DASHBOARD DOCUMENTATION

Bike Sales Analysis Dashboard

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Power BI Desktop · DAX

$95.2M	$42.1M	113K	6
total revenue, 2011 to 2016	profit, a 44% margin	orders	years of monthly data

> A practice dashboard built on a training dataset. It is not client data. Figures are quoted as they appear on the report.

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01 THE STORY BEHIND THE REPORT

> *Imagine you own a bicycle company that sells in five countries. Your accountant tells you the year's total. You still do not know which country carries the business, which bike earns the money, or which products are dead weight.*
>
> *This report breaks one big number into the pieces a manager can act on.*

A bicycle company wants to know where its revenue and profit come from, which customers and products carry them, and how sales have moved over six years.

02 WORDS USED IN THIS DOCUMENT

Word	What it means
KPI	Key performance indicator: one number that says how the business is doing, such as total sales or churn rate.
DAX	The formula language inside Power BI. A measure written in DAX recalculates itself whenever a filter changes.
Profit margin	Profit divided by revenue, shown as a percentage. A 44% margin means 44 of every 100 units of sales is left after costs.
Month on month	This month compared with the month before it.
Revenue	Money received from sales before costs.
Cost	What it cost the company to make or buy what it sold.
Sub-category	A product family inside a category, such as Road Bikes inside Bikes.
Age group	Customers grouped as Youth, Young Adult, Adult or Senior.

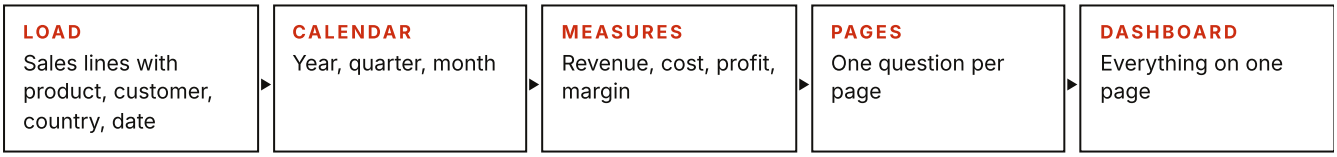
03 WHAT THIS REPORT IS

Item	Detail
Author	Temidayo Sunday Alade
Tool	Power BI Desktop
Period	2011 to 2016, month by month
Scale	$95,176,318 revenue, 113K orders, about 1 million units
Pages	Cover, KPIs, countries, customers, sales trend, top and bottom products, costs, month-on-month variance, profit trend, date tables, full dashboard

04 THE QUESTIONS THE REPORT ANSWERS

Question	Where it is answered
How much did we make, and what did it cost?	KPI page: revenue, profit, cost, margin, orders, units
Which countries carry the business?	Top 5 countries by revenue and by profit
Which customers buy most?	Revenue by age group and gender
How have sales moved over the years?	Sales trend and total revenue by year
Which products and sub-categories earn the most profit, and the least?	Top 5 and bottom 5 pages
How do costs behave?	Cost by year, month and quarter
How volatile is each month?	Month-to-month variance table

05 HOW IT WAS BUILT



1. Load the sales lines, each carrying product, sub-category, customer age group and gender, country, date, cost and revenue.
2. Add a calendar so that every figure can be seen by year, quarter and month, and by year-to-date, quarter-to-date and month-to-date.
3. Write the measures: total revenue, total cost, total profit, profit margin, number of orders, unit quantity and average profit per order.
4. Add a month-on-month measure that compares each month with the month before it, as both a percentage and a value.
5. Build one page per question, each with an insight and a recommendation written beside the chart, then assemble a single dashboard page.

06 HOW THE NUMBERS ARE WORKED OUT

THE CALCULATIONS BEHIND THE KPI CARDS

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profit           =  revenue − cost
profit margin    =  profit ÷ revenue
average profit   =  profit ÷ number of orders
month on month %  =  (this month − last month) ÷ last month
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Card	Working	Result
Cost	$95.18M revenue − $42.13M profit	$53.05M
Profit margin	$42.13M ÷ $95.18M	44.3%
Average profit per order	$42,126,410 ÷ about 113,000 orders	$372.68

An everyday example. In December 2011 revenue was $1,279,353 and in November it was $650,018. The change is 1,279,353 − 650,018 = 629,335, and 629,335 ÷ 650,018 = 96.8 per cent. The report shows +96.82%, a Christmas peak that then falls back by 40.7 per cent in January.

07 PAGE BY PAGE

Page	What it shows	Insight and recommendation on the page
KPIs	$95M revenue, $42M profit, $53M cost, 44% margin, 113K orders, 1M units	Run advertising and discounts, and raise awareness in more countries and states.
Countries	United States $31M revenue and $13.9M profit; Australia $25M and $10.9M; UK, Germany, France next	Research why the lowest countries sell least, and spend more on publicity there.
Customers	Adults give most revenue; Senior gives least	Aim adverts at senior customers; run school competitions and quizzes to build affinity with students.
Trend	Revenue by month and year, and by year	Plan around the yearly peak.
Top five	Road-150 Red 48 earns $14.2M; Road Bikes $14.2M and Mountain Bikes $10.7M lead	Keep the best sellers in stock everywhere, including low-demand areas.
Bottom five	Socks ($107.7K), Caps, Cleaners, Bike Stands and Bike Racks are the lowest sub-categories	Run promotions on low-profit sub-categories and keep them available.
Costs	Cost by year, month and quarter	Watch the quarters where cost rises ahead of revenue.
Variance	Month-on-month percentage and change in value	Use it to spot unusual swings.

08 WHAT IT FOUND

Two countries do most of the work. The United States earns $31M of revenue and $13.9M of profit, and Australia follows with $25M and $10.9M. The rest of the top five, the United Kingdom, Germany and France, each sit far below them.

Bikes are the business. The two best products by profit are bikes, a Road-150 model at $14.2M and a Mountain-100 at $10.7M, with a helmet third at $4.7M. At the other end, socks, caps, bottles and cleaners together return less than the single best product by a very wide margin.

Adults carry revenue. The adult male and female groups together contribute far more than any other age group, and the senior group contributes very little, which the report treats as an untapped audience.

09 WHAT I RECOMMENDED

- Run advertising and awareness campaigns, with discounts on purchases, and widen publicity to more countries and states.
- Investigate the constraints in the lowest-earning countries, and put more of the budget into promotion there.
- Target senior customers with advertising, and build links with students through competitions and quizzes.
- Keep best sellers available in every region, and promote the low-profit sub-categories instead of dropping them.

10 NOTES ON THE FIGURES AND LIMITATIONS

Every figure in this document is taken from the report page it describes. These notes say how to read the figures that need care, and what the data cannot show.

- **Reading the margin.** Revenue of $95.18M less cost of $53.05M leaves $42.13M of profit. Cost is the larger share, 56 per cent of revenue, and profit is the other 44 per cent: a healthy margin, not a loss.
- **What the country pages do not show.** They rank countries by revenue and profit but not by margin, so they cannot say whether extra spending in the weaker markets would pay back. A margin by country is the next view to add.
- **Associations.** The age and gender pages show who buys, not why. They point to audiences worth testing, not to proven causes.

11 OUTPUTS

A 12-page Power BI report, exported to PDF.

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