Requirement life Cycle for customer segmentation model for a telecommunications company

1. **Elicitation**:
   - **Identify stakeholders**: Internal teams (marketing, sales, data scientists) and external customers.
   - **Gather requirements**: Conduct interviews, surveys, and workshops to understand customer segmentation needs, current pain points, and goals for segmentation.
   - **Define goals**: Understand what the company hopes to achieve with segmentation (e.g., personalized marketing, customer retention, cross-selling).

2. **Analysis and Documentation**:
   - **Analyze business and data requirements**: Define the scope of segmentation (demographics, usage behavior, billing history, etc.).
   - **Document findings**: Capture requirements in business requirement documents (BRDs), data requirement sheets, and user stories.
   - **Model outline**: Provide a conceptual model of the segmentation approach, methods, and tools.

3. **Validation and Verification**:
   - **Verify requirements**: Ensure that requirements align with business goals, are complete, consistent, and feasible.
   - **Validate with stakeholders**: Cross-check the requirements with stakeholders for accuracy and approval.
   - **Risk assessment**: Identify potential risks or gaps in data and feasibility.

4. **Prioritization and Negotiation**:

   ○ **Prioritize requirements**: Based on business impact, customer value, and technical complexity.

   ○ **Negotiate trade-offs**: Balance competing demands and limitations (budget, time, technology).

5. **Change Management**:

   ○ **Manage requirement changes**: Track and manage changes to the requirements through a formal change control process.

   ○ **Assess impact**: Evaluate how changes will impact the project timeline, cost, and scope.

6. **Communication and Collaboration**:

   ○ **Stakeholder communication**: Ensure ongoing collaboration between technical teams, business stakeholders, and external partners.

   ○ **Document updates**: Regularly update requirement documents and share progress.

7. **Traceability and Impact Analysis**:

   ○ **Track requirements**: Maintain a traceability matrix to map requirements through the development lifecycle.

   ○ **Impact analysis**: Anal yze how changes or new requirements will affect other components of the system.

8. **Implementation and Testing**:

   ○ **Develop and implement the model**: Implement the customer segmentation model using the chosen algorithms and data.

   ○ **Test the model**: Conduct unit testing, system testing, and user acceptance testing to ensure the model meets business and technical requirements.

9. **Validation and Acceptance**:

- o **Validate the segmentation model**: Ensure that the output of the model matches the expected business outcomes.

- o **Obtain stakeholder acceptance**: Present the results to stakeholders and obtain formal approval.

10. **Deployment and Maintenance**:

- **Deploy the model**: Roll out the customer segmentation model to production.

- **Monitor and maintain**: Continuously monitor model performance, retrain if necessary, and handle any issues that arise.

11. **Retirement and Archival**:

- **Model decommissioning**: When the model becomes obsolete (e.g., new technology, changes in customer behavior), plan for its retirement.

- **Archive data and documentation**: Ensure all relevant data, documents, and model versions are archived for future reference or regulatory compliance.