

Business Diagnostic

Problem

How to improve a product or process?

Difficulty

Work with an SME

- A **Business Diagnosis (BD)** evaluates a business's current state and identifies the factors causing that state.
- A BD is a methodical process.
- A BD results in actions to improve the current state.
- There are 4 types of analysis (see table below). A BD is one.

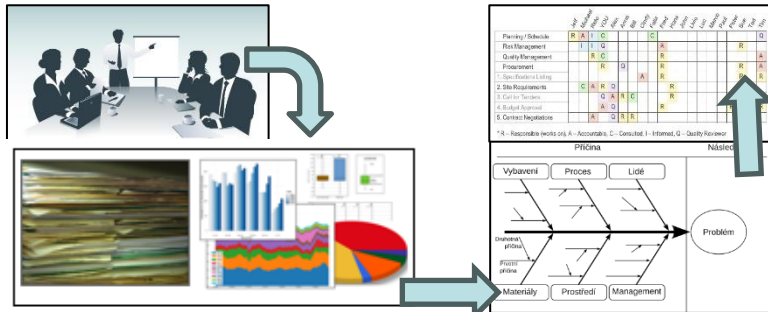
- BD sponsor
- Business issue

Performing a Business Diagnostic

- Current state causes
- Action plan

A What happened?	Descriptive Analytics
B Why did it happen?	Diagnostic Analytics (Business Diagnostic)
C What may happen?	Predictive Analytics
D What to do?	Prescriptive Analytics

1. **Where? Define Focus Area:** Articulate a specific business concern (e.g., related to employees, finances, marketing, operations). Prioritize and bound the effort (e.g., "XX is out of scope").
2. **What? Collect and Analyze Data:** Obtain relevant quantitative and qualitative data (e.g., customer feedback, expert opinions, orders, sales, profits). Analyze with statistical and other tools. Identify trends. Compare to competitors and standards.
3. **Why? Root Cause Analysis:** Use data to identify the causes impacting the top priorities.
4. **Actions? Develop Plan:** Define metrics to assess identified causes. Define goals and create tasks. Track progress over time using metrics.



BD – Example – Subscription Service

Imagine you are running a subscription service (e.g., delivering information, entertainment, or monthly product packs) and revenue is down. Why?

1 Issue: Why is customer revenue declining?

Constrain the investigation as follows:

- Look back 3 years (when new format started)
- Look at domestic customers (address international later)

2A Collect data (as a function of time)

- Demographics: number & type of customers
- Revenue per customer
- Subscriber content usage
- Subscription termination: active vs passive
- Subscription termination: by number of years of subscription
- Exit surveys of those who stopped subscribing
- Comparable values from competitors.

2B Analyze data

- Segment market (based on data), statistically summarize, identify correlations, ...

3 Root Cause Analysis

1. Active subscription termination: mostly younger subscribers desiring more age-appropriate content
2. Passive subscription termination:
 - Many not informed subscribing was ending
 - To renew after termination, subscribers need to fully re-enroll – a lengthy process

4 Plan

4A Metrics

- Percent of subscribers renewing
- Time taken on web site to renew subscription
- Amount of content by age group
- Subscriber content usage for younger subscribers

4B Goals & Tasks

- Within 6 months:
 - Percent of subscribing renewing increased by 20%
 - Younger subscribers increase content usage by 10%
- Subscribers sent email at least one month before subscription expires.
- Can reach renewal site from email
- Can resubscribe in less than 1 minute

Business Diagnostic – Notes

Slide 1

1. Business dashboards are informative, but not insightful. Knowing a key business metric is useful, but it's not actionable.
2. A BD answers the question, “Why did this happen?”
3. The “why things happen” is typically based on culture, people, processes, and tools.
4. The effort for a BD depends on an issue's complexity; it may take 2-10 days or longer.
5. For a BD, first obtain high level data. Then, as it is analyzed, obtain more detailed data.
6. A BD can be used to
 - A. Identify proactive solutions
 - B. Identify strengths and weaknesses
 - C. Improve customer & employee satisfaction
 - D. Improve operational efficiency
 - E. Support strategic growth
7. A BD is best performed by an objective team; insiders may be too close to the issues.

Slide 2

1. This is generic example; there are subscriptions for multiple things.
2. We start with a focused question (why is customer revenue declining?) and add constraints to limit the scope of the analysis. Scoping is often useful since a smaller study, which is faster, may be adequate to identify issues in a larger area.
3. A modest amount of data is collected and analyzed; if more were needed it could be obtained after the initial analysis.
4. There are multiple ways to perform a root cause analysis (RCA), there are several 6in6 presentations on RCA techniques.
5. It is important to create SMART (Specific, Measurable, Attainable, Relevant, and Time-bounded) goals.

Images

- https://commons.wikimedia.org/wiki/File:Business_presentation_byVectorOpenStock.jpg
- https://commons.wikimedia.org/wiki/File:Demographics_age_groups_over_time_1981-2020_BE-en.svg
- https://commons.wikimedia.org/wiki/File:Ishikawa_Fishbone_Diagram_cz.svg
- https://commons.wikimedia.org/wiki/File:Paperwork_-_by_Tom_Ventura.jpg
- https://commons.wikimedia.org/wiki/File:RACIQ_Chart_-_Responsibility_Assignment_Matrix.jpg
- https://commons.wikimedia.org/wiki/File:Whisker_plots_for_heat_flow_data_from_the_IHFC_database.png
- https://commons.wikimedia.org/wiki/File:Wikipedia_ar_-_Page_views_by_country_over_time.png
- <https://en.wikipedia.org/wiki/File:Statistics0000.gif>

Recommended web sites for more information

- <https://www.tactyqal.com/blog/business-diagnostic-tools-for-startups-smes/>
- <https://towardsdatascience.com/the-diagnostic-analytics-gap-3f9d0a44e8f8>