

Project Report
On
Company Audit Data

Submitted in fulfilment for the award of the

MASTER'S DEGREE

under the guidance of

Prof. Onkar Malgonde

Assistant Professor (Faculty), University of North Texas

Submitted by:

Janmejoy Kar (Student ID – 11527178)

Naga Adithya Kaushik Chandrabhatla (Student ID - 11548817)

Priyanka Rao (Student ID – 11556173)

Aryan Sahu (Student ID – 11615971)

Agenda

1. Executive Summary
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Executive Summary

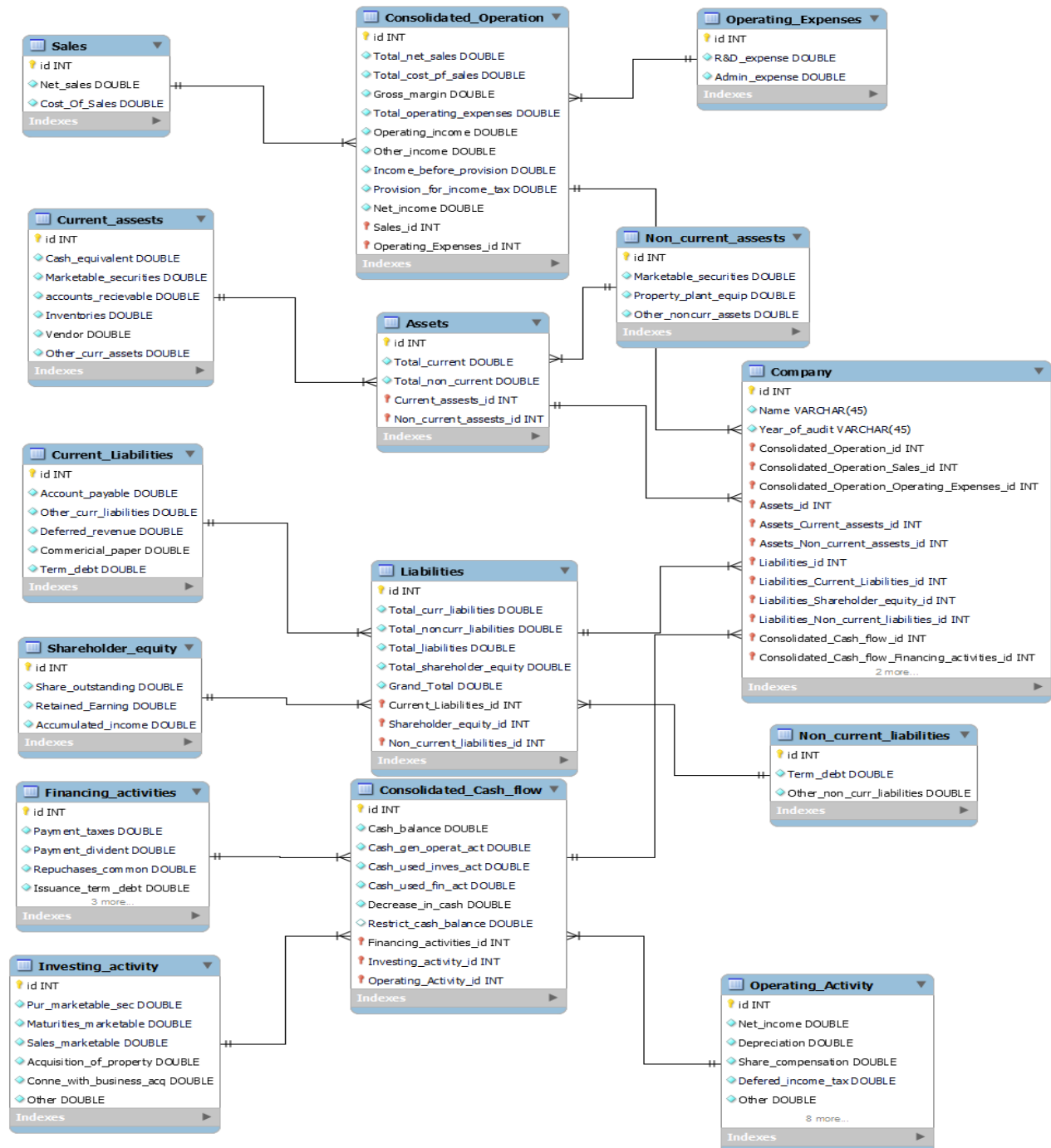
Apple, Microsoft, Samsung, Amazon and Google are a multinational new age technology company which designs and manufactures laptops, phones, watches, TVs etc. It also offers other software and digital application services. They have grown immensely in terms of next generation technology and overall sales. They have a significant presence in several other countries with headquarters in Chicago and California.

Post covid these company might have faced losses and hence they want to have a clear understanding of their finances and manage budgeting and allocating finances effectively without wasting the company's resources. Hence, they have assigned a contract to our financing audit company, Silk Financial Ltd, to perform a thorough audit of their financial statements, so they can have a clear understanding of all their financial activities throughout the year.

Project Motivation

As an upcoming Business Analysts, technology enthusiasts and potential investors, understanding a company's financials thoroughly gives us a lot of information about their daily operations, liabilities, assets, cash flow and loss-making products, business model and hidden future potential. As an Audit firm, it is our responsibility to provide the general public with a clear-cut run down of the company's financials so they can make better judgements about investing in or buying the company's products. To start off the Audit journey, we first design a detailed database to collect, store and process unhindered financial data of the firm so we can conduct our audit without any discrepancies in the data.

Entity-Relationship Diagram



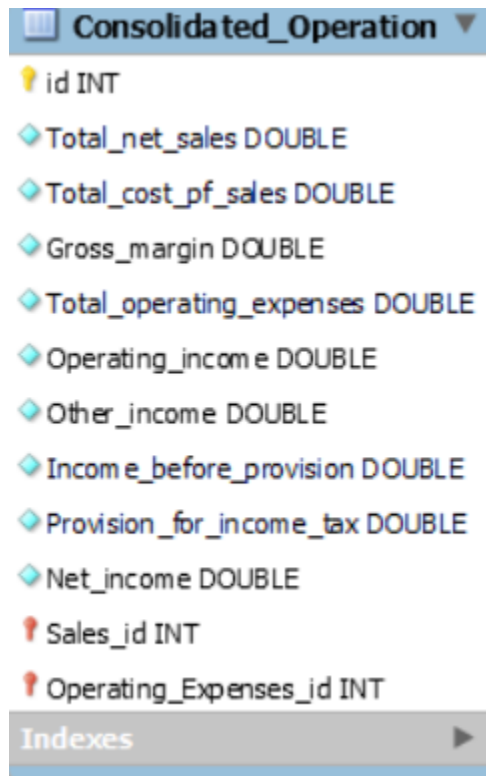
List of Tables in ER Diagram

1. Company Table



It has 12 foreign keys from all the connected tables, Name and Year of the audit attributes.

2. Consolidated Operations Table



The screenshot shows a database schema viewer for a table named 'Consolidated_Operation'. The table has 13 columns. The first column, 'id', is an integer and is the primary key, indicated by a yellow key icon. The next 10 columns are double-precision floating-point numbers (DOUBLE), each preceded by a blue diamond icon. These columns represent various financial metrics: 'Total_net_sales', 'Total_cost_pf_sales', 'Gross_margin', 'Total_operating_expenses', 'Operating_incom e', 'Other_income', 'Incom e_before_provision', 'Provision_for_income_tax', 'Net_income', and 'Net_income'. The last two columns are integers (INT), each preceded by a red key icon, representing foreign keys: 'Sales_id' and 'Operating_Expenses_id'. At the bottom of the viewer, there is a section labeled 'Indexes' with a right-pointing arrow.

Consolidated_Operation ▼	
id	INT
Total_net_sales	DOUBLE
Total_cost_pf_sales	DOUBLE
Gross_margin	DOUBLE
Total_operating_expenses	DOUBLE
Operating_incom e	DOUBLE
Other_income	DOUBLE
Incom e_before_provision	DOUBLE
Provision_for_income_tax	DOUBLE
Net_income	DOUBLE
Sales_id	INT
Operating_Expenses_id	INT
Indexes ▶	

This table contains attributes such as Total net sales, gross margin, operating and other types of income, total cost of sales and foreign keys from two connected tables.

3. Shareholder Equity

Shareholder_equity ▼
id INT
Share_outstanding DOUBLE
Retained_Earning DOUBLE
Accumulated_income DOUBLE
Indexes ▶

Income from shares, retained shares earning, accumulated income

4. Operating Expenses Table

Operating_Expenses ▼
id INT
R&D_expense DOUBLE
Admin_expense DOUBLE
Indexes ▶

This table contains the Research & Development and Administrative expenses incurred.

5. Sales Table

Sales
id INT
Net_sales DOUBLE
Cost_Of_Sales DOUBLE
Indexes

All the net sales and cost of sales incurred are under the sales table.

6. Investing activity

Investing_activity
id INT
Pur_marketable_sec DOUBLE
Maturities_marketable DOUBLE
Sales_marketable DOUBLE
Acquisition_of_property DOUBLE
Conne_with_business_acq DOUBLE
Other DOUBLE
Indexes

Market securities purchases, matured securities, marketable sales, property acquisition and other investment activities are under this table.

7. Liabilities (Noncurrent & Current)

	Liabilities	
	id INT	
	Total_curr_liabilities DOUBLE	
	Total_noncurr_liabilities DOUBLE	
	Total_liabilities DOUBLE	
	Total_shareholder_equity DOUBLE	
	Grand_Total DOUBLE	
	Current_Liabilities_id INT	
	Shareholder_equity_id INT	
	Non_current_liabilities_id INT	
	Indexes	
Current_Liabilities		
id INT		
Account_payable DOUBLE		
Other_curr_liabilities DOUBLE		
Deferred_revenue DOUBLE		
Commercial_paper DOUBLE		
Term_debt DOUBLE		
Indexes		
	Non_current_liabilities	
id INT		
Term_debt DOUBLE		
Other_non_curr_liabilities DOUBLE		
Indexes		

Total of all liabilities in the liabilities table and the current & noncurrent liabilities in their individual tables. Interests, income tax, account payable, short-term loans are different forms of liabilities.

8. Assets (Current & Non-Current)

Assets <ul style="list-style-type: none"> id INT Total_current DOUBLE Total_non_current DOUBLE Current_assests_id INT Non_current_assests_id INT 	Current_assests <ul style="list-style-type: none"> id INT Cash_equivalent DOUBLE Marketable_securities DOUBLE accounts_recievable DOUBLE Inventories DOUBLE Vendor DOUBLE Other_curr_assets DOUBLE
Indexes	Indexes

Non_current_assests <ul style="list-style-type: none"> id INT Marketable_securities DOUBLE Property_plant equip DOUBLE Other_noncurr_assets DOUBLE
Indexes

Total of assets under the Assets table. Inventory, Vendor, Accounts receivable, securities are under current assets table. Property plant equipment and other assets are under the non-current assets table.

9. Consolidated Cash Flow Table

Consolidated_Cash_flow	
id	INT
Cash_balance	DOUBLE
Cash_gen_operat_act	DOUBLE
Cash_used_inves_act	DOUBLE
Cash_used_fin_act	DOUBLE
Decrease_in_cash	DOUBLE
Restrict_cash_balance	DOUBLE
Financing_activities_id	INT
Investing_activity_id	INT
Operating_Activity_id	INT

Cash balance, cash used for operations, investment and other financial activities, decrease in case after expenses, restricted cash balance come under this table, along with foreign keys from connected tables.

10. Financing Activity Table

Financing_activities	
id	INT
Payment_taxes	DOUBLE
Payment_divident	DOUBLE
Repurchases_common	DOUBLE
Issuance_term_debt	DOUBLE
3 more...	
Indexes	

Dividend payments to shareholders, repurchases of stock and securities, tax payments, insurance term payments come under the financing activity table.

Set of 20 Complex Queries -

----- 1. consolidated cash flow with details and sums -----

```
select Consolidated_Cash_flow.Cash_balance,  
SUM(Financing_activities.Payment_taxes) as Fin_Act_Taxes,  
SUM(Financing_activities.Payment_divident) as  
Fin_Act_Divident,SUM(Financing_activities.Repurchases_commo  
n) as Fin_Act_Repurchase,  
SUM(Financing_activities.Issuance_term_debt) as  
Fin_Act_Term_debt,SUM(Financing_activities.Repayment_term_  
debt) as Fin_Act_Repayment_debt,  
SUM(Financing_activities.Commercial_paper) as  
Fin_Act_Commercial,SUM(Financing_activities.Other) as Other  
from Consolidated_Cash_flow INNER JOIN  
Financing_activities on  
Consolidated_Cash_flow.Financing_activities_id =  
Financing_activities_id  
group by Consolidated_Cash_flow.Cash_balance;
```

----- 2.company's liabilities-----

```
SELECT * FROM company
JOIN liabilities
ON company.liabilities_id = liabilities.id;
```

-----3.current and non current liabilities in one table-----

```
SELECT * FROM liabilities
JOIN current_liabilities
ON current_liabilities.id = liabilities.current_liabilities_id
JOIN non_current_liabilities
ON non_current_liabilities.id = liabilities.non_current_liabilities_id;
```

-----4.Number of sales with details-----

```
SELECT COUNT(*) AS nbr_of_sales, SUM(sales.net_sales) as
SUM_of_Netsales, SUM(sales.cost_of_sales) as Sum_of_Cost
FROM consolidated_operation
LEFT JOIN sales
ON consolidated_operation.sales_id = sales.id;
```

---5. current and non-current-assets-----

```
SELECT * FROM assets
INNER JOIN current_assests
ON assets.current_assests_id = current_assests.id
INNER JOIN non_current_assests
ON assets.non_current_assests_id = non_current_assests.id;
```

-----6. last current liabilities-----

```
SELECT * FROM liabilities
WHERE current_liabilities_id =ANY
(SELECT id FROM current_liabilities)
order by Current_Liabilities_id desc;
```

-----7. biggest net income-----

```
SELECT * FROM Consolidated_Cash_Flow
WHERE Operating_activity_id =ANY
(SELECT id FROM Operating_Activity
```

where Net_income = (select MAX(Net_income) from Operating_Activity));

-----8. biggest term debt----

```
SELECT * FROM Liabilities
WHERE Current_Liabilities_id = ANY
(SELECT id FROM Current_Liabilities
where Term_debt = (select MIN(Term_debt)from
Current_Liabilities));
```

-----9. Highest and lowest depreciation in operating activity----

```
SELECT * FROM Consolidated_Cash_flow
WHERE Operating_Activity_id =ANY (SELECT id FROM
Operating_Activity
where
Depreciation = (select MAX(Depreciation) from
Operating_Activity)
or
Depreciation = (select MIN(Depreciation) from
Operating_Activity));
```


-----10. Cash used in financing activities-----

```
SELECT Consolidated_Cash_flow.Cash_used_fin_act,
(Financing_activities.Payment_taxes+
Financing_activities.Payment_divident+
Financing_activities.Repurchases_common+
Financing_activities.issuance_term_debt+Financing_activities.Re
payment_term_debt+
Financing_activities.Commercial_paper+Financing_activities.Othe
r) as Grand_total_of_Cash_Used
FROM Consolidated_Cash_flow
INNER JOIN Financing_activities
ON Consolidated_Cash_flow.Financing_activities_id =
Financing_activities.id
GROUP BY Consolidated_Cash_flow.Cash_used_fin_act,
Financing_activities.Payment_taxes,
Financing_activities.Payment_divident,
Financing_activities.Repurchases_common,
Financing_activities.issuance_term_debt,
Financing_activities.Repayment_term_debt,
Financing_activities.Commercial_paper,Financing_activities.Other
;
```

-----11. Total Liabilities -----

```

SELECT Liabilities.Total_curr_liabilities,
SUM(Current_Liabilities.Account_payable) as Total_Payable,
SUM(Current_Liabilities.Other_curr_liabilities) as
Total_Other_current_Liabilities,
SUM(Current_Liabilities.Deferred_revenue) as
Total_Deferred_revenue,
SUM(Current_Liabilities.Commercial_paper) as
Total_Commercial_paper,
SUM(Current_Liabilities.Term_debt) as Total_term_debt FROM
Liabilities INNER JOIN
Current_Liabilities ON Liabilities.Current_Liabilities_id =
Current_Liabilities.id
GROUP BY Liabilities.Total_curr_liabilities;

```

----- 12. Highest expense in Administration -----

```

SELECT * FROM Consolidated_Operation
WHERE Operating_Expenses_id =ANY
(SELECT id FROM Operating_Expenses
where Admin_expense = (select MAX(Admin_expense) from
Operating_Expenses))

```

-----13. Total current assets -----

```
SELECT Assets.Total_current,  
SUM(Current_assests.Cash_equivalent) as  
Total_Cash_Equivalent,  
SUM(Current_assests.Marketable_securities) as  
Total Marketable_secu,  
SUM(Current_assests.accounts_receivable) as  
Total_Account_rec,  
SUM(Current_assests.Inventories) as Total_Inventories,  
SUM(Current_assests.Vendor) as Total_vendor_cost,  
SUM(Current_assests.Other_curr_assets) as Total_Other_cost  
FROM Assets INNER JOIN  
Current_assests ON Assets.Current_assests_id =  
Current_assests.id  
GROUP BY Assets.Total_current;
```

-- -----14. Lowest Net sales -----

```
SELECT * FROM Consolidated_Operation  
WHERE Sales_id = (SELECT id FROM Sales
```

where Net_Sales = (select MIN(Net_Sales) from Sales))

-- -----15. Gross Margin -----

```
SELECT Consolidated_Operation.Gross_Margin,  
SUM(Sales.Net_sales) as total_Net_Sales,  
SUM(Sales.Cost_Of_Sales) as Total_Cost  
FROM Consolidated_Operation INNER JOIN  
Sales ON Consolidated_Operation.Sales_id = Sales.id  
GROUP BY Consolidated_Operation.Gross_Margin
```

-- -----16. Fetch company's operations net income which are
audited after the year 2019 -----

```
select c.id,c.Name, co.net_income from company c  
inner join consolidated_operation co on  
c.consolidated_operation_id = co.id  
where c.year_of_audit>2019;
```

-----17. investing activities in the audit year 2021

```
select * from investing_activity
where id in
(select consolidated_cash_flow_investing_activity_id
from company
where year_of_audit = 2021);
```

-- -----18. financing activities in the audit year 2021 -----

```
select * from financing_activities
where id in
(select consolidated_cash_flow_financing_activities_id
from company where year_of_audit = 2016)
```

----- 19. Company whose current assets whose cash
équivalent is more 25000

```
select
ca.cash_equivalent,ca.marketable_securities,ca.accounts_reciev
able,
```

```
ca.inventories,ca.vendor,ca.other_curr_assets
from current_assests ca
Inner join
company c on
c.assets_current_assests_id = ca.id
where c.Name='Samsung';
```

----- 20. Fetch all companies whose current_liabilities 's
term debt is more than 10000 -----

```
select c.name from company c,
current_liabilities cl
where
cl.id = c.liabilities_current_liabilities_id
and
cl.term_debt<10000;
```

CONCLUSION

We got to learn about how an audit database looks for a technology
company that designs and manufactures laptops, phones, watches, TVs,

etc. We also came to know about their financial structure, information about their annual income, expenditure breakdown, and operating expenses. It was interesting to know the amount they spent on their Research and development as it is a crucial aspect of overall development. Seeing the market now, hopefully, they will make good use of their audit paper and learn and analyze their finances and plan to budget accordingly in the future.

References:

 [Q4FY17ConsolidatedFinancialStatements.pdf](#)

<https://www.apple.com/newsroom/pdfs/Q4-FY18-Consolidated-Financial-Statements.pdf>

<https://www.apple.com/newsroom/pdfs/Q4-FY18-Consolidated-Financial-Statements.pdf>

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