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Business Analytics Projects PDF

Business analytics projects start from a business decision, such as reducing churn or setting prices, and end with a recommendation backed by data. This page gives five briefs: customer churn, pricing, inventory planning, marketing return and process delays, each with the question, data, steps and a one-page deliverable.

Key takeaways

- Start each project from a decision, not a dataset.
- Define the metric and the comparison before analysing.
- Deliver a one-page summary with the finding, evidence and action.
- Use any tool; the framing and communication are what matter.
- State assumptions and limits clearly.

What is business analytics projects?

A business analytics project is a piece of analysis that answers a specific business question using data, and ends with a clear recommendation that someone can act on.

How should I approach a business project?

Begin with the decision: "What will someone do differently because of this?" Then define the metric, list the data you need, check data quality, analyse, and write a recommendation with a way to measure results. Use public or made-up data and describe it honestly.

Project 1: customer churn

Question: which customers are likely to leave and why? **Data:** customer ID, signup date, last activity, plan, support tickets. **Steps:** define churn (no activity in 60 days, for example), compute churn rate by plan and tenure, compare behaviour of churned and retained customers. **Output:** a one-page summary with the top two risk groups and one retention action. **Note:** show the churn definition clearly, since results depend on it.

Project 2: pricing review

Question: would a small price change raise revenue? **Data:** price, units sold, date, promotions. **Steps:** plot units against price, check how demand changed after earlier price changes, separate promotion periods, estimate revenue under two prices with stated assumptions. **Output:** a table of scenarios and a caution about causation, since other factors change too.

Project 3: inventory planning

Question: which products risk stock-outs or overstock? **Data:** stock level, daily sales, lead time. **Steps:** compute average daily sales, days of stock left, a reorder point (daily sales times lead time plus a safety buffer) and flag items below it. **Output:** a reorder list and a short note on assumptions about demand.

Project 4: marketing return

Question: which channels bring customers at the lowest cost? **Data:** spend, leads, customers and revenue by channel. **Steps:** compute cost per lead, cost per customer and revenue per spend by channel, check trends and sample sizes. **Output:** a ranked table and a recommendation to move budget in small steps and test.

Project 5: process delays

Question: where does the order process lose time? **Data:** timestamps for order, approval, packing and delivery. **Steps:** compute time between steps, find the longest stage, compare by team or day, look for patterns. **Output:** a bar chart of average time per stage and one process change to test.

What should the deliverable look like?

One page: the question, the answer in one sentence, a chart, three evidence bullets, the recommendation, risks and next steps. Keep the language free of jargon and put numbers in context, such as "12 percent higher than last month".

Which tools can I use?

Excel for small data, SQL for databases, Python for repeated analysis and Power BI or Tableau for dashboards. Pick the simplest tool that gets the job done and explain the choice.

What mistakes should I avoid?

Skipping the decision, drowning the reader in charts, claiming a cause from a correlation, ignoring data limits and failing to propose a next step. Also avoid using real company data without permission.

How do I present the project?

Write a short README and a two-minute spoken summary. Be ready to answer: "What would change your recommendation?"

How do I define a metric clearly?

Write the metric as a sentence and a formula, including what counts and what does not. For example: "Monthly churn rate is the number of customers who had activity last month and none

this month, divided by customers active last month." Clear definitions stop arguments later and make results comparable over time. Share the definition at the top of the deliverable.

How do I test a recommendation before presenting?

Ask three questions: does the evidence support it, what could be an alternative explanation and what would we expect to see if the recommendation works? Check the numbers by a second method, such as a PivotTable and a SQL query. If you can, propose a small pilot, such as testing the change on one store for four weeks, to confirm the effect before a full rollout.

How do I write the project for a portfolio?

Structure the page with a short title, the business question, data description, method in five bullets, key chart, recommendation and limits. Add a link to the workbook or notebook. Keep the page under two screens of text and avoid showing any private information.

Which questions can extend each project?

For churn: does the pattern differ by acquisition channel? For pricing: how do competitor prices or seasons affect demand? For inventory: how would supplier delays change the reorder point? For marketing: what is the effect of a longer time window? For delays: which stage can be automated? Adding one such extension shows depth and gives you more to discuss in an interview.

How do I handle missing or poor data?

List what is missing, estimate how it could change the answer and, where sensible, show results under two assumptions. State which one you recommend and why. If the data is too weak to support a decision, say so and suggest what to collect next. Honest limits build trust with decision makers.

What should I learn alongside these projects?

Practise basic statistics, learn to summarise a table in a sentence, and study how to build a simple dashboard that tracks the metric each project defines. These supporting skills turn a one-time analysis into an ongoing monitoring tool that a team can use.

Frequently asked questions

What are good business analytics projects?

Customer churn, pricing review, inventory planning, marketing return and process delay analysis are practical examples.

What tools do I need?

Any tool that fits the data size: Excel, SQL, Python, Power BI or Tableau. The framing and communication matter more.

What should a project deliverable include?

A one-page summary with the question, the answer, a chart, evidence, a recommendation and risks.

Can I use real company data?

Only with permission. Public or made-up data is safer for a portfolio.

How do I choose a project?

Pick the one closest to the roles you want, and finish it with a clear recommendation.

Sources and further reading

- Microsoft Excel support
- pandas documentation

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