**Step 5. DSS Recommendations, Dashboard Implementation, and Summary**

**1. Overview and Motivation**

The goal of Step 5 was to design and implement a Power BI decision support dashboard for rule-based, transparent movie recommendations.  
This dashboard allows users to explore top-rated, most-reviewed, and genre-specific movies with highly customizable filters—enhancing both personalization and clarity.

**2. Dashboard Filtering Design**

Five key slicers were implemented:

1. **Title:**

Enables users to quickly search for specific movies by entering keywords.

1. **Genres:**

Allows filtering recommendations by preferred genre, or viewing all genres.

1. **UserSegment:**  
   Allows users to filter and view recommendations and analytics for specific user activity groups  
   (Light, Medium, Heavy, Super Heavy).  
   This slicer enables personalized analysis and comparison of trends between different user segments.
2. **AvgRatingByMovie:**

Lets users specify a minimum and maximum average rating range (e.g., 0.50–5.00).

1. **RatingCountByMovie:**

Filters movies by the number of ratings, allowing exclusion of movies with very

few reviews.

***※ Year-based filtering was not implemented, as the dataset covers only 2010–2015.***

**3. On-Screen Guidance**

To ensure correct and intuitive dashboard usage,  
a clear instruction text box was added as follows:

ℹ️ Notice: Before searching by Title, please set the following slicers to their default values for accurate results:

- Genres: All

- UserSegment: All

- AvgRatingByMovie: 0.50 – 5.00

- RatingCountByMovie: 1 – 98161

ℹ️ About UserSegment

UserSegment represents the user group automatically classified by the number of movie ratings submitted:

Light (≤ 10): Rated 10 movies or fewer

Medium (≤ 50): Rated 11–50 movies

Heavy (≤ 200): Rated 51–200 movies

Super Heavy (> 200): Rated more than 200 movies

※ Users do not know their segment; the system automatically assigns groups based on total ratings submitted.

**This helps users receive accurate results and clearly understand the user segmentation logic.**

**4. Recommendation Logic and Interactive Features**

* **Genre-Based Filtering:**Slicers make it possible to prioritize recommendations by genre and other criteria.
* **User Segment Personalization:**Recommendations are dynamically tailored by user activity group (Light, Medium, Heavy, Super Heavy).
* **Minimum Ratings Filter:**The number of ratings slicer increases reliability by excluding movies with too few reviews.
* **Dynamic Recommendation Table:**All slicers are interactive, so recommendations update instantly with any change.
* **Conditional Formatting:**The Average Rating column is color-coded (green for high, yellow/red for low), enabling immediate visual assessment of quality.
* **Title Search:**A dedicated Title slicer allows for fast, targeted movie searches.

**The dashboard presents two main recommendation tables:**

* **Top 10 Movies by Average Rating (with Genre):**Displays the highest-rated movies for the selected filters, enabling users to identify the most critically acclaimed titles within a chosen genre or user segment.
* **Top 10 Movies by Review Count:**Lists the movies with the highest number of ratings, ensuring that the recommendations highlight popular and widely-reviewed films.

**These two tables allow users to explore both quality-based and popularity-based movie recommendations interactively.**

**5. Key Insights & Summary**

* **Super Heavy users provide the majority of ratings,** highlighting the importance of engaging Light and Medium users for better data diversity.
* **Genre and minimum ratings filters** ensure recommendations are both relevant and reliable.
* **Interactive analytics and conditional formatting** make the dashboard intuitive and actionable for all user types.
* **The combination of thoughtfully designed slicers and clear on-screen guidance** ensures that users can easily explore, filter, and interpret recommendation results.

**6. Conclusions**

This DSS dashboard demonstrates the effectiveness of combining rule-based logic and user-centric design for transparent movie recommendations.

* This dashboard demonstrates that a rule-based, interactive recommendation system—combining user activity, genre, and minimum review thresholds—can deliver highly relevant and transparent suggestions.
* Carefully designed filters and guidance empower any user to fully leverage the dashboard, regardless of technical expertise.
* The final design effectively supports the objectives of the project and best practices in data-driven decision support.

**Alignment of Step 5 with Step 4: Consistency and Logical Flow**

Step 4 identified key insights and trends in user behavior, rating patterns, and genre engagement over time.  
Step 5 translates these findings into a practical, interactive DSS dashboard that puts the analysis into action.

**1. Translating Insights into System Design**

* **Challenge identified in Step 4:**  
  Engagement is declining, with most activity concentrated among Super Heavy users.
* **Dashboard approach in Step 5:**  
  Slicers for User Segment, Genre, and Number of Ratings allow users to filter and visualize recommendations by cohort and engagement level. This enables exploration of strategies to re-engage Light and Medium users and diversify recommended content.

**2. Applying Analytical Recommendations**

* Strategies for rebuilding engagement among Light and Medium users are supported by filters and scenario testing features (such as engagement prompts and curated bundles).
* The dashboard offers targeted views for Super Heavy users, while also promoting diversity through flexible filtering options.
* Use of the Number of Ratings slicer helps maintain catalogue quality and insight reliability by excluding under-reviewed titles.

**3. Data Patterns Visualized**

All the major trends from Step 4—such as genre hierarchy, popularity bias, and segment engagement—are clearly visualized through interactive charts, including:

* Genre Popularity by User Segment
* Ratings Over Time
* Real-Time Recommendations Table

**4. Logical and Actionable Flow**

* **Step 4** provides answers to “What is happening?” and “What should we do?”
* **Step 5** addresses “How can these solutions be implemented and tested in practice?”
* The dashboard structure enables users and stakeholders to experiment with various strategies and immediately observe their outcomes.

**By directly building on the insights from Step 4,  
Step 5 presents an interactive DSS dashboard that allows for exploration, validation, and optimization of recommendation strategies.  
This comprehensive approach addresses the key issues of user engagement, diversity, and popularity bias identified during the analysis.**