

Bank Loan Case Study - BRD Findings Report

Dashboard Analysis & Visual Documentation

Executive Summary

This report addresses all Business Requirement Document (BRD) requirements through the Bank Loan Case Study Dashboard. The portfolio demonstrates strong performance with 38.6K total applications, \$435.8M funded amount, and healthy credit quality metrics showing 86.2% good loans versus 13.8% charged-off loans.

Note: This report references three dashboard views - Overview, Loan Summary, and Detailed Table View - that provide comprehensive visual analytics.

Dashboard Architecture Overview

The Bank Loan Case Study Dashboard consists of three main views:

- Overview Dashboard** - Executive KPIs and trend analysis
- Loan Summary Dashboard** - Credit quality and loan status breakdown
- Detailed Table View** - Granular transaction-level data

Each view addresses specific BRD requirements with interactive filtering and real-time calculations.

BRD 1: Key Performance Indicators (KPIs) - Visual Analysis

Primary Portfolio KPIs (Overview Dashboard - Top Section)

The main dashboard displays five executive KPI cards with the following metrics:

▮ **KPI Card Layout:**

[Total Applications]	[Overall Funded Value]	[Total Payments Received]	[AVG Interest Rate]	[Charged-Off Ratio]
38.6K	\$435.8M	\$473.1M	12.0%	13.3%
MTD: 4.3K	MTD: \$54.0M	MTD: \$58.1M	MTD: 12.4%	MTD: 14.1%
MOM: 6.9%	MOM: 13.0%	MOM: 15.8%	MOM: 3.5%	MOM: 2.1%

Visual Design Elements:

- Clean white cards with teal headers
- Large primary metrics in center
- MTD (Month-to-Date) values in bottom left
- MoM (Month-over-Month) percentages in bottom right
- Color coding: Green for positive growth indicators

1. Total Loan Applications

- Result:** 38.6K total applications

- **MTD Performance:** 4.3K applications (6.9% MoM growth)
- **Visual Indicator:** Positive growth shown in green
- **Status:** ✓ Requirement fulfilled with real-time tracking and period comparisons

2. Total Funded Amount

- **Result:** \$435.8M total funded
- **MTD Performance:** \$54.0M funded (13.0% MoM growth)
- **Visual Indicator:** Strong double-digit growth highlighted
- **Status:** ✓ Requirement fulfilled with MTD tracking and growth indicators

3. Total Amount Received

- **Result:** \$473.1M total received
- **MTD Performance:** \$58.1M received (15.8% MoM growth)
- **Visual Indicator:** Highest growth rate among all KPIs
- **Status:** ✓ Requirement fulfilled showing positive collection performance

4. Average Interest Rate

- **Result:** 12.0% overall average
- **MTD Performance:** 12.4% MTD rate (3.5% MoM change)
- **Visual Indicator:** Rate movement tracked for pricing analysis
- **Status:** ✓ Requirement fulfilled with period-over-period analysis

5. Average Debt-to-Income (DTI) Ratio

- **Result:** 13.3% overall average DTI
- **MTD Performance:** 13.7% MTD DTI (2.7% MoM change)
- **Visual Indicator:** Risk metric monitoring in real-time
- **Status:** ✓ Requirement fulfilled demonstrating borrower financial health monitoring

Good Loan vs Bad Loan KPIs (Loan Summary Dashboard)

▮ Quality Loans Issued (Left Section):

Quality Loans Issued
86.2%
[Donut Chart - Teal fill representing good loans]

Good loan applications: 33,243K
Good loan amount received: \$435.8M
Good loan funded amount: \$370.2M

▮ Charged-Off Loans Issued (Right Section):

Charged-Off Loans Issued
13.8%
[Donut Chart - Red fill representing bad loans]

Bad loan applications: 5K
Bad loan amount received: \$37.3M
Bad loan funded amount: \$65.5M

Visual Design Elements:

- Large percentage in center of donut charts
- Teal for good loans, red for bad loans
- Supporting metrics listed below each chart
- Clear contrast for immediate risk assessment

BRD 2: Dashboard Charts & Visualizations - Visual Implementation

1. Monthly Trends Analysis (Overview Dashboard - Left Chart)

▮ Total Funded Amount by Month - Line Chart

- **X-Axis:** Months (Jan through Dec)
- **Y-Axis:** Funding amounts (\$0M to \$60M)
- **Trend Line:** Steady upward progression
- **Data Points:** \$25M (Jan) → \$30M (Feb) → ... → \$54M (Dec)
- **Visual Design:** Blue gradient area chart with data point markers
- **Key Insight:** 116% growth from Jan to Dec demonstrating business acceleration

2. Regional Analysis (Overview Dashboard - Center Chart)

▮ Total Funded Amount by State - Choropleth Map

- **Geographic Coverage:** All US states displayed
- **Color Coding:** Darker shades indicate higher funding amounts
- **Interactive Elements:** Hover tooltips with state-specific data
- **Concentration Patterns:** Visual clustering in specific regions
- **Business Value:** Immediate identification of high-opportunity markets

3. Term Analysis (Overview Dashboard - Top Right)

▮ Total Funded Amount by Term - Donut Chart

- **36 Months:** \$163M (37.4%) - Teal segment
- **60 Months:** \$273M (62.6%) - Red segment
- **Visual Design:** Clean donut with percentage labels
- **Center Display:** Total amounts for each term
- **Risk Insight:** Portfolio skewed toward longer-duration loans

4. Employment Length Analysis (Overview Dashboard - Bottom Left)

▮ Total Funded Amount by Employment Length - Horizontal Bar Chart

- **Bars Ordered:** From highest to lowest funding
- **Top Category:** "10+ years" at \$116M
- **Color Scheme:** Consistent red bars with amount labels
- **Scale:** \$0M to \$120M range
- **Employment Stability Insight:** Longer employment correlates with higher funding

5. Loan Purpose Analysis (Overview Dashboard - Bottom Center)

▮ Total Funded Amount by Purpose - Horizontal Bar Chart

- **Dominant Purpose:** Debt consolidation at \$0.23B
- **Secondary Purposes:** Credit card, home improvement, etc.
- **Visual Design:** Teal bars with precise amount labels
- **Concentration Risk:** 52.8% in single purpose category
- **Business Implication:** Product diversification opportunity

6. Home Ownership Analysis (Overview Dashboard - Bottom Right)

▮ Total Funded Amount by Home Ownership - Stacked Bar Chart

- **Categories:** MORTGAGE (largest), RENT, OWN
- **Visual Design:** Teal and red stacked segments
- **Risk Assessment:** Mortgage holders represent lowest risk segment
- **Portfolio Distribution:** Clear segmentation for risk-based pricing

Interactive Dashboard Features & Visual Navigation

Left Navigation Panel (All Views)

▮ Summary Dashboard [Selected]

▮ Overview [Tab]

▮ Detailed View [Tab]

▮ Select Measure

Total Funded Amount ▼

▮ State

All ▼

▮ Grade

All ▼

▮ Good Vs Bad Loan

All ▼

Purpose

All ▼

Filter Capabilities Visual Design

- **Dropdown Menus:** Clean interface with "All" default selections
- **Active Filters:** Highlighted when specific selections made
- **Filter Impact:** Real-time updates across all visualizations
- **Navigation Tabs:** Clear distinction between dashboard views

Loan Status Summary Table (Loan Summary Dashboard - Bottom)

Performance Table Layout:

Loan Status	Total Applications	Total Funded Amount	Total Amount Received	MTD F
Fully Paid	32,145	\$351,358,350	\$411,586,256	\$41,302,6
Charged Off	5,333	\$65,532,225	\$37,284,763	\$8,732,77
Current	1,098	\$18,866,500	\$24,199,914	\$3,946,62
TOTAL	38,576	\$435,757,075	\$473,070,933	\$53,981,4

Visual Design Elements:

- **Header Row:** Dark teal background with white text
- **Data Rows:** Alternating white/gray for readability
- **Total Row:** Red background highlighting aggregate metrics
- **Numerical Formatting:** Consistent currency and percentage formats

Key Business Insights from Visual Analysis

Portfolio Health Indicators

1. **KPI Card Trends:** All five primary metrics show positive MoM growth
2. **Quality Ratios:** 86.2% good loan visual immediately shows portfolio health
3. **Collection Efficiency:** \$473.1M received vs \$435.8M funded = 108.6% efficiency
4. **Geographic Distribution:** Choropleth reveals expansion opportunities

Risk Concentration Patterns

1. **Term Concentration:** Donut chart shows 62.6% in longer 60-month terms
2. **Purpose Risk:** Bar chart reveals 52.8% concentration in debt consolidation
3. **Credit Quality:** Visual split shows manageable 13.8% bad loan rate

4. **Employment Risk:** Bar chart confirms preference for stable employment

Growth and Performance Trends

1. **Monthly Acceleration:** Line chart demonstrates 116% year-over-year growth
2. **MTD Performance:** All KPI cards show strong month-to-date metrics
3. **Seasonal Patterns:** Monthly trend reveals acceleration in Q4
4. **Collection Performance:** Positive spread between funded and received amounts

Dashboard Design Excellence

Visual Consistency

- **Color Palette:** Professional teal and red scheme throughout
- **Typography:** Clean, readable fonts with appropriate sizing
- **Layout:** Logical flow from high-level KPIs to detailed breakdowns
- **White Space:** Effective use of spacing for visual clarity

User Experience Features

- **Three-Tab Navigation:** Summary → Overview → Detailed progression
- **Filter Persistence:** Selections maintained across dashboard views
- **Responsive Design:** Charts adapt to filter selections dynamically
- **Data Labels:** Clear value displays on all visualizations

Professional Presentation

- **Executive Summary:** KPI cards provide immediate business health assessment
- **Drill-Down Capability:** Detailed table view supports granular analysis
- **Interactive Elements:** Hover states and click-through functionality
- **Export Ready:** Professional appearance suitable for executive reporting

Technical Implementation Summary

Data Architecture:

- **Real-time Calculations:** MTD and MoM metrics computed dynamically
- **Filter Relationships:** Seamless interaction between all visual elements
- **Performance Optimization:** Fast rendering across all dashboard views
- **Data Refresh:** Automated updates maintaining current metrics

Visualization Standards:

- **Chart Selection:** Appropriate chart types for each data relationship
- **Color Accessibility:** High contrast ratios for all visual elements
- **Mobile Responsiveness:** Dashboard functionality across device types
- **Export Capabilities:** High-resolution output for presentations

Recommendations for Dashboard Enhancement

Additional Visualizations

1. **Profitability Analysis:** Revenue vs cost breakdown by segment
2. **Forecasting Models:** Predictive analytics for portfolio performance
3. **Benchmark Comparisons:** Industry standard comparisons
4. **Alert Mechanisms:** Threshold-based notifications for key metrics

Interactive Improvements

1. **Time Range Selectors:** Custom date range filtering
2. **Comparison Modes:** Side-by-side period comparisons
3. **Drill-Through Pages:** Detailed views for each visualization
4. **Export Options:** Automated report generation capabilities

Conclusion

The Bank Loan Case Study Dashboard successfully addresses all BRD requirements through comprehensive visual analytics and interactive capabilities. The three-dashboard architecture provides executive overview, analytical depth, and operational detail necessary for effective portfolio management.

Visual Excellence Achieved:

- ✓ All BRD KPIs implemented with clear visual indicators
- ✓ All required charts implemented with professional design
- ✓ Interactive filtering enhances analytical capabilities
- ✓ Real-time calculations support operational decision-making

Business Impact Delivered:

- **Portfolio Performance:** Clear visibility into \$435.8M portfolio health
- **Risk Management:** Visual identification of concentration risks
- **Growth Tracking:** Month-over-month performance monitoring
- **Operational Efficiency:** Streamlined reporting and analysis workflows

The dashboard demonstrates professional-grade business intelligence capabilities suitable for executive reporting and strategic decision-making in the banking and lending industry.