

Project Title: Zephyr Hardware Data Analytics

Business Problem Statements:

The key business issues identified that required a data-driven approach:

- Stagnating sales growth in European markets
- Increased manufacturing and inventory costs
- High customer churn in retail segment
- Ineffective marketing campaigns

The data analytics project aimed to get insights into these problems and devise data-backed strategies to address them.

Data Sources:

The key data sources used for analysis:

MySQL Databases:

- Sales transaction database
- Customer database
- Marketing events database
- Supply chain database

Data Integration:

The multiple data sources were integrated as follows:

1. Extracted data from MySQL databases
2. Structured Excel report data for sales insights
4. Loaded all datasets into centralized SQL Server database
5. Cleansed data for consistency, duplicates etc. using SQL
6. Structured the processed datasets optimized for analytics

Data Modelling:

The integrated datasets were modeled keeping in mind business KPIs and analysis objectives using Power BI:

Key Steps Performed:

- Defined table relationships
- Grouped data into dimensions like date, customer, product, location

- Built measures and calculated columns for essential metrics
- Organized visualizations by business functions like sales, finance etc.

Key Modelling Techniques Used:

- Star schema modelling
- Role playing dimensions like date table
- Data categorization and hierarchies
- Iterative modelling for business needs

Analysis and Dashboards:

The analysis focused on:

- Finding growth opportunities by region and segment
- Benchmarking operational KPIs to identify improvement areas
- Uncovering trends and patterns in business metrics

The analysis resulted in building the following Power BI dashboards aligned to business units:

ZEPHYR Hardware Analytics-360

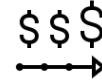


ZEPHYR



Home

Download user manual and get to know the key information of this tool.



Finance View

Get P & L statement for any customer / product / country or aggregation of the above over any time period and More.



Sales View

Analyze the performance of your customer(s) over key metrics like Net Sales, Gross Margin and view the same in profitability / Growth matrix.



Marketing View

Analyze the performance of your product(s) over key metrics like Net Sales, Gross Margin and view the same in profitability / Growth matrix.



Supply Chain View

Get Forecast Accuracy, Net Error and risk profile for product, segment, category, customer etc.



Help

Get your issues resolved by connecting to our support specialist.



2018

2019

2020

2021

2022_EST

Q1

Q2

Q3

Q4

YTD

YTG

region, market

All

customer

All

segment, pro...

All

Net Sales
\$823.8M✓
LY: \$268.0M
(+207.43%)

GM %
36.5%!
LY: 37.1% (-1.65%)

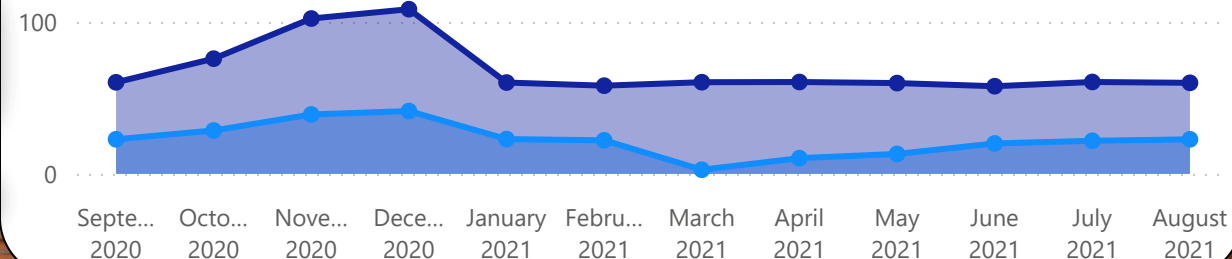
NP %
-6.6%!
LY: -0.9% (-676.38%)

Profit & Loss Statement

Line Item	2021	LY	Yoy	Yoy %
Gross Sales	1,664.64	535.95	1,128.69	210.60
Pre Invoice Deduction	392.50	124.69	267.81	214.77
Net Invoice Sales	1,272.13	411.25	860.88	209.33
- Post Discounts	281.64	95.85	185.79	193.84
- Post Deductions	166.65	47.43	119.22	251.38
Total Post Invoice Deduction	448.29	143.27	305.01	212.89
Net Sales	823.85	267.98	555.87	207.43
- Manufacturing Cost	497.78	160.30	337.48	210.53
- Freight Cost	22.05	7.16	14.89	207.98
- Other Cost	3.39	1.10	2.29	209.52
Total COGS	523.22	168.56	354.66	210.41
Gross Margin	300.63	99.42	201.21	202.37
Gross Margin %	36.49	37.10	-0.61	-1.65
GM / Unit	5.99	4.79	1.21	25.21
Operational Expense	355.28	101.71	253.57	249.30
Net Profit	-54.65	-2.29	-52.36	2,286.82
Net Profit %	-6.63	-0.85	-5.78	676.38

Net Sales Performance Over Time

● Last Year ● Current Year



Top / Bottom Products & Customers byNet Sales

segment	P & L Values	P & L Yoy Chg %
Desktop	46.43	4,791.34
Accessories	244.85	269.67
Notebook	266.49	208.45
Peripherals	166.51	174.64
Storage	54.42	97.48
Networking	45.16	72.26

region	P & L Values	P & L Yoy Chg %
LATAM	3.16	58.40
NA	177.94	186.03
EU	200.77	259.88
APAC	441.98	198.67



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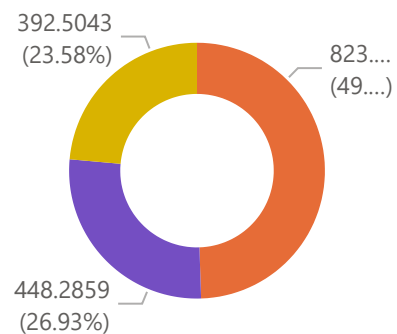
All

Sales Metrics by Segment, Category & Product

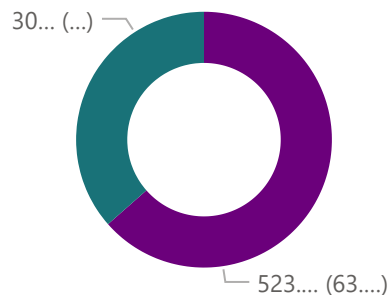
segment	NS \$	GM \$	GM %
+ Notebook	\$266.5M	\$97.1M	36.45%
+ Accessories	\$244.8M	\$89.3M	36.47%
+ Peripherals	\$166.5M	\$60.8M	36.52%
+ Storage	\$54.4M	\$20.0M	36.75%
+ Desktop	\$46.4M	\$16.8M	36.17%
+ Networking	\$45.2M	\$16.6M	36.75%
Total	\$823.8M	\$300.6M	36.49%

Conversion Funnel: Net Sales to Gross Margin

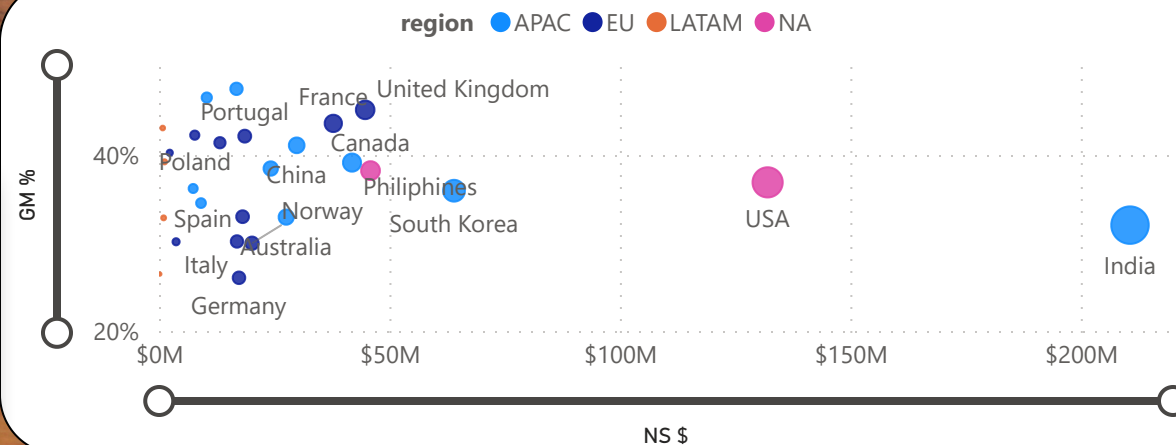
● Net Sales ● Total Post Invoi... ▶



● Total COGS ● Gross Margin



GM % / NS by Region & Market



Sales Metrics by Customers

customer	NS \$	GM \$	GM %
+ All-Out	\$1.1M	\$0.5M	47.53%
+ Electricalsquipo Stores	\$4.8M	\$2.2M	47.19%
+ Logic Stores	\$6.3M	\$3.0M	46.98%
+ Sorefoz	\$6.1M	\$2.7M	44.13%
+ AtliQ Exclusive	\$79.9M	\$34.9M	43.73%
+ Zone	\$6.9M	\$3.0M	43.55%
+ Insight	\$3.6M	\$1.5M	42.65%
+ Info Stores	\$2.4M	\$1.0M	42.43%
+ Flawless Stores	\$2.4M	\$1.0M	41.98%
+ Electricalsbea Stores	\$1.5M	\$0.6M	41.85%
+ Epic Stores	\$5.5M	\$2.3M	41.79%
+ Media Markt	\$6.9M	\$2.9M	41.65%
+ Electricalslance Stores	\$3.1M	\$1.3M	41.60%
+ Power	\$2.6M	\$1.1M	41.40%
+ Coolblue	\$5.6M	\$2.3M	41.26%
Total	\$823.8M	\$300.6M	36.49%



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region, market

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segment, pro...

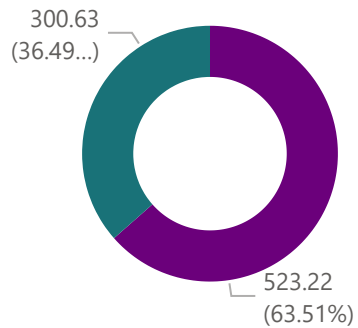
All

Key Metrics by Region & Market

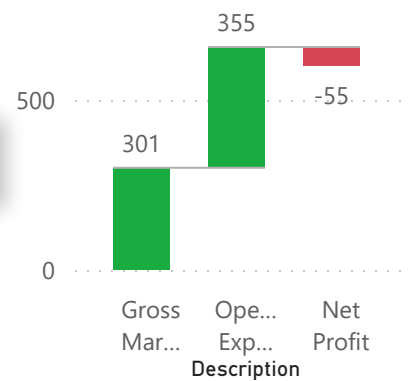
region	NS \$	GM \$	GM %	Net Profit \$	Net Profit %
APAC	\$442.0M	\$156.2M	35.34%	-33.33M	-7.54%
Australia	\$27.6M	\$9.1M	32.94%	-0.74M	-2.67%
Bangladesh	\$9.1M	\$3.1M	34.53%	0.28M	3.05%
China	\$29.9M	\$12.3M	41.10%	0.57M	1.91%
India	\$210.7M	\$67.5M	32.03%	-51.93M	-24.65%
Indonesia	\$24.2M	\$9.3M	38.46%	0.27M	1.11%
Japan	\$10.4M	\$4.8M	46.52%	1.38M	13.32%
Newzealand	\$16.8M	\$8.0M	47.52%	3.97M	23.59%
Pakistan	\$7.4M	\$2.7M	36.19%	-0.27M	-3.63%
Total	\$823.8M	\$300.6M	36.49%	-54.65M	-6.63%

Conversion Funnel: COGS to Net Profit

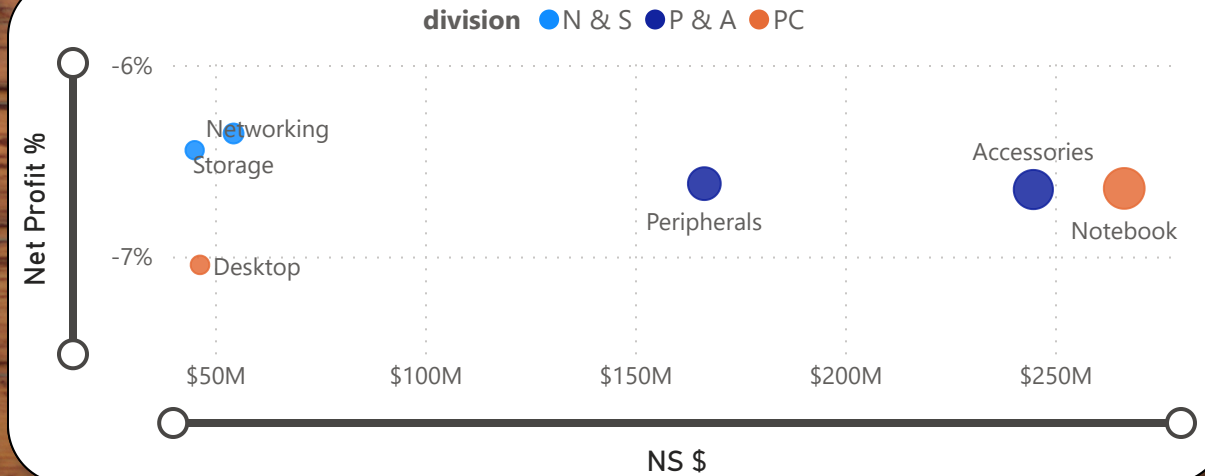
Total COGS Gross Margin



Increase Decrease



GM % / NS by Segment, Category & Product



Key Metrics by Segment, Category & Product

segment	NS \$	GM \$	GM %	Net Profit \$	Net Profit %
Storage	\$54.4M	\$20.0M	36.75%	-3.46M	-6.36%
Networking	\$45.2M	\$16.6M	36.75%	-2.91M	-6.44%
Peripherals	\$166.5M	\$60.8M	36.52%	-11.02M	-6.62%
Accessories	\$244.8M	\$89.3M	36.47%	-16.28M	-6.65%
Notebook	\$266.5M	\$97.1M	36.45%	-17.71M	-6.64%
Desktop	\$46.4M	\$16.8M	36.17%	-3.27M	-7.04%
Total	\$823.8M	\$300.6M	36.49%	-54.65M	-6.63%



2018

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2022_EST

region, market

All

customer

All

segment, product

All

Forecast Accuracy %

80.21%✓

LY: 72.99% (+9.88%)

Net Error

-751.7K✓

LY: 491.6K (-252.91%)

ABS Error

9780.7K!

LY: 5743.2K (+70.3%)



Key Metrics by Customers

customer	Forecast Accuracy %	FAccuracy % LY	Net Error	Net Error %	Risk
AtliQ Exclusive	71.69%	56.65%	-189086	-4.59%	Out of Stock
Atliq e Store	74.59%	55.24%	-94643	-2.30%	Out of Stock
Radio Popular	56.74%	50.36%	72810	15.52%	Excess Inventory
Mbit	62.34%	49.13%	51220	14.05%	Excess Inventory
Expert	60.67%	48.84%	69286	11.97%	Excess Inventory
Amazon	74.54%	48.43%	-155116	-2.35%	Out of Stock
UniEuro	58.22%	45.77%	173583	23.54%	Excess Inventory
Elkjøp	53.55%	45.00%	-39201	-10.87%	Out of Stock
Nomad Stores	50.59%	43.96%	30588	8.73%	Excess Inventory
Media Markt	53.40%	43.66%	-30036	-8.52%	Out of Stock
Argos (Sainsbury's)	56.08%	43.27%	8033	4.14%	Excess Inventory
Coolblue	52.95%	43.16%	116840	26.87%	Excess Inventory
Surface Stores	49.59%	42.94%	11423	6.45%	Excess Inventory
Electricalsocity	50.35%	42.87%	9221	0.91%	Excess Inventory
Premium Stores	55.64%	42.85%	75214	19.87%	Excess Inventory
Relief	52.04%	42.81%	44941	11.74%	Excess Inventory
Euronics	60.79%	42.25%	58391	15.34%	Excess Inventory
Electricalsbea Stores	51.56%	41.94%	-10310	-13.57%	Out of Stock
Electricalslance	54.69%	41.81%	-4143	-2.48%	Out of Stock

Q1

Q2

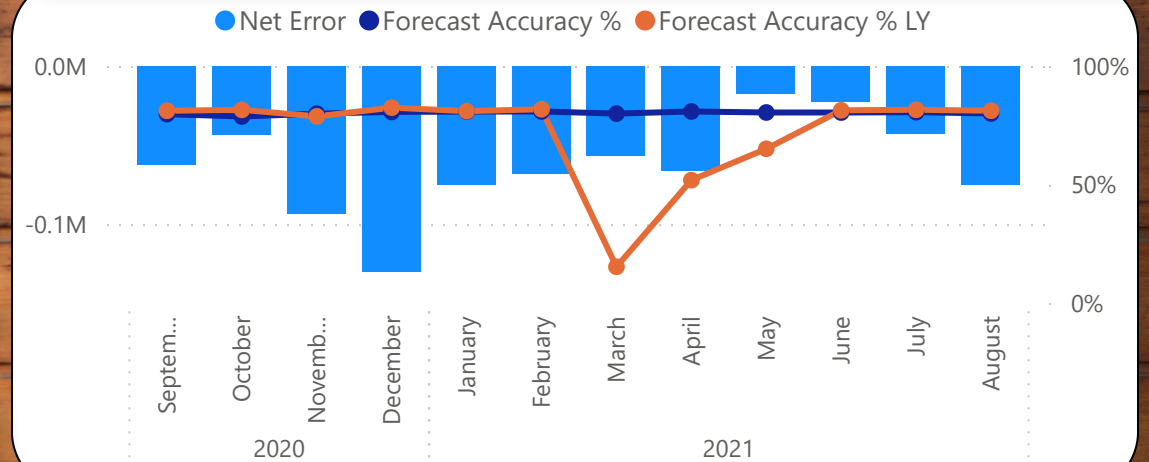
Q3

Q4

YTD

YTG

Forecast Accuracy & Net Error Trend



Key Metrics by Segment, Category & Product

segment	Forecast Accuracy %	FAccuracy % LY	Net Error	Net Error %
Accessories	77.66%	71.42%	-2133183	-7.06%
Desktop	84.37%	70.07%	16205	11.22%
Networking	90.40%	52.50%	227056	8.17%
Notebook	79.99%	76.65%	-51254	-3.96%
Peripherals	83.23%	75.18%	-318194	-5.89%
Storage	83.54%	81.01%	1507656	15.77%
Total	80.21%	72.99%	-751714	-1.52%