

# Phase 3

## 1. Most Frequently Included Products in Bundles

- **Frequency:** Monthly/Quarterly

```
SELECT P.ProductID, P.Name, COUNT(*) AS BundleFrequency
FROM ProductsInBundles PB
JOIN Product P ON PB.ProductID = P.ProductID
GROUP BY P.ProductID, P.Name
HAVING COUNT(*) = (
    SELECT MAX(CountPerProduct)
    FROM (
        SELECT COUNT(*) AS CountPerProduct
        FROM ProductsInBundles
        GROUP BY ProductID
    ) AS SubQuery
);
```

## 2. Customers with Multiple Approved Loans

- **Frequency:** Monthly.

```
SELECT DISTINCT C.Name, C.Email
FROM Customer C
JOIN LoanApplication L1 ON C.CustomerID = L1.CustomerID
JOIN LoanApplication L2 ON C.CustomerID = L2.CustomerID
WHERE L1.ApplicationID <> L2.ApplicationID
AND L1.Status = 'Approved'
AND L2.Status = 'Approved';
```

## 3. Products Not in Any Bundle

- **Frequency:** Monthly/Quarterly

```
SELECT P.ProductID, P.Name, P.Price
FROM Product P
LEFT JOIN ProductsInBundles PB ON P.ProductID = PB.ProductID
WHERE PB.BundleID IS NULL
```

## 4. Loan Applications with Detailed Information

- **Frequency:** Frequent (weekly for progress monitoring).

```
SELECT
  L.ApplicationID,
  C.Name AS CustomerName,
  M.Name AS ManagerName,
  B.BundleName,
  LC.AmountApproved,
  LC.InterestRate
FROM LoanApplication L
JOIN Customer C ON L.CustomerID = C.CustomerID
JOIN Manager M ON L.ManagerID = M.ManagerID
JOIN LoanContract LC ON L.ApplicationID = LC.LoanApplicationID
JOIN Bundle B ON LC.ChosenBundle = B.BundleID
```

## 5. Product and Bundle Insights for Loan Contracts

- **Frequency:** Weekly/Monthly

```
SELECT
  P.Name AS ProductName,
  B.BundleName,
  LC.AmountApproved,
  C.Name AS CustomerName
FROM ProductsInBundles PB
JOIN Product P ON PB.ProductID = P.ProductID
JOIN Bundle B ON PB.BundleID = B.BundleID
JOIN LoanContract LC ON B.BundleID = LC.ChosenBundle
JOIN Customer C ON LC.CustomerID = C.CustomerID;
```

## 6. Bundle Performance Report

- **Frequency:** Monthly.

```
SELECT
  B.BundleName,
  SUM(LC.AmountApproved) AS TotalRevenue,
  COUNT(LC.ContractID) AS ContractsCount
FROM Bundle B
JOIN LoanContract LC ON B.BundleID = LC.ChosenBundle
GROUP BY B.BundleName;
```

## 7. Loan Risk Level Analysis

- **Frequency:** Monthly

```
SELECT
    IRA.Risk_Level,
    SUM(L.LoanAmount) AS TotalLoanAmount
FROM InternalRatingApplication IRA
JOIN LoanApplication L ON IRA.Rating_ID = L.RatingID
GROUP BY IRA.Risk_Level
ORDER BY TotalLoanAmount DESC;
```

## 8. Customer Loan History

- **Frequency:** Regular (monthly for customer profiling).

```
SELECT
    C.Name AS CustomerName,
    COUNT(L.ApplicationID) AS TotalApplications,
    SUM(L.LoanAmount) AS TotalLoanAmount
FROM Customer C
JOIN LoanApplication L ON C.CustomerID = L.CustomerID
GROUP BY C.Name
ORDER BY TotalLoanAmount DESC;
```

## 9. Loan Status Summary

- **Frequency:** Daily/Weekly

```
SELECT
    Status,
    COUNT(ApplicationID) AS Count
FROM LoanApplication
GROUP BY Status;
```

## 10. Overdue Loan Contracts

- **Frequency:** Daily

```
SELECT
    LC.ContractID,
    C.Name AS CustomerName,
    LC.ExpirationDate,
    LC.AmountApproved
FROM LoanContract LC
```

```
JOIN Customer C ON LC.CustomerID = C.CustomerID WHERE LC.ExpirationDate < GETDATE()
```