

Strategic Frameworks in Business Intelligence

Utkarsh Sahu

December 17, 2025

Contents

1	The Pareto Principle [80/20 Rule]	1
1.1	Definition	1
1.2	Application in Business Intelligence	1
2	The BCG Matrix	2
2.1	Definition	2
2.2	The Four Quadrants	2
2.3	Application in Business Intelligence	3
3	SWOT Analysis	3
3.1	Definition	3
3.2	Application in Business Intelligence	4
4	PESTEL Analysis	4
4.1	Definition	4
4.2	Application in Business Intelligence	4

Big Pdg 80

1 **[The Pareto Principle (80/20 Rule)]** *80% hasil - 20% aksi*

1.1 Definition

The Pareto Principle, named after economist Vilfredo Pareto, asserts that for many outcomes, roughly 80% of consequences come from 20% of the causes. In a business context, this often translates to 80% of revenue coming from 20% of clients.

1.2 Application in Business Intelligence

In BI, the Pareto Principle serves as a heuristic for prioritization and resource optimization.

- **Customer Segmentation:** BI tools analyze transaction data to identify the top 20% of customers who generate the majority of profit. Dashboards can then track the retention rates of this specific segment.
- **Inventory Management:** Identifying the 20% of SKUs (Stock Keeping Units) that account for 80% of sales volume allows businesses to optimize stock levels and reduce holding costs.
- **Bug Tracking:** In software development BI, analysis often reveals that 80% of system crashes are caused by 20% of the reported bugs, guiding the development team's focus.

2 The BCG Matrix

2.1 Definition

The Boston Consulting Group (BCG) Matrix is a portfolio management framework that categorizes business units or products into four quadrants based on two dimensions:

1. **Market Share:** The product's share relative to the largest competitor.
2. **Market Growth Rate:** The growth potential of the industry.

2.2 The Four Quadrants

BCG Growth Share Matrix



Stars: High Growth, High Share. Leaders in the business but require significant investment.

Cash Cows: Low Growth, High Share. Mature, profitable products that generate cash for other units.

Question Marks: High Growth, Low Share. High potential but low market penetration; require strategic decisions on whether to invest or divest.

Dogs: Low Growth, Low Share. Low profitability; candidates for divestiture.

2.3 Application in Business Intelligence

BI systems automate the classification of products into the BCG matrix by integrating sales data (Market Share) and industry trend data (Growth Rate).

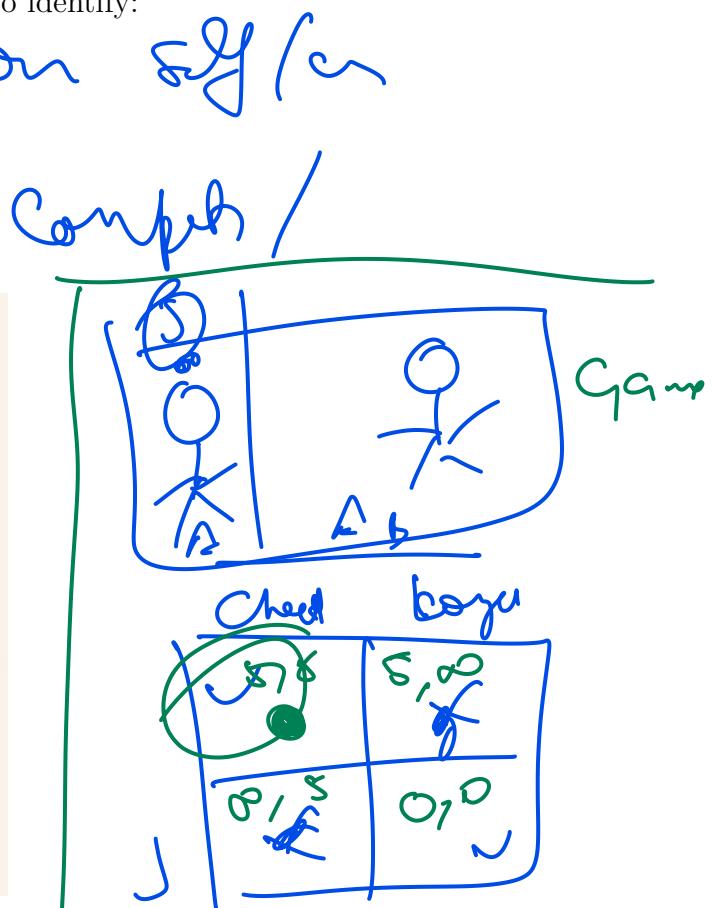
- **Dynamic Portfolio Analysis:** Real-time dashboards visualize the movement of products between quadrants over time.
- **Resource Allocation:** Data-driven insights help executives decide where to allocate capital—investing in “Stars” or harvesting from “Cash Cows.”

3 SWOT Analysis

3.1 Definition

SWOT is a strategic planning technique used to identify:

- Strengths (Internal)
- Weaknesses (Internal)
- Opportunities (External)
- Threats (External)



3.2 Application in Business Intelligence

While traditionally qualitative, BI transforms SWOT into a quantitative, data-backed exercise.



SWOT Element	BI Data Source Application
Strengths	KPI dashboards highlighting high-performance, proprietary tech efficiency, or strong market position.
Weaknesses	Operational reports revealing supply chain inefficiencies, high churn rates, or low employee engagement.
Opportunities	Predictive analytics identifying emerging market trends, gaps in competitor offerings, or new demographic shifts.
Threats	Sentiment analysis of social media monitoring, competitor moves or regulatory compliance alerts.

Table 1: Data-Driven SWOT Analysis

4 PESTEL Analysis

4.1 Definition

PESTEL is a framework used to analyze key external macro-environmental factors that affect an organization. It stands for:

- Political
- Economic
- Social
- Technological
- Environmental
- Legal

4.2 Application in Business Intelligence

PESTEL analysis in BI involves integrating external data feeds with internal performance data to forecast risks and opportunities.

- **Economic Indicators:** BI systems ingest inflation rates, currency exchange fluctuations, and GDP growth to forecast sales revenue in different regions.
- **Social Trends:** Social listening tools analyze consumer behavior changes (e.g., sustainability preference) to adjust marketing strategies.
- **Technological Shifts:** Monitoring patent filings and R&D investments in the industry to predict technological disruptions.

- **Compliance Monitoring:** Automated tracking of legal changes (e.g., GDPR, labor laws) to ensure organizational compliance via executive dashboards.