TABLEAU DASHBOARD – PORTFOLIO

**1. Summary**

This dashboard report analyzes a bookstore dataset comprising 500 records spread across three main tables: **BOOKS**, **CUSTOMER**, and **ORDERS**. The project is designed to provide deep insights into sales performance, customer behavior, and inventory management. By integrating multiple interactive visualizations, the dashboard answers critical business questions—such as identifying peak sales periods, high-performing authors, and customer loyalty patterns—to drive strategic decision-making in marketing, operations, and stock management.

**2. KPIs**

The dashboard tracks the following Key Performance Indicators (KPIs):

* **Total Sales Revenue:**  
  *Formula:* SUM(Amount)  
  *Insight:* Measures overall revenue from book sales.
* **Total Orders:**  
  *Formula:* COUNTD(OrdersID)  
  *Insight:* Shows the total number of orders placed.
* **Average Order Value (AOV):**  
  *Formula:* SUM(Amount) / COUNTD(OrdersID)  
  *Insight:* Helps understand average spending per order.
* **Best-Selling Books:**  
  *Formula:* SUM(Quantity) grouped by Title  
  *Insight:* Identifies which books are the most popular based on copies sold.
* **Top Customer Locations:**  
  *Formula:* COUNTD(CustomerID) grouped by City or Country  
  *Insight:* Displays where most customers are located, useful for regional targeting.
* **Stock Availability:**  
  *Formula:* Stock < Threshold Value  
  *Insight:* Identifies books that are low in stock and need replenishment.
* **Monthly Sales Trend:**  
  *Formula:* SUM(Amount) by Date (Month & Year)  
  *Insight:* Tracks revenue trends over time and identifies peak sales months.

**3. Dashboard Explanations and Visual Insights**

**Sales & Orders Analysis**

**Chart 1: Total Sales KPI Card**

* **What it shows:**  
  A large numeric display showing the overall revenue generated from book sales.
* **Inferred Insights:**
  + Instantaneous understanding of current revenue performance.
  + Ability to compare against historical data (e.g., YoY changes) for trend analysis.
* **Usefulness:**  
  Serves as a quick performance metric to gauge how the bookstore is doing in terms of revenue generation.

**Chart 2: Actual vs. Target Sales (Bullet Chart)**

* **What it shows:**  
  A bullet chart comparing actual sales to a set target, allowing visual benchmarking.
* **Inferred Insights:**
  + Identifies whether sales are meeting, exceeding, or falling short of targets.
  + Helps determine if promotional or pricing strategies need adjustments.
* **Usefulness:**  
  Provides actionable insights for management to align strategies and adjust targets accordingly.

**Chart 3: Orders by Month (Lollipop or Bar Chart)**

* **What it shows:**  
  Monthly order counts, highlighting trends and peak order periods (e.g., July 2023 with 5 orders).
* **Inferred Insights:**
  + Reveals seasonality in order volume.
  + Identifies months that may require additional staffing or promotions.
* **Usefulness:**  
  Helps in forecasting demand and planning operational resources.

**Chart 4: Average Order Value (AOV) – Box-and-Whisker Plot**

* **What it shows:**  
  Distribution of AOV by month, including medians, quartiles, and outliers.
* **Inferred Insights:**
  + Indicates variability in customer spending.
  + Identifies any anomalies such as unusually high or low order values.
* **Usefulness:**  
  Informs pricing and discount strategies, and helps track customer purchasing behavior over time.

**Chart 5: Monthly Sales Trend – Dual-Axis Line & Area Chart**

* **What it shows:**  
  A dual-axis chart with a line representing total sales revenue and an area indicating order count over time.
* **Inferred Insights:**
  + Displays correlations between revenue and order volume.
  + Highlights peaks and troughs, helping to pinpoint successful periods or potential issues.
* **Usefulness:**  
  Allows for an integrated view of sales performance and order trends, aiding in resource allocation and promotional planning.

**Books & Inventory Analysis**

**Chart 6: Top Genre (Bar Chart or Pie Chart)**

* **What it shows:**  
  Sales contribution of different book genres with Romance emerging as the top-performing genre.
* **Inferred Insights:**
  + Identifies customer preferences for certain genres.
  + Supports targeted marketing and inventory decisions.
* **Usefulness:**  
  Assists in optimizing inventory and focusing promotional efforts on high-performing genres.

**Chart 7: Best-Selling Authors (Ranked Chart)**

* **What it shows:**  
  Ranking of authors based on sales performance. For example, Amanda Wilson (fiction works) and Joyce Patern (in 2024 Q3 with $826.23).
* **Inferred Insights:**
  + Highlights which authors drive the most revenue.
  + Can be used to determine which authors to feature in marketing campaigns.
* **Usefulness:**  
  Provides clear insights into author performance, which is critical for partnership and promotion strategies.

**Chart 8: Stock Availability (Bar Chart)**

* **What it shows:**  
  Books with low stock levels (e.g., where stock < threshold), sorted in ascending order, with low-stock items color-coded in red.
* **Inferred Insights:**
  + Quickly identifies inventory issues.
  + Enables proactive restocking before stockouts occur.
* **Usefulness:**  
  Vital for operations to maintain optimal inventory levels and avoid missed sales opportunities.

**Customer Analysis**

**Chart 9: Top N Customers by Country (Bar Chart)**

* **What it shows:**  
  A ranking of top-paying customers segmented by country; for instance, Russia generating $501 in revenue compared to Canada.
* **Inferred Insights:**
  + Reveals the geographical distribution of high-value customers.
  + Can inform region-specific marketing and loyalty programs.
* **Usefulness:**  
  Helps in tailoring marketing strategies and enhancing customer retention in key regions.

**Chart 10: Customer Segmentation by Pay**

* **What it shows:**  
  Customers segmented by their spending levels (high, medium, low) based on their overall pay, with segmentation criteria defined through a calculated field.
* **Inferred Insights:**
  + Distinguishes between high-value and low-value customers.
  + Provides insights into spending patterns and opportunities for up-selling or cross-selling.
* **Usefulness:**  
  Assists in personalized marketing and segmentation strategies to maximize customer lifetime value.

**Chart 11: Returning vs. New Customers**

* **What it shows:**  
  A comparison of returning customers (e.g., 10) versus new customers (e.g., 4) over a given period.
* **Inferred Insights:**
  + Highlights customer retention levels.
  + Can trigger actions for loyalty rewards or targeted retention campaigns.
* **Usefulness:**  
  Essential for understanding customer loyalty and for planning initiatives to improve repeat purchase rates.

**Chart 12: Top Customer Locations – Normal Map**

* **What it shows:**  
  A geographic map displaying customer distribution by city/country, such as Korea with the highest unique customer count (4).
* **Inferred Insights:**
  + Provides a spatial view of customer density.
  + Helps identify key markets and areas for regional expansion.
* **Usefulness:**  
  Useful for geographically targeted promotions and resource planning.

**Overall Insights:**

* **Sales & Order Trends:**  
  By integrating sales revenue with order volume, the dashboard enables a clear understanding of peak periods, seasonal fluctuations, and overall business health.
* **Inventory & Product Performance:**  
  Detailed insights into stock levels and best-selling genres/authors help optimize inventory management, reduce stockouts, and guide procurement decisions.
* **Customer Behavior:**  
  Analysis of customer segmentation, geographic distribution, and retention rates supports targeted marketing strategies, ultimately enhancing customer lifetime value.

**Dashboard Usefulness:**

* **Actionable Intelligence:**  
  Each section of the dashboard directly addresses key business questions, from overall sales performance to granular insights about customer segments and product popularity.
* **Interactivity:**  
  The use of filters, parameters, and dashboard actions allows users to drill down into specifics—such as viewing monthly trends or filtering by country—making the dashboard dynamic and user-friendly.
* **Portfolio Impact:**  
  This comprehensive and well-structured dashboard demonstrates your ability to combine data from multiple sources into a cohesive story. It shows proficiency in data visualization, interactive dashboard design, and actionable business insights—all highly attractive skills for potential employers or clients.

**Solvable Business Questions and Answers**

1. **What is the total revenue generated from book sales in Q1 2024?**  
   **Answer:** January revenue is $4904.57, indicating strong performance in the first month of Q1.
2. **Which month in 2023 had the highest number of orders placed?**  
   **Answer:** July 2023 had the highest with 5 orders, highlighting a potential seasonal peak.
3. **Which author had the highest sales in a specific quarter?**  
   **Answer:** Joyce Patern in 2024 Q3 generated $826.23, suggesting that her works are particularly popular during that period.
4. **What is the breakdown between returning and new customers?**  
   **Answer:** The data shows 10 returning customers and 4 new customers, indicating a strong repeat purchase behavior.
5. **Which city had the highest number of unique customers in 2023?**  
   **Answer:** Korea had the highest unique customer count with 4, suggesting it is a key market.
6. **Did customers from Russia or Canada generate more sales revenue?**  
   **Answer:** Russia generated $501 in sales, outperforming Canada.
7. **What was the average order value (AOV) in December 2023?**  
   **Answer:** The AOV in December 2023 was derived from 138 orders, providing insights into customer spending patterns.
8. **How do sales fluctuate based on weekdays vs. weekends?**  
   **Answer:** Weekend sales are significantly higher than weekday sales, which may guide promotion timing.
9. **Which genres contribute the most to total sales?**  
   **Answer:** The Romance genre is the top revenue contributor, indicating strong customer interest.
10. **What are the best-selling authors by quarter?**  
    **Answer:** For instance, Amanda Wilson (in the fiction category) is a top-performing author, particularly noted in quarterly sales.

**6. Conclusion**

This comprehensive dashboard delivers a multi-faceted view of the bookstore’s performance—from overall revenue trends and order patterns to detailed product and customer insights. It serves as an essential tool for making data-driven decisions in inventory management, targeted marketing, and strategic planning. By answering specific business questions and offering interactive exploration, the dashboard stands as a powerful portfolio piece that demonstrates both technical and analytical capabilities.