**Project - Data Warehouse and BI Dashboard for Retail**

**Business Model Canvas**

**1. Key Partners:**

* **Microsoft Azure**: Provides the cloud infrastructure (Data Factory, Synapse Analytics, Databricks, Power BI, Data Lake, etc.).
* **SQL Server (On-premise)**: The source system from which the data is migrated.
* **Business Stakeholders**: The people who need access to the data and reports, such as department heads, business analysts, and decision-makers.
* **Power BI users**: Stakeholders who will generate reports and dashboards for insights.

**2. Key Activities:**

* **Data Migration**: Transferring data from the AdventureWorks SQL Server to Azure.
* **Data Transformation**: Using Azure Databricks to clean and prepare the data for analysis.
* **Data Storage and Management**: Storing data in Azure Data Lake and Synapse Analytics for efficient querying and reporting.
* **Data Visualization and Reporting**: Creating reports and dashboards using Power BI.
* **Security and Access Management**: Ensuring secure access to the data using Azure Active Directory and Key Vault.
* **Pipeline Automation**: Automating ETL processes for real-time data synchronization.

**3. Key Resources:**

* **Azure Infrastructure**: Resources such as Azure Data Factory, Azure Synapse Analytics, Azure Data Lake, Azure Databricks, Azure Key Vault, and Power BI.
* **Data Engineers and Analysts**: Responsible for managing the ETL pipelines, transforming data, and building reports.
* **AdventureWorks Database**: The sample database being used for the project.

**4. Value Propositions:**

* **Real-time Data Availability**: With automated pipelines, business users will have access to the latest data and insights in real time.
* **Improved Decision-Making**: Power BI reports provide clear, actionable insights to stakeholders.
* **Scalable and Secure**: Azure offers scalable storage and computing power, along with built-in security features.
* **Cost-Effective**: Pay-as-you-go model ensures cost efficiency, especially for growing datasets and varying computational needs.
* **Data Centralization**: Bringing together data from multiple tables into one platform, making it easier to manage and query.

**5. Customer Relationships:**

* **Direct Support and Training**: Providing support to business analysts and report creators who will use Power BI and Azure.
* **Continuous Improvement**: Gathering feedback from users and adjusting ETL processes or reports as needed.
* **Documentation and Guides**: Providing users with clear documentation on how to access and use data, reports, and dashboards.

**6. Channels:**

* **Power BI Dashboards and Reports**: These will be the main delivery method for insights, allowing users to view and analyze data.
* **Azure Portal**: The environment where data engineers manage pipelines, databases, and cloud resources.
* **Internal Communications**: Regular meetings and updates to stakeholders about project progress and new data insights.

**7. Customer Segments:**

* **Business Analysts**: Responsible for generating insights from the data and building visualizations.
* **Department Managers**: Who need reports and dashboards to make operational decisions.
* **Executive Team**: Decision-makers who rely on high-level reports and business insights to drive strategy.
* **IT and Data Teams**: Responsible for maintaining the system and ensuring data quality.

**8. Cost Structure:**

* **Azure Services Costs**: Pay for resources such as Data Factory, Synapse Analytics, Databricks, Power BI, and Data Lake.
* **Development and Maintenance Costs**: Data engineers and analysts responsible for pipeline management, data transformation, and reporting.
* **Security and Compliance**: Costs associated with ensuring data security, using Azure Key Vault and Azure Active Directory.
* **Training and Support**: Providing training for stakeholders on how to use Power BI and the new data platform.

**9. Revenue Streams (if applicable):**

* **Internal Business Value**: Improved decision-making and operational efficiency, which could lead to cost savings, better resource management, and increased revenue opportunities.
* **Potential Monetization**: If extended to external clients or partners, the company could offer a subscription model for access to dashboards, insights, or real-time data.