Sales Performance Analysis

Business Intelligence Analyst
Project Based Internship Program

Presented by
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Rakamin Academy X **Bank Muamalat**

OUTLINE

1. Define primary key on 4 dataset
2. Define the relationship
3. Create new table : transaction detail
4. Create dashboard
5. Analyse the result

TASK 1

Primary Key on 4 Sales Dataset

Customer Dataset

CustomerID	FirstName	LastName	CustomerEmail	CustomerPho	CustomerAddress	CustomerCity	CustomerSta	CustomerZip
1	Grazia	Rasmus	grasmusas@i2i.jp#n	(202) 577-2595	628 Buhler Junction	Washington	District of Columb	20,029
2	Bunny	Trevan	btrevanmj@wordpre	917-903-2827	52 Cascade Drive	Jamaica	New York	11,436
3	Tracie	Grayston	tgrayston7k@pages	404-868-2391	672 Comanche Way	Atlanta	Georgia	30,343
4	Amerigo	Garrelts	agarrelts6e@oaic.gc	415-190-3290	8252 Village Green Hill	San Francisco	California	94,177
5	Shea	Stronghill	sstronghillc1@goog	432-775-7828	542 3rd Point	Midland	Texas	79,705
6	Geoffry	Bonde	gbonde90@vimeo.c	415-176-9919	781 Larry Place	San Francisco	California	94,159
7	Noelle	Carlile	ncarlile37@mit.edu#	405-745-9826	539 Crowley Parkway	Oklahoma City	Oklahoma	73,114
8	Binny	Whetson	bwhetsonio@amazc	585-968-0566	579 Sugar Circle	Rochester	New York	14,619
9	Curran	MacMichael	cmacmichael5y@bu	520-968-8763	4949 Hauk Road	Tucson	Arizona	85,705
10	Andy	Woodruff	awoodruffo@techcr	315-377-2198	8278 Scott Terrace	Rochester	New York	14,614
11	Darla	Hassen	dhassencj@hp.com#	585-418-2593	6900 Birchwood Center	Rochester	New York	14,604
12	Gerard	Witherdon	gwitherdon8m@ow	405-794-2184	27 Golf View Parkway	Norman	Oklahoma	73,071
13	Faber	Boosey	fbooseyjv@chicago	804-270-9294	925 5th Hill	Richmond	Virginia	23,237
14	Jorgan	Gregh	jgreghik@quantcast	727-518-4607	65 Commercial Terrace	Tampa	Florida	33,625
15	Davidson	Cramphorn	dcramphornf7@disc	754-372-3175	9587 Crescent Oaks Jur	Fort Lauderdale	Florida	33,355

Primary key

Product Category Dataset

CategoryID	CategoryName	CategoryAbbreviation
1	Blueprints	BP
2	Drone Kits	DK
3	Drones	DS
4	eBooks	EB
5	Robot Kits	RK
6	Robots	RS
7	Training Videos	TV

Primary key

Orders Dataset

	123 OrderID ▼	ABC Date ▼	123 CustomerID ▼	ABC ProdNumber ▼	123 Quantity ▼
1	1	01/01/2020	1,866	EB514	2
2	2	01/01/2020	1,567	RS706	3
3	3	01/01/2020	2,064	TV804	6
4	4	01/01/2020	287	DK203	1
5	5	01/01/2020	422	EB517	5
6	6	01/01/2020	954	EB519	5
7	7	02/01/2020	726	RK604	2
8	8	02/01/2020	1,740	TV810	1
9	9	02/01/2020	1,652	TV804	2
10	10	02/01/2020	1,431	DS304	2
11	11	02/01/2020	270	RK604	2
12	12	02/01/2020	815	DK201	5
13	13	02/01/2020	157	EB508	3
14	14	02/01/2020	179	BP107	2
15	15	02/01/2020	832	RK605	2

Primary key

Products Dataset

	ABC ProdNumber ▼	ABC ProdName ▼	123 Category ▼	ABC Price ▼
1	BP101	All Eyes Drone Blueprint	1	9,99
2	BP102	Bsquare Robot Blueprint	1	8,99
3	BP104	Cat Robot Blueprint	1	4,99
4	BP105	Creature Robot Arms Blueprint	1	12,00
5	BP106	Hexacopter Drone Blueprint	1	8,99
6	BP107	Ladybug Robot Blueprint	1	12,00
7	BP108	Panda Robot Blueprint	1	7,99
8	BP109	QuadroCopter Blueprint	1	10,99
9	BP110	Sleepy Eye Blueprint	1	11,99
10	BP111	Upside Down Robot Blueprint	1	12,00
11	DK201	BYOD-100	2	54,00
12	DK202	BYOD-200	2	58,95
13	DK203	BYOD-220	2	69,00
14	DK204	BYOD-300	2	89,00

Primary key

TASK 2

Relationship of the 4 tables
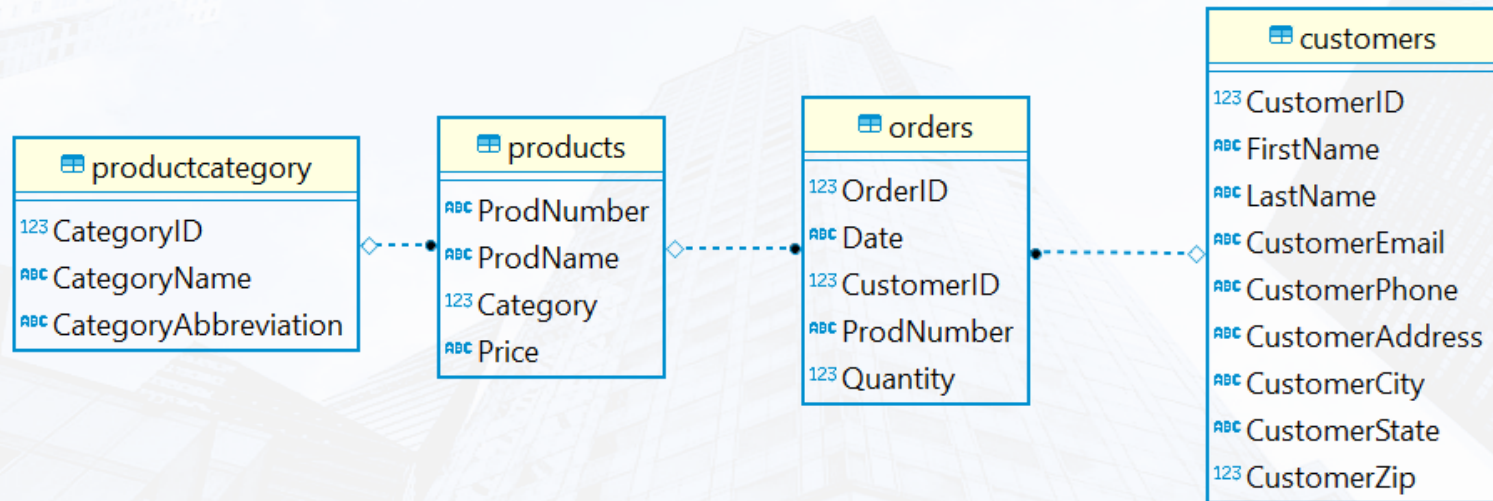
| Customer | ├———○< | Orders | one-to-many |

| Orders | >├——├< | Products | many-to-many |

| Product Category | ├——< | Products | one-to-many |

ERD

TASK 3

Create new table

	order_date	category_name	product_name	product_price	order_qty	total_sale	cust_email	cust_city
1	01/01/2020	eBooks	Polar Robots	23.99	2	47.98	fvaslerqt@comsenz.	Jackson
2	01/01/2020	Robots	RWW-75 Robot	883	3	2,649	tmckernot@tinyurl.c	Katy
3	01/01/2020	Training Videos	Drone Video Techniqu	37.99	6	227.94	gstiggersdd@eventk	Saint Petersburg
4	01/01/2020	Drone Kits	BYOD-220	69	1	69	edew@nba.com#ma	Honolulu
5	01/01/2020	eBooks	SCARA Robots	19.5	5	97.5	llespercx@com.comi	Des Moines
6	01/01/2020	eBooks	Spherical Robots	16.75	5	83.75	lfromonte9@de.vu#	Birmingham
7	01/01/2021	eBooks	Delivery Drones	14.99	4	59.96	stunnowdb@soup.ic	Boston
8	01/01/2021	eBooks	Multi Rotor Drones	24.95	5	124.75	cthrelfallih@loc.gov#	Irvine
9	01/01/2021	Drones	DC-304 Drone	395	2	790	lgearem6@weather.c	Killeen

```sql
with products_cte as (
select p.ProdNumber,
       p.ProdName,
       p.Category,
       p2.CategoryName,
       p.Price
from products p
left join productcategory p2
on p.Category = p2.CategoryID
)

select o.`Date` as order_date,
       pc.CategoryName as category_name,
       pc.ProdName as product_name,
       pc.Price as product_price,
       o.Quantity as order_qty,
       pc.Price * o.Quantity as total_sales,
       c.CustomerEmail as cust_email,
       c.CustomerCity as cust_city
from orders o
left join products_cte pc
on o.ProdNumber = pc.ProdNumber
left join customers c
on o.CustomerID = c.CustomerID
order by 1
```

TASK 4
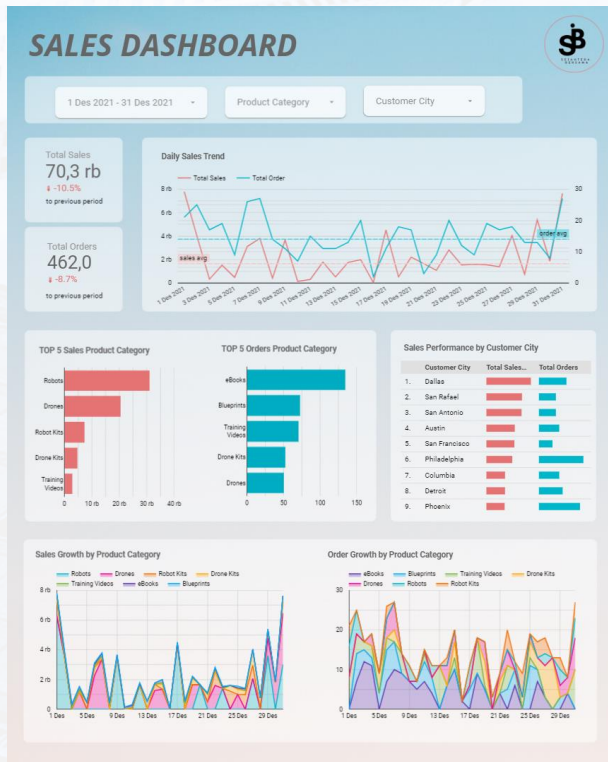
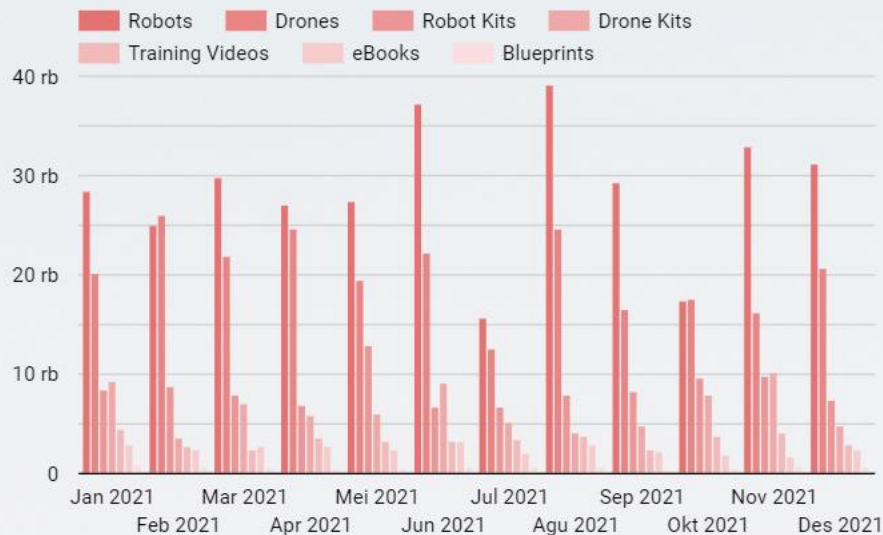Create dashboard using LookerStudio
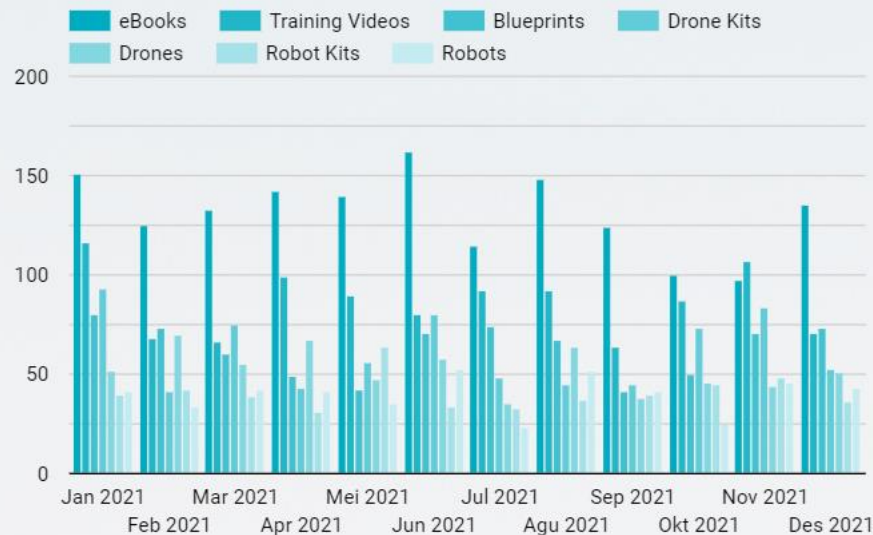
See dashboard result here

Monthly Sales Trend

- It can be seen that there are fluctuations in sales for each product every month.
- Further analysis is needed to see seasonal patterns or trends.
- Observe low sales months and consider offering discounts or promotions to encourage sales.

Sales Growth by Product Category

Legend: Robots, Drones, Robot Kits, Drone Kits, Training Videos, eBooks, Blueprints

Order Growth by Product Category

Legend: eBooks, Training Videos, Blueprints, Drone Kits, Drones, Robot Kits, Robots

- **Robots** and **Drones** show relatively high sales compared to other categories. Special offers, bundling or loyalty programs can be implemented to further increase sales in this category.
- Promote more **eBooks** products because they have high total orders, such as bundling packages with other categories

- **eBooks** consistently have relatively high order compared to other products. Can be considered to increase marketing or introduce new variants.
- Even though **Training Videos** is not the most buy product, there has been an increase in order in certain months. Consider doing promotions or bundling with other products.
- Bundling several products at discount prices. Example: Drone Kits with Training Videos
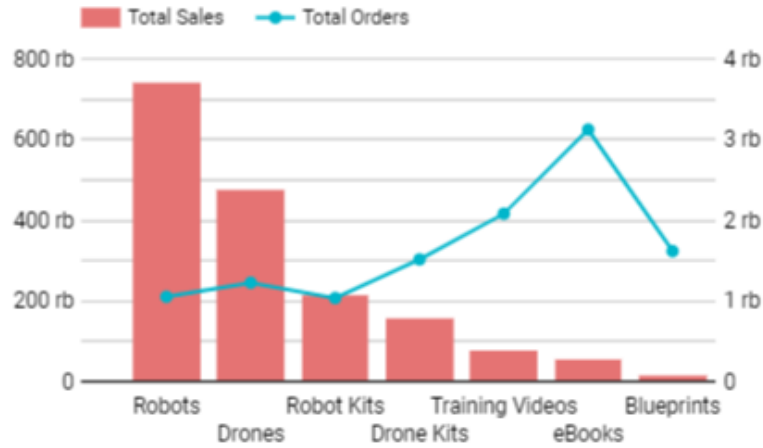
Pertimbangkan untuk melakukan tes harga (A/B testing) untuk menemukan titik harga optimal yang meningkatkan penjualan sambil memaksimalkan keuntungan.

TASK 5
Dashboard Analysis – December 2021

1. Optimize Products with High Margins: The Robots category has the highest sales per order and can be a major focus to optimize as it may provide good profit margins.
2. Optimize Sales Volume: Products like eBooks have high order volumes but low average sales. There may be potential for increasing prices or bundling with other products to increase total sales.
3. Study Products with High Order Volume but Low Sales: Products such as eBooks, Blueprints and Training Videos have many orders but relatively low sales. Further analysis can determine whether prices need to be increased, or there is an opportunity for bundling with other products.
4. Further Analysis: Before taking a decision, further analysis of production costs, profit margins and market demand for each product category will help understand the bigger picture.

Conclusion

To increase sales, focus on high-margin products such as Robots and consider strategies for products with high order volume but low sales such as eBooks and Blueprints.

Tools Used

DBeaver MySQL Looker Studio

See dashboard here
See github here
See video here

Thank You

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