

# full\_note\_cerveza\_losandes\_20251001

October 1, 2025

## 1 Business Intelligence Dashboard

Automated insights for data-driven decisions

```
[101]: input_file = 'data/cerveza_losandes/cerveza_losandes_transactions.csv' # Input_
      ↪ CSV file

config = {
    'project_name': 'cerveza_losandes',      # Project name
    'out_dir' : 'outputs',                  # Output directory

    # Data mapping
    'date_col': 'fecha',
    'product_col': 'producto',
    'description_col': 'glosa',
    'revenue_col': 'total',
    'quantity_col': 'cantidad',
    'transaction_col': 'trans_id',
    'cost_col': 'costo',

    # Analysis settings
    'analysis_date': '2024-08-01',          # Or 'current' for today
    'top_products_threshold': 0.2,
    'dead_stock_days': 30,
    'currency_format': 'CLP',
    'language': 'EN',
}

save = False # True to save outputs, False to just print
```

```
[102]: from modules.business_analytics import BusinessAnalyzer
      from modules.dashboard import ExecutiveDashboard
      from modules.advanced_analytics import AdvancedAnalytics
      from modules.reports import *
      from modules.utils import *

      # Initialize with AdvancedAnalytics (includes all functionality)
      # AdvancedAnalytics -> BusinessAnalyzer -> Business (inheritance chain)
```

```

analyzer = BusinessAnalyzer(data_source=input_file, config=config)

# Create dashboard and advanced analytics instances
dashboard = ExecutiveDashboard(analyzer)
advanced = AdvancedAnalytics(analyzer)

```

```

Data date range: 2024-06-01 to 2024-07-31
Business initialized with data from:
data/cerveza_losandes/cerveza_losandes_transactions.csv (22224, 14)
Output directory: outputs\cerveza_losandes\20251001_2022
All base metrics calculated
BusinessAnalyzer initialized for project: cerveza_losandes
Dashboard output directory: outputs\cerveza_losandes\20251001_2022
AdvancedAnalytics initialized for project: cerveza_losandes

```

## 1.1 Quick Summary

```

[103]: summary = dashboard.create_quick_summary()
print_info(summary, analyzer.out_dir, "DASH_quick_summary.txt", save=save)

```

```

=====
DASHBOARD SUMMARY
=====

KEY METRICS:
• Total Revenue: $ 615.021.100
• Growth Rate: -23.4%
• Transactions: 22,224

CRITICAL ACTIONS:
• Revenue declining by 23.4%
  → Urgent review of sales strategy needed

KEY INSIGHTS:
• Top 20% of products = 80.0% of revenue
• Inventory Health: 46% healthy
• Dead Stock: 0 products

=====

```

## 1.2 KPIs

```

[104]: kpis = analyzer.get_kpis()
print_info(analyzer.print_kpis(), analyzer.out_dir, "BA_kpi.txt", save=save)

```

```

Periods considered for growth:
• Previous: 2024-06-01 -> 2024-07-01
• Current: 2024-07-01 -> 2024-07-31

```

Growth: -23.4%

Revenue: \$ 615.021.100

Transactions: 22,224

### 1.3 Alerts & Actions

```
[105]: alerts = analyzer.get_alerts()
print_info(analyzer.print_alerts(), analyzer.out_dir, "BA_alerts.txt",
↪save=save)
```

CRITICAL ACTIONS REQUIRED:

Revenue declining by 23.4%

Impact: Negative business trend

Action: Urgent review of sales strategy needed

SUCCESS INDICATORS:

Revenue well distributed across products

Next Step: Maintain current portfolio balance

### 1.4 Revenue Concentration Analysis

```
[106]: pareto = analyzer.get_pareto_insights()
print_info(analyzer.print_pareto(), analyzer.out_dir, "BA_pareto.txt",
↪save=save)
```

TOP INSIGHT: Your top 5 products (20% of catalog) generate 80.0% of revenue!

Concentration Risk Level: Medium

Top 5 Revenue Generators:

1. IPA LUPULO AMERICANO 330ML: \$ 143.941.000
2. PORTER CHOCOLATE NEGRO 330ML: \$ 108.615.400
3. LAGER PREMIUM CRISTALINA 330ML: \$ 98.453.600
4. WHEAT BEER TRIGO SUAVE 330ML: \$ 75.344.000
5. STOUT INVIERNO ESPECIALADO 330ML: \$ 65.601.000

80/20 Rule: Top 20% = 80.0% of revenue

### 1.5 Inventory Health Check

```
[107]: inventory = analyzer.get_inventory_health()
print_info(analyzer.print_inventory_health(), analyzer.out_dir, "BA_inventory.
↪txt", save=save)
```

Inventory Health Score: 46%

Dead Stock Alert: 0 products

## 1.6 Operational Efficiency

```
[108]: peak_times = analyzer.get_peak_times()
print_info(analyzer.print_peak_times(), analyzer.out_dir, "BA_peak_times.txt",
           save=save)
```

Peak Performance Windows:

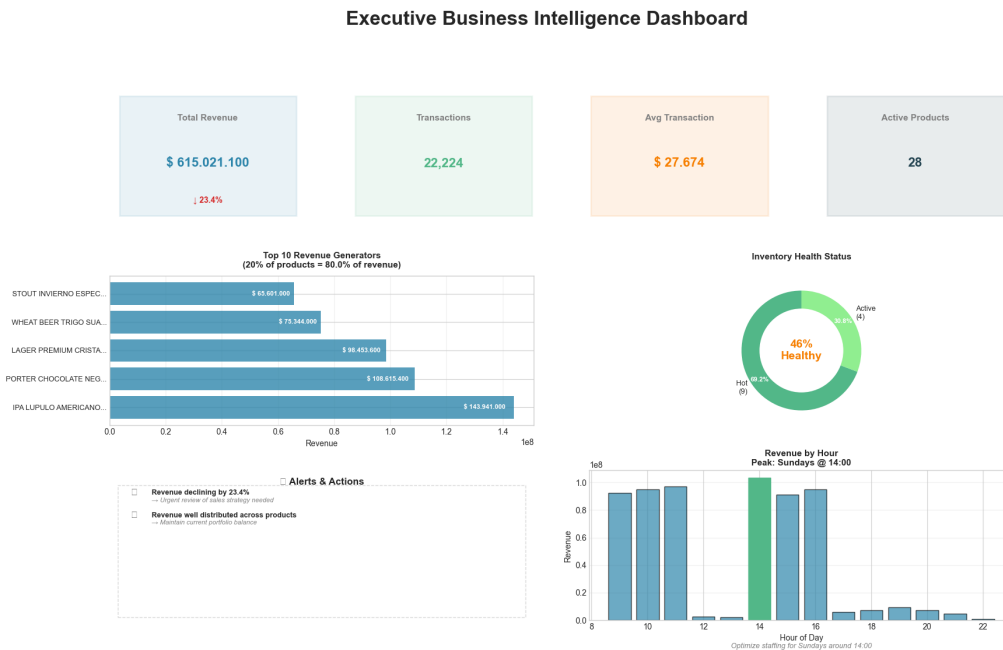
- Best Day: Sundays
- Peak Hour: 14:00
- Slowest Day: Fridays

Optimize staffing for Sundays around 14:00

## 2 Visuals

### 2.1 Executive Dashboard

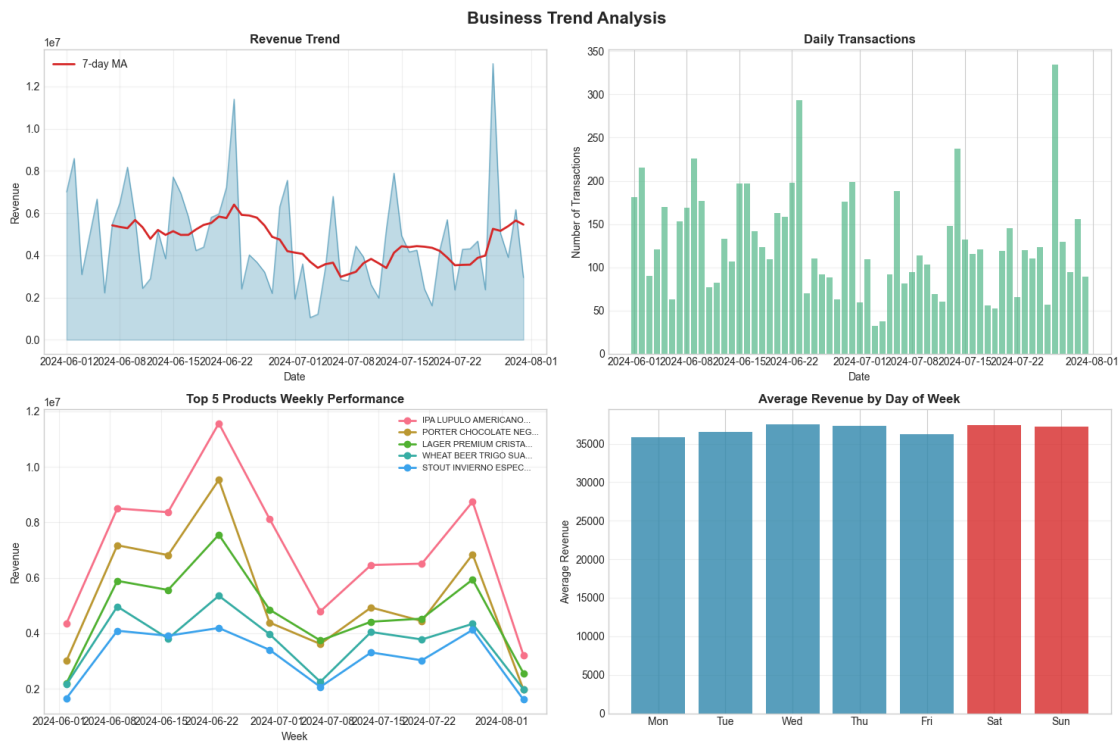
```
[109]: # Create and display the executive dashboard
fig = dashboard.create_full_dashboard(figsize=(20, 12))
print_fig(fig, dashboard.analyzer.out_dir, "DASH_executive.png", save=save)
```



Generated: 2025-10-01 20:22

## 2.2 Trend analysis

```
[110]: trend_fig = advanced.create_trend_analysis(figsize=(15, 10))
print_fig(trend_fig, dashboard.analyzer.out_dir, "DASH_trend.png", save=save)
```



## 2.3 Product velocity

```
[111]: velocity_fig = product_velocity_matrix(analyzer)
print_fig(velocity_fig, dashboard.analyzer.out_dir, "DASH_velocity.png",
↪save=save)
```



## 3.2 Cross-sell opportunities

```
[113]: cross_sell = advanced.calculate_cross_sell_opportunities(limit=3)
print_info(advanced.print_cross_sell_opportunities(), analyzer.out_dir,
↳"ADV_cross_selling.txt", save=save)
```

No significant cross-sell opportunities found.

## 3.3 Anomalies

```
[114]: anomalies = advanced.calculate_anomalies(limit=3)
print_info(advanced.print_anomalies(), analyzer.out_dir, "ADV_anomalies.txt",
↳save=save)
```

Anomalies Detected:

- Unusual revenue on 2024-06-23: \$ 11.398.900
- Unusual revenue on 2024-07-27: \$ 13.085.400

## 3.4 Top Recommendations

```
[115]: recommendations = advanced.calculate_recommendations()
print_info(advanced.print_recommendations(), analyzer.out_dir,
↳"ADV_recommendations.txt", save=save)
```

No actionable recommendations found.

# 4 Reports

## 4.1 Weekly Comparison Report

```
[116]: weekly_comparison_report = weekly_comparison_report(analyzer)
print_info(weekly_comparison_report, analyzer.out_dir, "REPORTS_weekly_compare.
↳txt", save=save)
```

```
=====
WEEKLY COMPARISON REPORT
=====
```

Revenue:

Last Week:	\$ 13.023.600
Previous Week:	\$ 36.131.000
Change:	↓ 63.95%

Transactions:

Last Week:	339
Previous Week:	939
Change:	↓ 63.90%

Products Sold:

Last Week: 18  
Previous Week: 25  
Change: ↓ 28.00%

Avg Transaction:

Last Week: \$ 38.418  
Previous Week: \$ 38.478  
Change: ↓ 0.16%