Business Case Study and Report

PRESENTED BY:
Soniya Kumari

Introduction

Neo-Banks are a new innovation in the financial industry—digital-only banks with no physical branches.

Danny, inspired by the intersection of these banks, cryptocurrency, and data, **launched Data Bank**, a digital bank that also offers the world's most secure distributed data storage platform.

Data Bank Structure

A financial company that helps its consumers with transactional banking services in a novel, more convenient way.

Data Bank Offers banking Services like:

- **Deposits**
- **Withdrawals**
- **Purchases**
- **Data storges**

Challenges and Objectives

Challenges

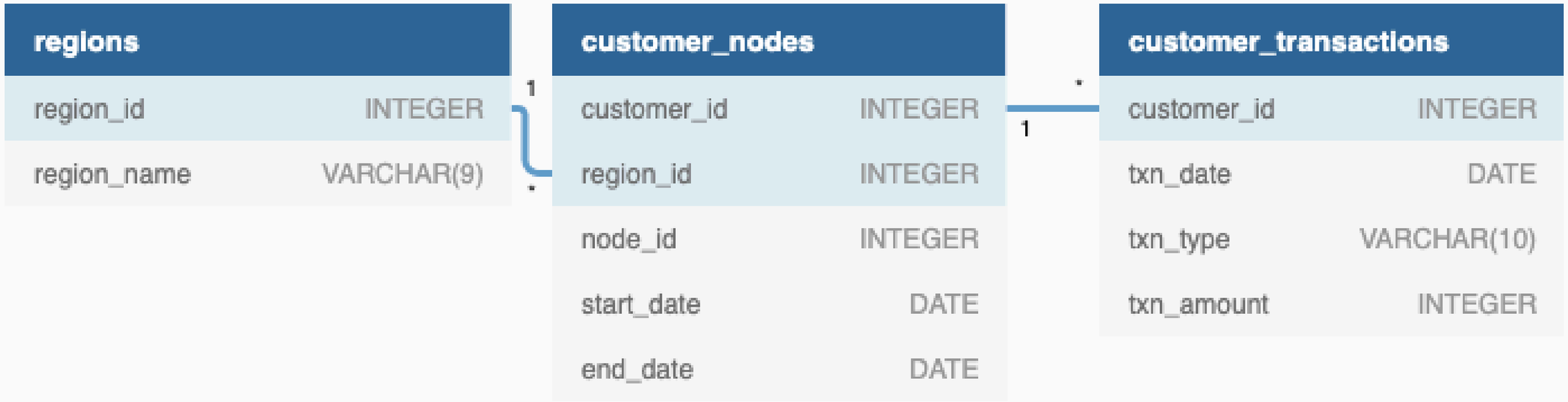
Customers are allocated cloud data storage limits which are directly linked to how much money they have in their accounts.

Objectives

- The management team is focused on growing their customer base and needs help predicting how much data storage their customers will require.
- This case study will explore metrics and data to help forecast growth and optimize future planning.

Available Data

Entity Relationship Diagram



Regions

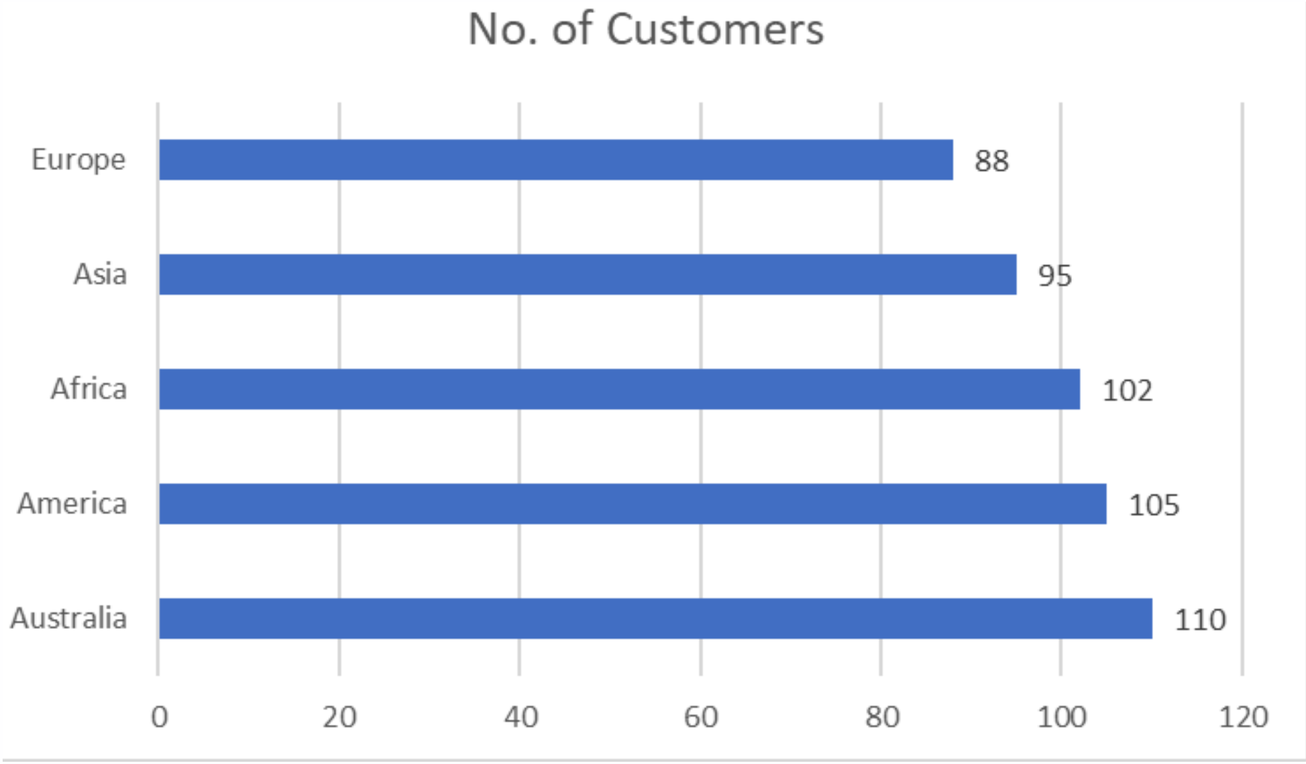
Data Bank operates on a global network of nodes that store both money and data, similar to how traditional banks use branches or stores around the world.

Data Bank operates in 5 regions:

- **Australia**
- **Africa**
- **America**
- **Asia**
- **Europe**

Insight:
Australia has highest no.of Customers 110 followed by America

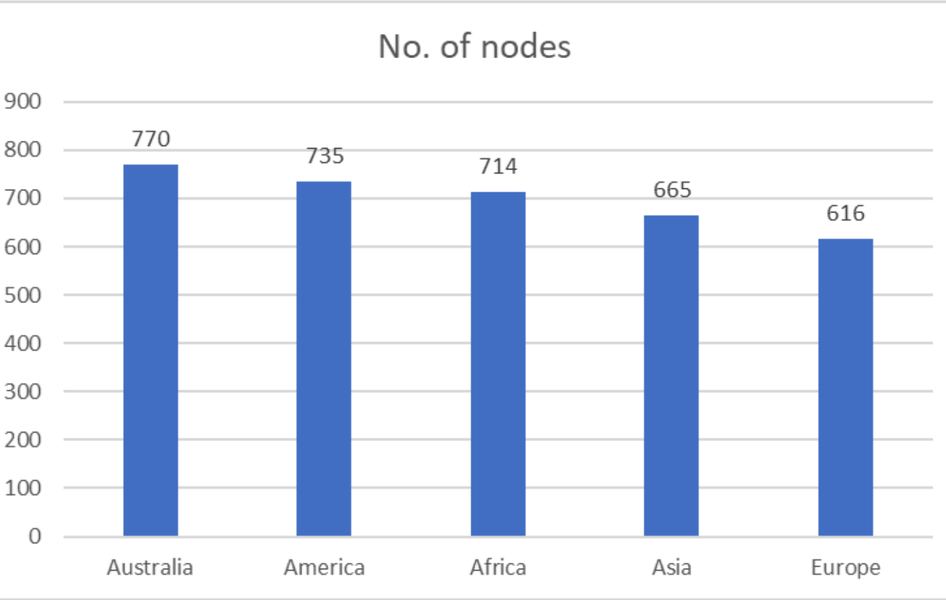
Customer Allocation by Region



Unique Nodes

Data bank has 5 distinct nodes that are randomly distributed across the regions. it is just like branches in physical banks.

Number of Nodes per Region



Insight:
Australia has highest no.of nodes 770 followed by America.

Data Bank’s World Leading Security System

Money and Data Reallocation

Data Bank randomly distributes customers across the nodes according to their region - this also specifies exactly which node contains both their cash and data.

This random distribution changes frequently to reduce the risk of hackers getting into Data Bank’s system and stealing customers’ money and data.

How many days on average are customers reallocated to a different node?

14 Days

Insight:
It takes 14 days on average for customers to be reallocated to a different region.

Unbeatable Security

Data Bank operates on a global network of nodes for secure customer information distribution.

Customer allocation is random based on region for an extra layer of security.

Customer data and funds are frequently updated and distributed to reduce risk like online hacking and digital identity risks.

Data Bank continuously improves and refines security protocols based on reallocation metrics.

Customer Transactions

Unique count of each txn_type and total amount for each transaction type

Txn_type	Distinct_count	Total_amount
purchase	1617	806537
deposit	2671	1359168
withdrawal	1580	793003

There were more deposits (2671) followed by purchases(1617) and then withdrawals (1580).

Average total historical deposit counts and amounts for all customers

The average deposit count for a customer is 5 and the average deposit amount for a customer is 2,718.

avg_deposit_count	avg_deposit_amount
5.3420000000000000	2718.3360000000000000

Data Allocation

To expand its customer base, Data Bank tested hypotheses and experimented with allocating data to different customer groups using three options.

Option 1: Data is allocated based on the amount of money at the end of the previous month.

Option 2: data is allocated on the average amount of money kept in the account in the Previous 30 days

Option 3: data is updated real-time

For Option 1: Data is allocated based on the amount of money at the end of the previous month. How much data would have been required on a monthly basis?

txn_month	sum
3	347574
4	248432
1	377318
2	342984

- January requires more monthly data allocation (377318) followed by March (347574), and February (342984), with April (248432) requiring the least amount of data.
- This actually means that data allocation that would be required per month varies across different months.
- This insight generated would help predict customer behaviour, optimizing business strategies and managing costs.

Option 2: data is allocated on the average amount of money kept in the account in the previous 30 days.

txn_month	data_required_per_month
4	-63347
3	-37261
2	35550
1	126091

- ·Based on our query output, the average running customer balance is negative for march and April months, indicating that customers tend to withdraw more money than they deposit on average.

- ·The data required for January and February are higher, suggesting that more data should be allocated for those two months.

- ·These negative running balances, could impact the bank's overall financial health. Therefore, I recommend that the bank collect more data for April and March to better understand customer behavior during those months and potentially identify any trends or anomalies that could impact the bank's business.

Option 3: data is updated real-time.
How much data would have been required on a monthly basis?

txn_mnth	min_data	max_data	avg_data
1	-3912	3268	252.18
2	-3215	2990	-307.25
3	-4567	3377	-374.75
4	-3071	2794	-180.52

Insights:

- The data required for the month of March is significantly higher than for the other months. This shows that there were more transactions happening in March than in the other months.
- Avg_data required for January is positive, indicating that there might be some customers who have a higher balance at the beginning of the year.
- it might possible some of the customers keep low balance over all the months and because of this the minimum data required is always negative.

Recommendation

- Data Bank should bring out a clause to maintain the minimum average monthly balance to keep the minimum balance high.

Conclusion

This case study aims to mimic traditional banking style transactions data but with a twist.

Data Bank Offers the most advance security system making it more safe for customers and enhances swift and secure transactions

Data Bank can also increase its customer base using any of the tested Hypotheses

Thank You