MODULE 6
PBI: SIMPLE VISUAL ANALYTICS QUIZ

THEME DESCRIPTION

Students are able to represent Visual Analysis as a way to fulfill the principles of good Data Science, who can convey it to the parties must consider presenting the results and must also be able to explain and justify analytical processes and results

COURSE SUB-LEARNING OUTCOMES (SUB-CLO)

CLO-4 Sub-CLO-6: Student are able to manage and present design, implementation, and and see which applications are selected to be implemented in the business to optimize their performance. – C4.

PRACTICUM SUPPORT

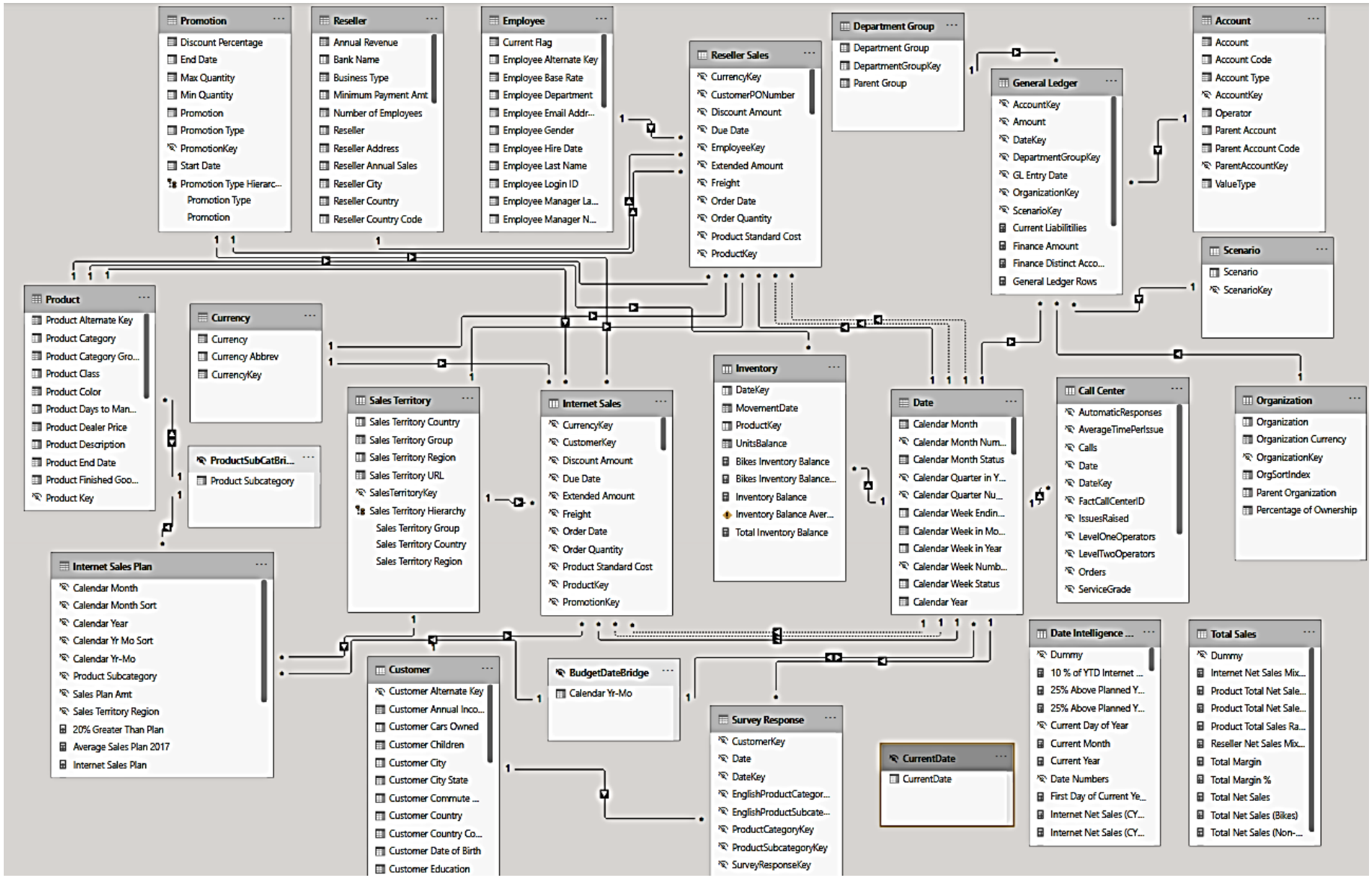
a. Windows Operating System
b. Java Standard Edition JRE and JDK version 1.8 or above *(installed)*
c. Microsoft Power BI version (min.) 2.86.727.0 64-bit (*installed)*

PRACTICUM STEPS

1. Your job as a Data Scientist is to convey the results of an analytical process carried out from a sales Data Warehouse.
2. The results of the analytical process that you create are loaded with several visualization techniques such as: different parameter settings, different computational methods, different data transformations, feature selection, accurate data distribution/representation, and other things needed.
3. Keep in mind that, the application of Visual Analysis is a visual analytic process involving human interpretation of the visual representation of the output data or model and making decisions about the next analytical step.
4. As a guide to represent it well, use an interactive page like a homepage that contains a menu of executive information that you will convey.

5. Data Source used

Make sure you use the sales data warehouse which consists of 21 related tables and 3 free tables downloaded from e-Learning week#6 (file 6.Data IS-529 Lab PBI SIMPLE VISUAL ANALYTICS QUIZ.pbix) with the relationship diagram as follows:



6. Using the data sources (input) that are already available, represent the results of the analytics that you created with the minimum criteria of containing some of the following executive information:
(Presentation of more than the minimum criteria will get added value)

a. Multimedia Nusantara business department, managing retail sales in many countries, for that you will provide executive information on sales and profit percentage of products or services sold.

b. Because the retail business of the Multimedia Nusantara business department is spread across several countries, please inform the distribution of sales and the percentage of profits from products sold in at least 4 (four countries) in the form of a homepage as shown in Figure 7.1 Homepage.

c. The executive information that you create is an integrated page/dashboard that contains comparative performance from:
   (1) **Internet channel net sales** with Internet Net Sales (CY YTD) indicator from Date Intelligence Metrics table, trend from Yr-Mo Calendar (Date table) and target Internet Net Sales Plan (CY YTD) from Date Intelligence Metrics table.
   Filters consist of top to bottom order: Calendar Yr-Mo, Internet Net Sales (CY YTD) and Internet Net Sales Plan (CY YTD).
   (2) **Internet channel monthly sales** with Internet Net Sales indicators (Internet Sales table, trend from Yr-Mo Calendar (Date table) and Internet Sales Plan targets from Internet Sales table.
   Filters consist of (top to bottom): Calendar Yr-Mo, Internet Net Sales and Internet Net Sales Plan.
   (3) **Internet channel profit percentage** with Internet Sales Margin % indicator (Internet Sales table), trend from Calendar Yr-Mo (Date table) and target Internet Sales Margin % Average of Trailing 6 from Internet Sales table.
   Filters consist of top to bottom order: Calendar Yr-Mo, Internet Sales Margin % and Internet Sales Margin % Average of Trailing 6.
   (4) **Total internet channel calendar/fiscal year** sales with Total Net Sales (CY YTD) indicator from Date Intelligence Metrics table, trend from Calendar Yr-Mo (Date table) and Total Net Sales target (PY YTD) from Date Intelligence Metrics.
   Filters consist of top to bottom order: Calendar Yr-Mo, Total Net Sales (CY YTD) and Total Net Sales (PY YTD).
   (5) **Reseller channel monthly sales** with Reseller Net Sales indicator (Reseller Sales table), trend from Calendar Yr-Mo (Date table) and target Reseller Sales Average of Trailing 6 Months from Reseller Sales table.
   Filters consist of top to bottom order: Calendar Yr-Mo, Internet Net Sales and Reseller Sales Average of Trailing 6 Months.
   (6) **Reseller channel profit percentage** with Reseller Margin % indicator (Reseller Sales table, trend from Calendar Yr-Mo (Date table) and target Reseller Sales Average Margin % of Trailing 6 from Reseller Sales table.
   Filters consist of top to bottom order: Calendar Yr-Mo, Reseller Margin % and Reseller Sales Average Margin % of Trailing 6.
      - The display form for numbers **6.C.(1) to (6) above uses KPI visualization**
      - The output form number 6.C.(1) to (6) is in accordance with **Figure 7.2 KPI**

(7) **The sales comparison table per product category** is in the form of a table visualization with an order of values consisting of:

- Product Category (Product table),
- Internet Net Sales (Internet Sales table),
- Reseller Net Sales (Reseller Sales table),
- Internet Sales Margin % (Internet Sales table),
- Reseller Margin % (Reseller Sales table),
- Internet Sales Customer Count (Internet Sales table).

- *Filters consist of top to bottom order: Internet Net Sales, Internet Sales Customer Count , Internet Sales Margin % , Product Category, Reseller Margin % and Reseller Net Sales.*
- *The external form of number **6.c(7) above is in accordance with Figure 7.3 Comparison**.*

(8) **Internet channel total calendar/fiscal year sales per Customer demographic**

With Location from Customer State Province (Customer table) and color saturation from Internet Net Sales (CY YTD) Table of Date Intelligence Metrics

- *Filters consist of top to bottom order: Customer State Province and Internet Net Sales (CY YTD).*
- *The external form of number **6.c(8) above is in accordance with Figure 7.4 Demographics**.*

☛ The output of the dashboard page in number 6 above uses:

- Filter on this page consisting of (top to bottom order): Calendar Year Status (Date table), Product Category (Product table) and Sales Territory Country (Sales Territory table) according to the contents of the country page you are targeting.
- Filters on all pages contains the Calendar Year Status from the Date table.

☛ Each dashboard page for each country must have a back to page button main/ homepage.

☛ The output of the dashboard **page in number 6 must be in accordance with Figure 7.5 Dashboard.**

☛ The output of the dashboard page in number 6 above will get added value if it contains **more than** the minimum **visualization in numbers 6.c(1) to (8) as shown in Figure 7.6 Completed.**

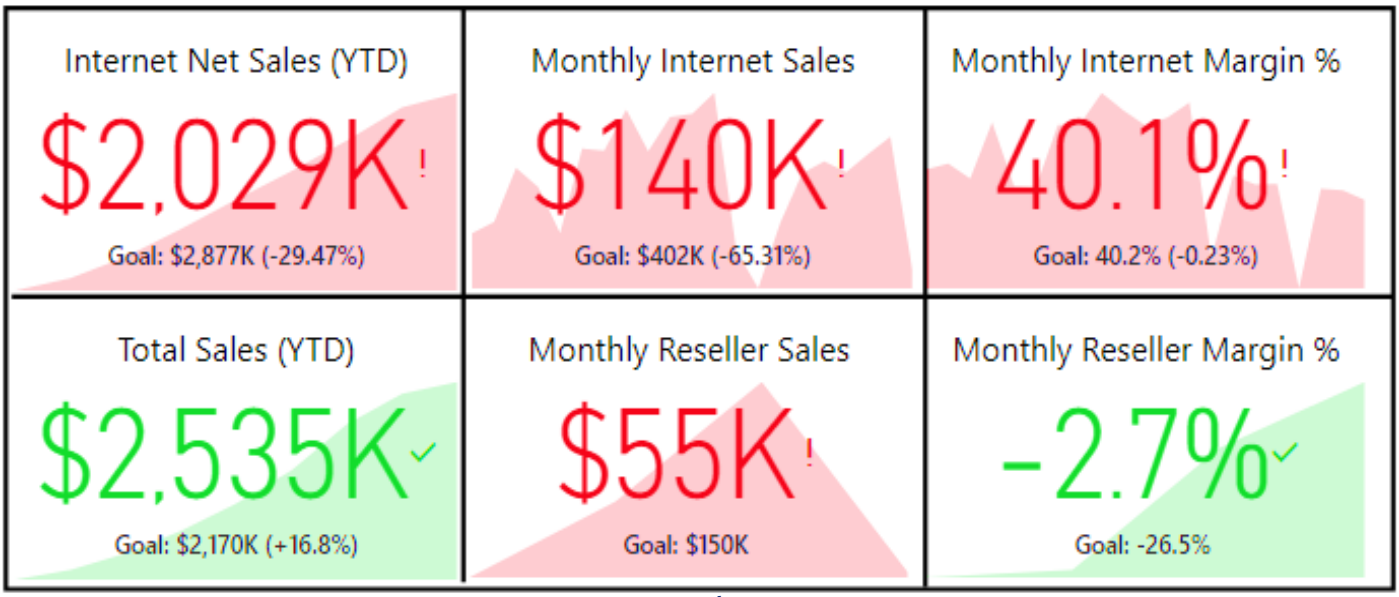
❖ Save the entire work page that you created with the file naming format : 6. IA IS-529 Lab W06 PBI SIMPLE VISUAL ANALYTICS QUIZ yourName- NIM.pbix and collect it through e-Learning IS-529 Lab Week #6.

RESULTS / OUTCOMES

1

Gambar 7.1 Homepage

2



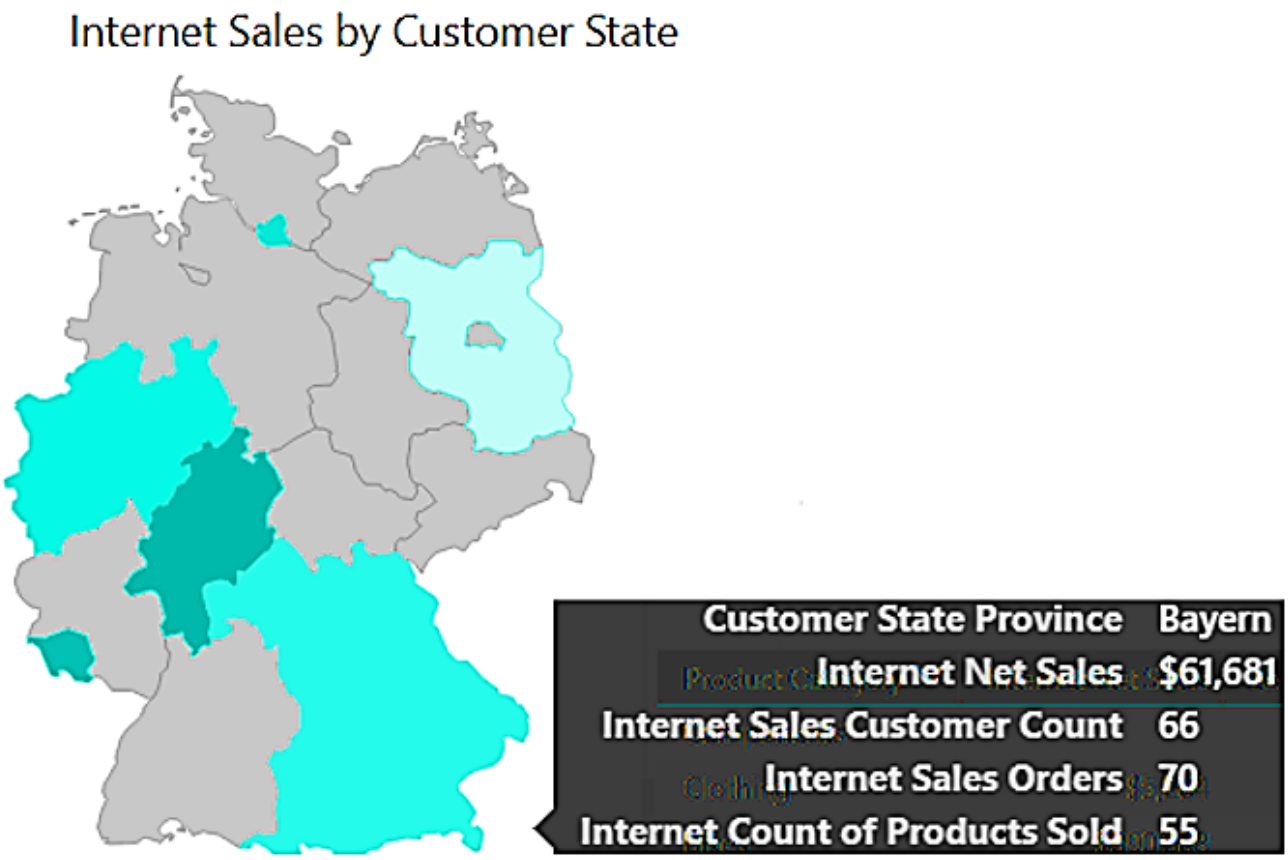
Gambar 7.2 KPI

3

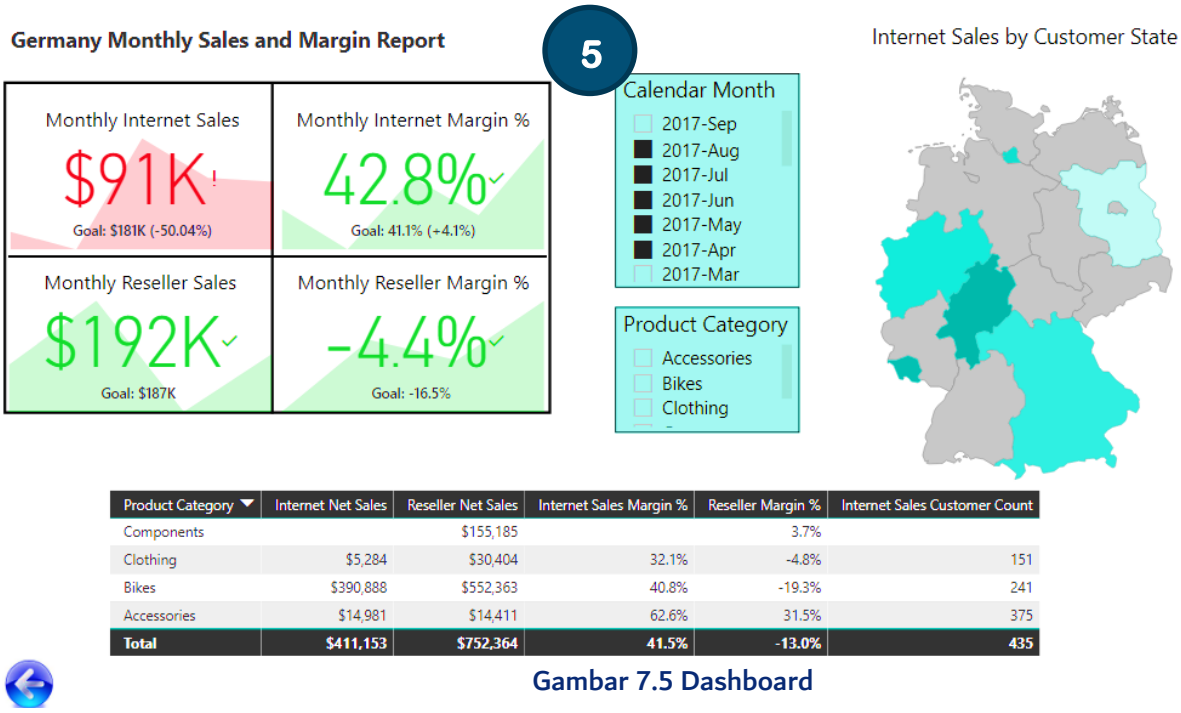
Product Category	Internet Net Sales	Reseller Net Sales	Internet Sales Margin %	Reseller Margin %	Internet Sales Customer Count
Components		$155,185		3.7%	
Clothing	$5,284	$30,404	32.1%	-4.8%	151
Bikes	$390,888	$552,363	40.8%	-19.3%	241
Accessories	$14,981	$14,411	62.6%	31.5%	375
Total	**$411,153**	**$752,364**	**41.5%**	**-13.0%**	**435**

Gambar 7.3 Comparison

4



Gambar 7.4 Demographics



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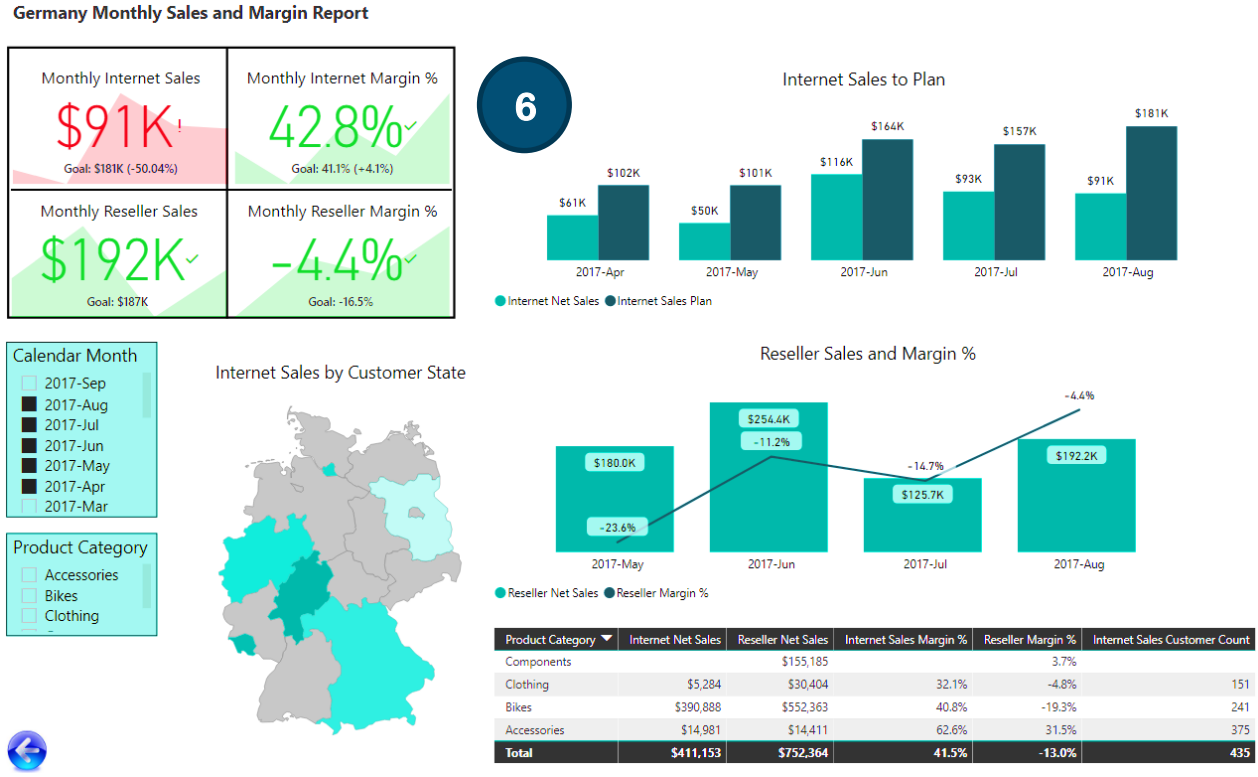
Gambar 7.5 Dashboard



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Gambar 7.6 Completed

REFERENCE

(1) https://docs.microsoft.com/en-us/power-bi/
(2) https://community.powerbi.com/
(3) Adam Aspin. 2018. Pro Power BI Desktop. Apress Media, LLC, New York, NY 10004-1562. USA
(4) Brett Powell. 2017. Microsoft Power BI Cookbook. Packt Publishing Ltd., Livery Place 35, Livery Street, Birmingham, B3 2PB, UK.

The End