Analyst.

📌 3. Business Data Analytics (BDA)

- **Definition:** A blend of business analysis and data analytics.
- **Focus:** Business-facing analytics work — using data to answer business questions.
- **Role:**
 - Often performed by business analysts in analytics projects.
 - Bridges the gap between raw data and business decisions.

4. Data Science (DS)

- **Focus:** Building **technical solutions** using programming, mathematics, AI, and machine learning.
- **Key Responsibilities:**
 - Create predictive models and advanced algorithms.
 - Build systems and tools for automation and innovation.
 - Handle complex data sets and perform high-level statistical analysis.
- **Tools Used:** Python, R, AI/ML platforms.
- **Role:** Highly technical, engineering-oriented.
- **Title:** Data Scientist.

Relationship Between Roles

- **BA vs. DA:**
 - In smaller companies, one person may do both roles.
 - In larger organizations, the roles are often separate.
 - BA = Business liaison; DA = Data expert.
- **BA/DA vs. DS:**
 - Data Scientists have deeper technical expertise.
 - Unlikely for a BA or DA to perform a DS role (similar to expecting a BA to do software development).

Tool Progression by Role

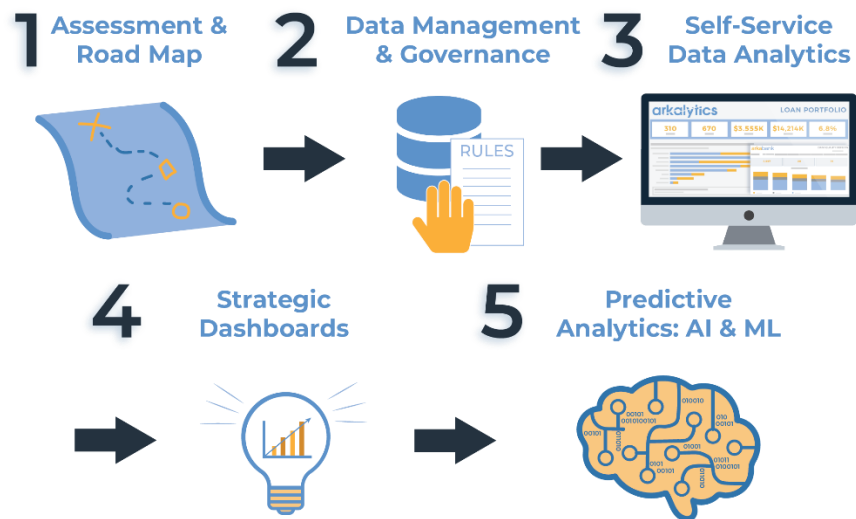
- **Business Analyst:** JIRA, Visio, Miro (for process mapping, collaboration, project tracking).
- **Data Analyst:** SQL, Power BI, Tableau (for querying, analyzing, and visualizing data).
- **Data Scientist:** Python, R, machine learning tools (for complex modeling, predictive algorithms, and AI applications).

Key Takeaways

- All three roles are **interdependent** but have **different scopes**:
 - BA: Define the problem and communicate insights.
 - DA: Analyze data to uncover insights.

- DS: Build technical solutions and predictive models.
- Understanding these roles helps you know **where your skills fit** and how you can grow in the broader analytics field.

❖ The 5 Core Business Data Analytics Steps



1. The Importance of the Research Question

- An analytics project begins with a research question—it is the foundation of the entire analytics effort.
- The research question:
 - Defines the goal of the analytics project.
 - Sets the boundary for the scope of analysis.
 - Helps the data team decide:
 - What data to use.
 - How much data to collect.
 - How often to collect it.

□ 2. Purpose of the Research Question

- It's similar to business objectives in a traditional IT project.
- Just like objectives, it must be:
 - Clear: No ambiguity.

- Specific: Focused and targeted.
- Measurable: Has metrics or criteria for success.
- It communicates what the business wants to discover or solve using data.

□ 3. How to Identify a Good Research Question

Step-by-step process:

1. Use Business Analysis Skills:
 - Collaborate with stakeholders.
 - Understand the business situation (opportunities or challenges).
2. Elicit Business Objectives:
 - Examples: Increase profit margins, attract new customers, reduce churn, improve product usage.
3. Transform the Business Situation into a Research Question:
 - Convert goals and challenges into analytics-focused questions.
 - Ensure the question is specific and measurable.

□ 4. Example of a Well-Formed Research Question

“Which product features contribute most to customer satisfaction, and how can they be leveraged to reduce churn by 5% by the end of quarter three?”

- ☒ Specific: Focuses on product features and customer satisfaction.
- ☒ Measurable: Sets a 5% churn reduction target by a specific time.

□ 5. It's an Iterative Process

- Don't expect to write the perfect question the first time.
- Work with stakeholders to refine and improve the question.
- You can:
 - Draft multiple questions.
 - Vote on the highest-value question.
 - Choose the one best aligned to business goals.

□ 6. Think Ahead: Can the Question Be Answered with Data?

- While defining questions, consider data availability:
 - Is the required data already available?
 - Can the data be acquired?

- A question is only useful if it can be answered using existing or accessible data.

□ 7. Match the Question to the Type of Analytics

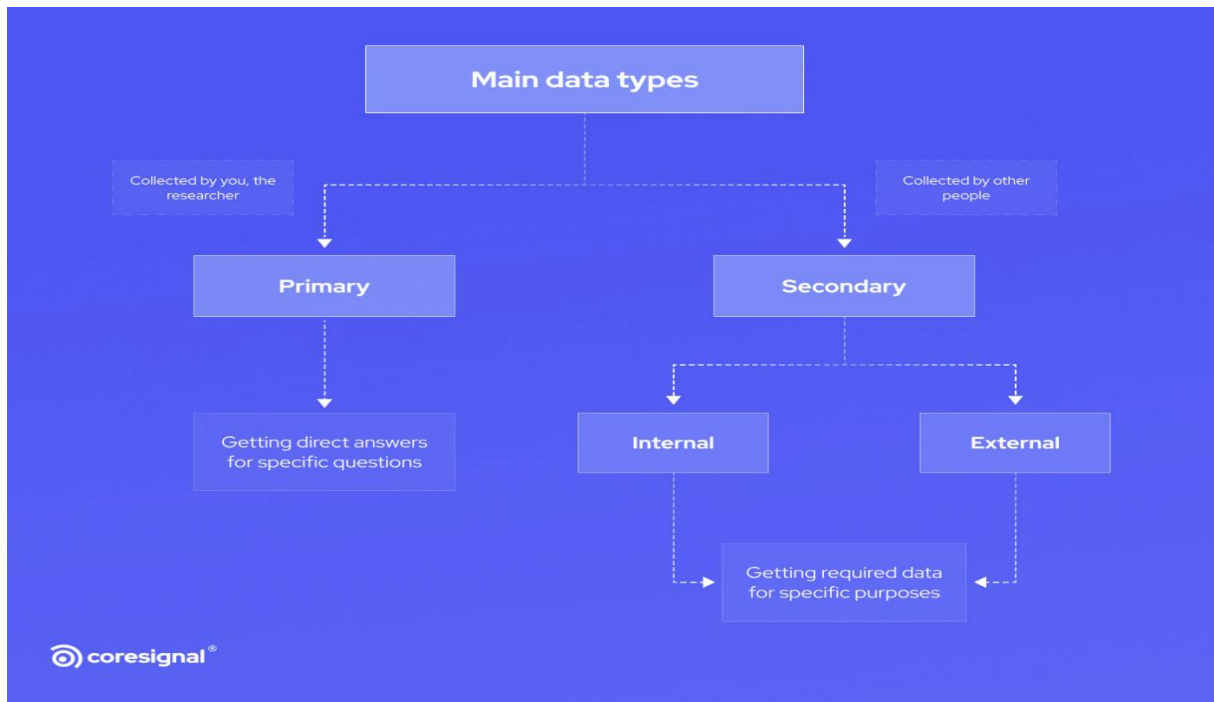
The form of the research question depends on the type of analytics being applied:

Type of Analytics	Purpose	Example Research Question
Descriptive Analytics	Analyze past trends or performance	“What was the total sales revenue in Q3 this year vs. Q3 last year?”
Diagnostic Analytics	Find the root cause of a past issue	“Why did our cart abandonment rate increase by 20% last month?”
Predictive Analytics	Forecast future outcomes	“What is the projected number of new hires likely to resign within the first year?”
Prescriptive Analytics	Recommend best actions or solutions	“What incentive should we offer to 21–26-year-olds in September to increase engagement?”

□ 8. Characteristics of an Effective Research Question

An effective research question should:

- Be understandable to both business and technical teams.
- Be measurable using existing or acquirable data.
- Be aligned with stakeholder goals and priorities.
- Drive the most valuable insights for decision-making.



Sourcing Research Data

What is Data Sourcing in Business Data Analytics?

Data sourcing is the process of identifying, planning for, and acquiring the data necessary to answer the analytics research question. Just like planning a party requires a venue, supplies, and budget, sourcing data involves careful upfront planning to ensure everything is in place before analysis begins.

□ 1. Purpose of Data Sourcing

- To determine what data is needed.
- To plan how, when, and from where that data will be acquired.
- To assess the cost, availability, and quality of the data.


□ 2. Data Sourcing is Like Planning a Party 🎉

- Venue = Data Source: Where will the data come from?
- Supplies = Data Requirements: What data do you already have? What needs to be acquired?
- Budget = Resource Planning: How much time and money will be needed to acquire it?

□ 3. What is a Data Sourcing Plan?

A Data Sourcing Plan outlines:

- How the data will be obtained.
- From which sources (internal/external).
- When it will be accessed.
- Any associated costs, risks, and constraints.

 Formats vary:

- It might be called a Data Sourcing Plan, an ETL Plan (Extract, Transform, Load), or another name depending on context.

□ 4. Who's Involved in Data Sourcing?

It's a collaborative effort involving:

- Business Analyst – defines business needs and data context.
- Data Analyst & Data Scientist – handle the technical side of acquiring and testing data.
- Business Stakeholders – provide input and approve plans.

□ 5. Key Responsibilities by Role

 Business Analyst Responsibilities:

- Define business data: what it is, why it's needed, and its value.
- Determine data availability: when and how often the data can be accessed.
- Identify usage constraints:
 - Data privacy.
 - Policies and regulations (e.g., GDPR).
- Identify data sources:
 - Internal systems (databases, shared drives, spreadsheets).
 - External systems (third-party platforms, public datasets, vendors).

 Data Analyst / Data Scientist Responsibilities:

- Define how the data will be:
 - Acquired (manual, API, etc.).
 - Processed (cleaned, transformed).
 - Delivered (reports, dashboards, systems).

- Run sample data tests to:
 - Check data quality.
 - Confirm availability.
 - Determine how frequently the data should be collected.

□ 6. Internal vs. External Data Sources

- Internal Data:
 - From within the organization (e.g., CRM, ERP, sales systems).
 - Usually easier to access and more aligned with business goals.
- External Data:
 - From outside the organization (e.g., industry reports, government data, APIs).
 - May involve additional costs or legal considerations.

□ 7. Consider the 5 V's of Data Sourcing

These help evaluate and guide sourcing decisions:

V	Definition
Volume	How much data is needed to be stored and processed?
Velocity	How fast does the data need to be acquired? How often will it be updated?
Variety	What types and formats of data are needed? (e.g., text, images, structured)
Veracity	How reliable, accurate, and trustworthy is the data?
Value	What is the usefulness or worth of the data in answering the research question?

□ 8. Reviewing and Finalizing the Plan

- The Business Analyst typically writes and compiles the sourcing plan.
- The plan should be reviewed and approved by key parties:
 - Data Owners (who control the data).
 - Budget Owners (who pay for the data or sourcing tools).
 - Technical Staff (who handle extraction, transformation, and loading).

Analyzing Data

"Data never lies, but it rarely speaks clearly without analysis."

This quote captures the essence of data analysis—it's not just about collecting data, but interpreting it properly to make it useful for business decisions.

□ 1. Purpose of Data Analysis

- To review and evaluate the collected data.
- To determine whether the results help answer the research question.
- To refine models and techniques if the initial approach doesn't yield useful insights.

□ 2. Isn't Sourcing Already a Type of Analysis?

- Yes, but only basic analysis (e.g., checking availability, type, and basic structure of data).
- Step 3 goes deeper: It uses the full data sets, applies analytical techniques, and tests hypotheses or models.

□ 3. Who Analyzes the Data?

Role	Responsibilities
	- Works with small to medium datasets.
Data Analyst	- Performs descriptive and diagnostic analytics. - Creates dashboards, visualizations, and basic reports.
	- Works with large and complex datasets.
Data Scientist	- Handles predictive and prescriptive analytics. - Builds AI and machine learning models.

Selection depends on the type of analysis, data size, and technical complexity.

□ 4. Key Technical Skills Used

- Statistics: To find patterns, trends, and relationships.
- Data tools:
 - Data Analysts: Excel, SQL, Tableau, Power BI.
 - Data Scientists: Python, R, TensorFlow, machine learning libraries.
- Data cleaning tools and methods.

□ 5. Data Cleansing (Scrubbing)

Cleansing ensures data is accurate, consistent, and usable.

Key activities include:

- Removing duplicates.
- Filling or correcting missing values.
- Correcting inconsistencies in format or naming.
- Validating against expected values or ranges.

🔄 Why it matters: “Garbage in, garbage out.” Flawed data = flawed results.

□ 6. Data Validation

Performed collaboratively by:

- Data Scientist/Analyst (technical validation).
- Business Analyst & Stakeholders (business logic and relevance).

Key Validation Questions:

Validation Type	Example Question
Accuracy	Do the results match real-world behavior? Are there data errors?
Completeness	Is any important data missing that could change the conclusions?
Relevance	Is the data actually useful for answering the research question?
Security/Privacy	Are data use policies, privacy rules, and regulations being followed?


□ 7. Role of the Business Analyst in This Phase

- Engages actively in reviewing findings.
- Helps determine if results are aligned with business goals.
- Validates that outputs make sense from a business perspective.
- Ensures data interpretation is clear and actionable.

□ 8. Revisit the Research Question

- After reviewing the analysis, the team must check:
 - Has the research question been answered?
 - Are the business objectives being met?

- If not, it may require:
 - Revisiting the data sourcing step.
 - Using a different analytical method.
 - Reframing the research question.

 Analytics is iterative. It's normal to revisit earlier steps.

Summary: Why Analyzing Data Is Crucial

- It transforms raw data into meaningful insights.
- Requires technical expertise and business understanding.
- Ensures the quality and reliability of insights.
- Helps verify whether the project is on track to answer the key research question.

Interpreting and reporting on analytics data

Purpose of This Step

This is the **final and critical stage** of the business data analytics process. After you've:

1. Defined the **research question**,
2. Sourced and collected the **relevant data**,
3. **Analyzed** and interpreted it thoroughly,

...now it's time to **present the insights clearly and meaningfully** to stakeholders.

You're no longer just analyzing — you're now **communicating the story the data tells**, helping others understand the **"so what?"** behind the numbers.

Definition According to IIBA (International Institute of Business Analysis)

"Use the outcomes from data analysis to form insights and choose how best to report the results."

This means your focus is now on:

- Translating data insights into **actionable understanding**.
- **Choosing appropriate methods** (visuals, reports, storytelling) to present those insights to decision-makers.

❑ Role of the Business Analyst in This Step

- You are an **advisor**, not the decision-maker.
- Your job is to:
 - **Interpret** the results accurately.
 - **Simplify** the technical insights.
 - **Engage stakeholders** through clear, relatable communication.
 - **Support data-driven decision-making** by presenting results effectively.

☑ Two Key Techniques: Data Visualization & Data Storytelling

1. 📊 Data Visualization

What it is:

- A method of representing insights through **visual elements** like charts, graphs, and dashboards.

Purpose:

- To make complex data more **digestible, accessible, and visually engaging**.
- Helps audiences **grasp patterns, trends, and comparisons** quickly.

Tools commonly used:

Tool	Use Case
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Excel	Basic charts and small datasets
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Power BI	Interactive dashboards, real-time data
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Tableau	Advanced, dynamic visualizations
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Best Practices:

- Keep visuals **simple and focused**.
- Avoid clutter or overwhelming charts.
- Use **color and layout** wisely to highlight insights.

2. 📖 Data Storytelling

What it is:

- A structured **narrative** that explains not just what the data shows, but also:
 - **Why** it matters,
 - **How** it happened,
 - And **what should be done next**.

Why it matters:

- Humans connect better with **stories** than raw data.
- It helps stakeholders **remember and act on insights**.
- It adds **context and emotion** to numbers.

Structure of a Good Data Story:

Element	Example (From Transcript)
What happened?	"Sales were down by 20% in Q4."
Why did it happen?	"The drop was tied to our new website redesign."
What should we do?	"Improve the customer journey to restore sales."

Impact:

- A strong data story motivates **action**.
- It helps **align decisions** with business goals.

□ Combining Both Techniques

The most **effective way** to report insights is by **blending visuals with storytelling**:

- ✓ Use **visuals** to support your story with clear, impactful evidence.
- ✓ Use **narratives** to give the data meaning and guide the audience toward informed decisions.

🗣️ Why This Step Matters

- Even the best data analysis is **useless if the insights are not communicated clearly**.
- Decision-makers rely on **your interpretation** to:
 - Understand the situation.

- Take timely, effective action.
- This step is where **insights are turned into impact**.

Using business analytics in decision-making

Purpose of This Step

Up until now, you've:

1. **Defined the research question.**
2. **Sourced and acquired the right data.**
3. **Analyzed and interpreted** that data.
4. **Reported insights** through visuals and storytelling.

But insights **alone do not change the business**.

This final step is where you **bridge the gap** between information and action — helping decision-makers use insights to make **better, evidence-based business decisions**.

□ Why This Step Is Crucial

- Data analysis **doesn't change the business** on its own.
- What **changes the business** is when stakeholders **act** on the data-informed insights.
- Your role is to **guide decision-makers** by presenting **solution options** — practical actions based on your findings.

□📁 The Role of the Business Analyst





You are **not the decision-maker** — you're the **facilitator**:

- Your job is to **propose** options, not to enforce a specific solution.
- You work with a **cross-functional team** (e.g., IT, business stakeholders, SMEs, product owners) to come up with **actionable recommendations**.
- You ensure these recommendations are **realistic, strategic, and valuable**.

💡 What Are “Solution Options”?

Solution options are a short list of **recommendations or actions** the business might take to solve a problem or seize an opportunity revealed through analytics.

These options might involve:

-  **System enhancements** (e.g., upgrading a platform or fixing bugs).
-  **Training programs** (e.g., closing skill gaps based on performance data).
-  **New or improved products/services** (e.g., launching a loyalty program).
-  **Process improvements** (e.g., reducing manual steps in order fulfillment).

Guidelines for Creating Solution Options

When building your list of recommendations:

Keep it short

- 3–4 **viable** options are ideal.
- Too many options overwhelm stakeholders and slow down decision-making.

Ensure viability

- All options must be **achievable** within:
 - Time
 - Budget
 - Technical feasibility
 - Organizational readiness

Align with strategy

- Make sure every option ties back to:
 - The **original business objectives**
 - The **research question**
 - The organization's **strategic direction**

Compare the options

Evaluate each option based on:

- Cost
- Benefits (short and long-term)
- Risks

- Effort required
- How well it solves the original problem

Example Scenarios

Here are a few examples of solution options in real-world contexts:

Scenario	Insight	Solution Options
Help desk receives too many tickets about password resets	System usability issue	1. Add self-service password reset tool 2. Offer user training sessions 3. Simplify login process
Sales dropped after a website redesign	Website isn't user-friendly	1. Revert to old design 2. Test & redesign critical pages 3. Conduct usability testing
High turnover among new hires	Onboarding is ineffective	1. Redesign onboarding process 2. Add mentorship program 3. Improve first-90-day employee engagement

How to Present to Decision Makers

When you're ready to share your findings and recommendations:

- 1. Present the analysis results:**
 - Show the insights that led to your recommendations.
 - Use visuals + storytelling for clarity.
- 2. Explain each solution option:**
 - Describe each in plain business language.
 - Share **pros and cons, costs, expected outcomes, and risks.**
- 3. State your recommendation:**
 - Clearly identify the option your team believes is best.
 - Explain **why it's the most viable and valuable.**
- 4. Include alternatives:**

- Show your second or third choice in case the first is not feasible.
- This gives flexibility to decision-makers.

What If the Data Doesn't Lead to Action?

Sometimes:

- No good solutions are found.
- Insights don't align with business goals.
- Constraints make action impossible (e.g., budget, timing, legal).

In these cases:

- **Go back to earlier steps** in the analytics process.
- **Refine the research question**, collect more data, or adjust your approach.
- **Iterate** until actionable insights are uncovered.

Summary

Step	Description
Step 5	Use insights to influence business decisions through viable, strategic solution options.
Your Role	Facilitate and present recommendations — not dictate decisions.
Tools	Cross-functional collaboration, cost-benefit analysis, risk assessments, stakeholder engagement.
Goal	Help the business take action based on data-driven insights.

Business data analytics best practices



Best Practices for Business Data Analytics (Adapted from Business Analysis)

✦ Best Practice 1: Conduct a Thorough Current State Analysis

□ What it means:

Before any analytics work begins, you must understand the **current state** of the business. This means knowing exactly **how things work today** — the processes, tools, systems, challenges, and goals.

💡 Why it matters:

- Provides **context** for the analytics project.
- Ensures you are solving the **right problem** or pursuing the **right opportunity**.
- Helps your team align analytics efforts with the **real needs** of the business.

✂ How to do it:

Use your core business analysis skills:

- **Interviews** – Talk directly to key stakeholders.
- **Observations** – Watch how processes unfold in real time.
- **Surveys & questionnaires** – Gather broad feedback.
- **Workshops** – Collaborate with cross-functional teams.

Be specific:

- Define **clear goals** (e.g., reduce processing time by 20%).
- Set **measurable objectives** (e.g., lower customer churn by 10%).
- Ensure alignment with **overall business strategy**.

Best Practice 2: Make Sure the Research Question Is Relevant and Actionable

What it means:

The research question is the **foundation** of your analytics project. It defines the **purpose** and **direction** of your work.



Why it matters:

- A poorly defined question wastes **time, money, and effort**.
- Teams may collect the wrong data, use the wrong methods, or reach conclusions that aren't useful.
- Irrelevant questions frustrate stakeholders and damage your team's **credibility**.

Characteristics of a good research question:

- **Relevant** – Aligned to the problem or opportunity.
- **Actionable** – Can be answered with data and lead to business action.
- **Clear and Specific** – Avoids vague or overly broad phrasing.

Example:

-  Vague: "Why is the business not performing well?"
-  Specific: "What are the top three factors contributing to customer churn in Q3?"

Best Practice 3: Present Results in Non-Technical, Business-Friendly Terms

What it means:

When it's time to share the results, avoid jargon and overly technical explanations. Instead, **translate insights into language your stakeholders understand**.

Why it matters:

- Stakeholders are often **non-technical**.
- Clear communication drives **buy-in** and **action**.
- You need to connect the **"what"** (data insights) with the **"so what"** (business impact).

✂ How to present findings:

- Use **data visualization**:
 - Charts, graphs, dashboards (Excel, Power BI, Tableau)
- Use **structured reports** and **presentations**
- Customize content based on stakeholder needs (executives, operations, marketing, etc.)

📄 Use data storytelling:

Tell a story that:

1. Describes what happened (insight)
2. Explains why it happened (analysis)
3. Recommends what to do about it (solution)

📌 Example:

Instead of just saying, "Sales dropped 20%", say:

"Sales dropped 20% in Q4. After analysis, we discovered it was due to a poorly received website redesign. We recommend revisiting the design and addressing user experience issues to regain customer trust and boost sales."

📌 Best Practice 4: Ensure Ethical Use of Data

📄 What it means:

Follow laws and ethical standards when collecting, analyzing, and sharing data — especially when working with **sensitive or personal information**.

💡 Why it matters:

- Prevents **legal issues**.
- Builds **trust** with customers and stakeholders.
- Ensures your analytics work is **safe and responsible**.

👤 Common regulations:

- **HIPAA** (Health data privacy in the U.S.)
- **SOX / Sarbanes-Oxley** (Financial data accountability)
- **GDPR** (European data protection laws)

- **CCPA** (California Consumer Privacy Act)

✂ Your role as a business analyst:

- Identify and document relevant data privacy/security laws.
- Communicate those requirements to your analytics team.
- Ensure that data sourcing and usage complies with policies.
- Work with legal or compliance teams if needed.

🔄 How These Best Practices Come Together

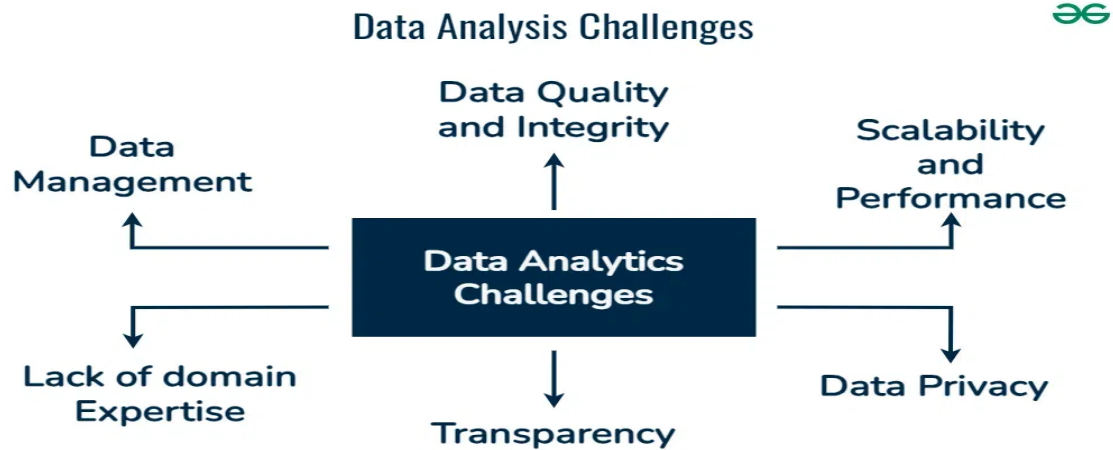
These best practices are **not isolated steps**. They work **together** throughout the analytics process:

Best Practice	Helps With
Current state analysis	Understanding the real-world problem and setting the stage
Strong research questions	Ensuring focus, direction, and relevant insights
Clear communication	Driving stakeholder understanding and business action
Ethical data use	Protecting the organization legally and morally

✓ Summary

Best Practice	Key Focus
1. Current State Analysis	Understand the business situation before starting
2. Actionable Research Question	Guide your analytics project effectively
3. Business-Friendly Reporting	Communicate results in ways stakeholders understand
4. Ethical Data Use	Follow privacy, legal, and ethical standards

Business data analytics challenges



Challenges in Business Data Analytics and How Business Analysts Can Help

Although many businesses have seen success with analytics, several **recurring challenges** continue to limit the effectiveness of data-driven decision making. Business analysts are well-positioned to address many of these issues by applying their existing **skills in communication, facilitation, stakeholder engagement, and solution evaluation**.

Challenge 1: Inconsistent or Lack of Buy-In from Senior Management

The Problem:

Even though analytics has proven its value in many organizations, some **senior leaders are hesitant** to fully support or invest in it. They may not fully understand the benefits, or they may doubt its relevance to their strategic goals.

How Business Analysts Can Help:

- Use **persuasive communication skills** to present the **value proposition** of analytics to upper management.
- Propose a **Minimum Viable Product (MVP)** or **pilot analytics project**:
 - Keep the scope small but focused.
 - Choose a real, tangible business problem.
 - Show measurable results to demonstrate value.
- **Partner with internal champions**:
 - Find business partners or departments that have successfully used analytics.

- Use them as **sponsors** or **advocates** in executive-level conversations.
- Develop a **business case**:
 - Include the **benefits of analytics**, such as improved decision making or cost savings.
 - Use financial evaluation methods like **Return on Investment (ROI)** or **Net Present Value (NPV)** to build a strong justification.

Challenge 2: Lack of Clear Strategy or Direction

The Problem:

Some organizations jump into analytics without a clear plan. They collect data and build dashboards without knowing **what they're trying to achieve**, which often leads to wasted time and minimal business value.

How Business Analysts Can Help:

- Use **facilitation skills** to help stakeholders define a clear **vision** for analytics.
- Help teams **define specific analytics goals**, such as:
 - Reducing operating costs by 10%
 - Increasing customer retention
- Lead **brainstorming sessions** to identify relevant analytics initiatives.
- Align those initiatives with the **organization's overall strategy**.
- Apply business analysis techniques to **prioritize initiatives**:
 - Use tools like a **value matrix**, **MoSCoW**, or **weighted scoring models**.
 - Focus on initiatives that bring the most business value or have the highest impact.

Challenge 3: Stakeholder Resistance or Lack of Trust in Analytics

The Problem:

Many stakeholders are hesitant to adopt analytics because they **don't trust the data**, **fear change**, or are concerned that analytics might make their roles redundant.

How Business Analysts Can Help:

- Leverage your role as a **change agent**:

- Share the **benefits** of analytics, such as more informed decisions, reduced risk, and increased efficiency.
- Identify a **current business challenge** and show how analytics can solve it.
- Share **real success stories** within the company:
 - Examples where analytics helped a team or department solve a real problem.
- Bring in **testimonials** from stakeholders who benefited from analytics to build **trust and confidence**.
- Emphasize that analytics **supports decision making** – it doesn't replace people.

Challenge 4: Analytics Solutions Are Too Technical or Complicated

The Problem:

Even when analytics solutions are developed, many are too **complex** for non-technical users. If dashboards, tools, or reports are hard to use or interpret, stakeholders may simply ignore them.

How Business Analysts Can Help:

- Apply your skills in **requirements gathering**:
 - Engage stakeholders early to understand their needs and preferences.
 - Document functional and usability requirements.
- Facilitate communication between **technical teams and business users**:
 - Translate technical language into business terms.
 - Act as the **voice of the customer** to ensure usability is prioritized.
- Ensure that analytics solutions (like dashboards or reports):
 - Are **user-friendly** and intuitive.
 - Highlight key metrics and insights that **matter** to stakeholders.
 - Are **visually clear** and **easy to navigate**.

Summary: Business Analyst Skills That Make a Difference in Analytics

Challenge	How Business Analysts Add Value
Lack of executive buy-in	Present strong business cases, propose pilot projects, and demonstrate ROI
No clear analytics strategy	Facilitate goal-setting, align with business strategy, prioritize initiatives
Stakeholder resistance	Act as change agents, build trust through success stories, highlight benefits
Overly technical solutions	Gather and document clear requirements, bridge communication between business and technical teams, advocate for usability

By applying your **existing business analysis skills**, you can help organizations overcome these common analytics challenges and ensure that data initiatives deliver **real, measurable value** to the business.

Business Analysis Techniques That Support the 5-Step Data Analytics Process

Business analysis and data analytics are deeply connected. Techniques you're already familiar with—such as stakeholder analysis, process modeling, root cause analysis, and data visualization—are extremely valuable when applied to analytics work.

Step 1: Identifying Research Questions

This step involves clarifying **what business problem** or **opportunity** the analytics effort is trying to address. The quality of the research question determines the value of the entire analytics initiative.

Key Techniques:

1. **Stakeholder Analysis** (Stakeholder Matrix)
 - Helps identify who cares about the analytics work and how much influence they have.
 - Stakeholders are categorized into four quadrants:
 - High Influence / High Interest
 - High Influence / Low Interest
 - Low Influence / High Interest

- Low Influence / Low Interest
 - This helps prioritize communication and engagement strategies.
 - 2. **Current State Analysis**
 - Focuses on understanding the present environment—systems, processes, and performance.
 - 3. **Business Model Canvas**
 - A visual tool to understand how a business creates, delivers, and captures value.
 - Sections include:
 - Key Partners, Key Activities, Value Propositions, Customer Segments, Channels, Revenue Streams, and more.
 - Great for understanding where analytics insights can drive the most value.
 - 4. **Process Models**
 - Visual representations (e.g., flowcharts, BPMN diagrams) of current workflows.
 - Help identify inefficiencies, gaps, or pain points that analytics can help solve.
 - 5. **Root Cause Analysis**
 - Identifies the underlying causes of business problems.
 - Tools include the “5 Whys” and fishbone (Ishikawa) diagrams.
 - Ensures analytics focuses on **relevant and impactful** issues.
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Step 2: Sourcing Data

This step is about finding the **right data sources** to answer the research question. This includes knowing where data is stored, its format, how it's collected, and whether it's clean and reliable.

Key Techniques:

1. **Elicitation Techniques**
 - Used to engage data owners or subject matter experts to identify data sources.
 - Methods include:

- Interviews
- Surveys
- Focus groups
- Workshops

2. Entity Relationship Diagrams (ERDs)

- Show relationships between key business entities (e.g., customers, products, orders).
- Useful for understanding how business concepts are represented in data.

3. Data Flow Diagrams (DFDs)

- Illustrate how data moves through a system.
- Shows where data is input, processed, stored, and output.

Step 3: Data Analysis

This is the technical phase where data is cleaned, processed, and analyzed to identify trends, patterns, or answers to the research question.

Key Techniques:

1. Decision Analysis

- Involves assessing possible processing approaches or algorithms.
- Helps the team decide which methods are best for the business context.

2. Decision Trees

- Visual tools that map out various choices and the possible outcomes.
- Help simplify complex decision-making during model selection.

3. Cost-Benefit Analysis

- Evaluates the expected benefits (e.g., increased revenue, cost savings) versus the costs (e.g., technology, staffing, time).
- Helps justify the use of certain analytics methods or tools.

Step 4: Interpret and Report Results

This is where you make sense of the analyzed data and **communicate findings** to stakeholders in a way they can understand and act upon.

Key Techniques:

1. Data Visualization

- Charts, graphs, dashboards, and infographics to present data clearly.
- Helps simplify large or complex datasets.

2. Data Storytelling

- Builds a narrative around the data findings.
 - Answers:
 - What happened?
 - Why did it happen?
 - What should we do next?
 - Enhances engagement and drives understanding among business audiences.
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Step 5: Use Results for Decision-Making

The final step focuses on turning insights into **actionable recommendations**. The business must make a choice based on the insights and execute a change to realize value.

Key Techniques:

1. Solution Evaluation Models

- Use decision-making tools to compare solution options (e.g., new system, process change).

2. Kano Model

- Classifies features or solutions into:
 - Basic needs
 - Performance features
 - Excitement features
- Helps stakeholders see the value of different options from the customer's point of view.

3. Risk Analysis

- **Risk Matrix** is used to evaluate:
 - Likelihood of a risk occurring
 - Impact if it occurs
- Ensures decisions are made with **full awareness of potential downsides**.

Summary Table

Analytics Step	Supporting BA Techniques
1. Identify Research Questions	Stakeholder Matrix, Business Model Canvas, Process Models, Root Cause Analysis
2. Source Data	Interviews, Surveys, ERDs, DFDs
3. Analyze Data	Decision Trees, Cost-Benefit Analysis
4. Interpret & Report	Data Visualization, Data Storytelling
5. Use Results for Action	Kano Model, Risk Matrix, Solution Comparison

Final Notes

You **don't need to master all these techniques at once**. Start with the ones you're familiar with and build gradually. Tools like LinkedIn Learning offer focused courses to help you improve or learn new techniques, such as:

- Angela Wick's course on **Requirements Elicitation and Analysis** (for decision tables and DFDs)
- Jamie Champagne's course on **Business Analysis: Essential Tools and Techniques** (for process models)

Key business data analytics knowledge and skills

Purpose of the Discussion

- To clarify the **differences and overlaps** between three key roles in analytics:
 - Business Analyst (BA)

- Data Analyst (DA)
 - Data Scientist (DS)
 - To help you understand **which role best suits your skills or career goals**
 - To explain that **job titles and responsibilities can vary** by organization, but skillsets are more consistent across the industry
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Overlap and Flexibility of Job Titles

- There are **no strict rules** for how companies assign job titles like Business Analyst or Data Analyst.
 - Companies may create **hybrid roles** (e.g., Business Data Analyst) based on their needs.
 - The **job titles may differ**, but the **core skills and contributions** to analytics initiatives are what truly matter.
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Venn Diagram Concept

- Imagine a Venn diagram with **three overlapping circles** representing:
 - Business Analyst
 - Data Analyst
 - Data Scientist

The overlaps indicate:

- **Shared tasks or responsibilities** between roles
 - **Collaborative efforts** across the analytics team
 - **Flexibility** in who performs which functions, depending on team structure and individual expertise
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Role 1: Business Analyst (BA)

Primary Focus:

- Acts as a **bridge between the business and technical teams**
- Ensures the analytics work **aligns with business goals**

Key Skills:

1. **Elicitation and Facilitation**
 - Conduct stakeholder interviews, workshops, and surveys
 - Gather clear requirements and define goals
2. **Business and Organizational Knowledge**
 - Understand internal processes, customer needs, and market conditions
 - Provide context to guide analytics questions and decisions
3. **Analytical Thinking and Problem Solving**
 - Deconstruct complex business issues
 - Identify root causes and define problem statements
4. **Communication and Collaboration**
 - Translate technical insights into business language
 - Coordinate efforts between stakeholders and technical teams

Note:

- **Less focus on technical tools** (e.g., SQL, Tableau) **in teams where a Data Analyst or Data Scientist is available**
- **More technical responsibility** is expected if the Business Analyst is working **without a Data Analyst**

☒ Role 2: Data Analyst (DA)

Positioned between BA and DS on the skill continuum:

- Often serves as the **technical translator** of business needs into data
- Uses tools to **access, clean, analyze, and visualize data**

Common Responsibilities:

1. **Data Extraction and Querying**
 - Use tools like SQL to pull data from databases
2. **Data Cleaning and Preparation**
 - Ensure data quality for accurate insights

3. Descriptive and Diagnostic Analytics

- Analyze historical data to identify trends, anomalies, or causes

4. Data Visualization

- Use tools like Tableau, Power BI, or Excel to create charts, dashboards, and reports

5. Collaboration

- Work closely with BAs to understand the problem
- Assist Data Scientists in preparing data for modeling

□ Role 3: Data Scientist (DS)

Primary Focus:

- Uses **advanced statistical methods, machine learning, and programming** to build predictive and prescriptive models

Key Skills:

1. Programming

- Languages: Python, R, SQL

2. Machine Learning & Statistical Modeling

- Build algorithms for prediction, classification, clustering, etc.

3. Data Engineering

- Handle big data, data pipelines, and cloud platforms

4. Model Evaluation and Optimization

- Tune and test models for accuracy and reliability

5. Business Communication

- Explain complex models in simple terms to decision-makers

🔄 Role Comparison: Skill Continuum

Imagine a **spectrum** of skills, with increasing technical complexity from left to right:

Role	Skills Emphasized
Business Analyst	Communication, facilitation, problem-solving, business strategy
Data Analyst	SQL, data wrangling, visualization, reporting
Data Scientist	Programming, statistics, machine learning, modeling

- Business Analysts focus more on **understanding the business**.
- Data Analysts balance both **technical and business understanding**.
- Data Scientists are **technically advanced** and focus more on **modeling and automation**.

Downloadable Resource

- A reference sheet is mentioned (an exercise file), which includes:
 - A breakdown of **common skills per role**
 - Areas of **overlap**
 - A **self-assessment tool** to identify where your skills fit on the continuum

Summary

- Roles in analytics can vary by company, but the **core skill sets** are consistent.
- **Business Analysts** excel in understanding and communicating business needs.
- **Data Analysts** work with data to produce insights and support decision-making.
- **Data Scientists** build advanced models to forecast future outcomes or optimize systems.
- **Understanding the differences and overlaps** can help you:
 - Plan your **career transition**
 - Upskill in the right areas
 - Better understand **your role within a data team**