Metric	Logistic Regression	MLP Neural Network	Difference
Accuracy	0.766175	0.897104	0.130929
Precision	0.725697	0.789013	0.063316
Recall	0.516725	0.957397	0.440672
F1-Score	0.603636	0.865087	0.261451
ROC-AUC	0.780826	0.947063	0.166237

==========
SUMMARY
==========

✓ MLP performed better overall!
Reason: Neural networks can capture non-linear relationships between features that logistic regression cannot model.

==========
End of analysis.

```
MLP Test Accuracy: 0.8971
MLP Test Loss: 0.2533
3438/3438 [==============================] - 2s 516us/step
3438/3438 [==============================] - 2s 504us/step

Confusion Matrix:
[[62401  9705]
 [ 1615 36293]]

Classification Report:
              precision    recall  f1-score   support

           0       0.97      0.87      0.92     72106
           1       0.79      0.96      0.87     37908

    accuracy                           0.90    110014
   macro avg       0.88      0.91      0.89    110014
weighted avg       0.91      0.90      0.90    110014
```

```
================================================
LOGISTIC REGRESSION MODEL
================================================

LR Accuracy: 0.7661752140636646

Confusion Matrix:
[[64702  7404]
 [18320 19588]]

Classification Report:
              precision    recall  f1-score   support

           0       0.78      0.90      0.83     72106
           1       0.73      0.52      0.60     37908

    accuracy                           0.77    110014
   macro avg       0.75      0.71      0.72    110014
weighted avg       0.76      0.77      0.75    110014


Top 10 Most Important Features:
               feature  importance
0   Product_Category_1    0.845970
...
9           Age_51-55    0.064008
8           Age_46-50    0.043494
11    City_Category_B    0.036939
5           Age_18-25    0.036241
```