

UrbanCart Retail Shop Analytics

Data-Driven Insights with PostgreSQL
and Supabase



Overview: This presentation highlights how UrbanCart uses data analytics with PostgreSQL to boost revenue, optimize product bundling, enhance customer insights, and improve inventory management, driving business growth.

Objective:

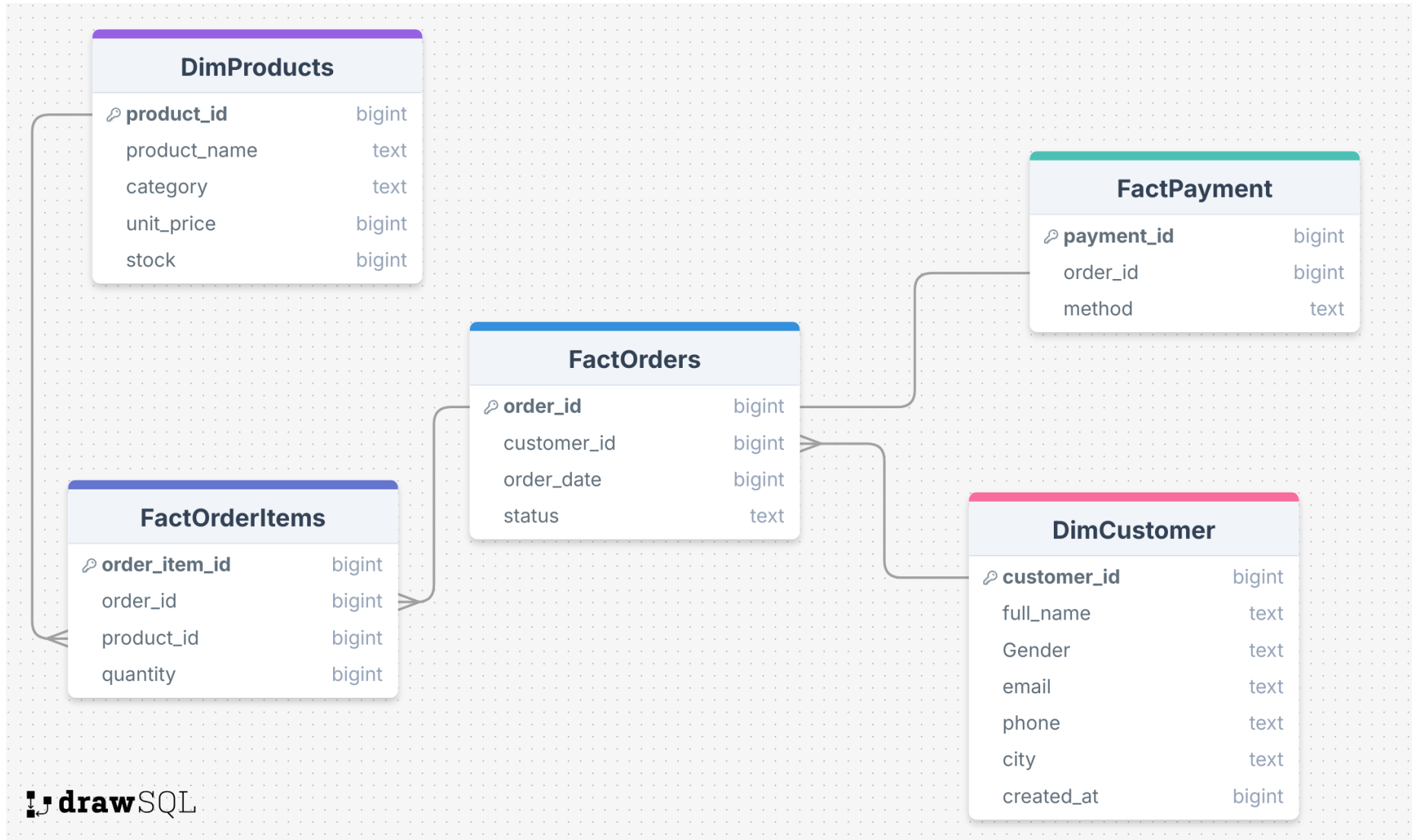
To leverage data analytics to optimize retail performance, improve customer experiences, and drive business growth.

Key Goals:


- Increase revenue
- Improve product bundling and recommendations
- Understand customer purchasing behavior
- Optimize inventory and payment methods



ER Diagram:




1. How many total orders has UrbanCart received so far?

	Total Number of Orders bigint 
1	1200

- UrbanCart has received **1200 orders**.

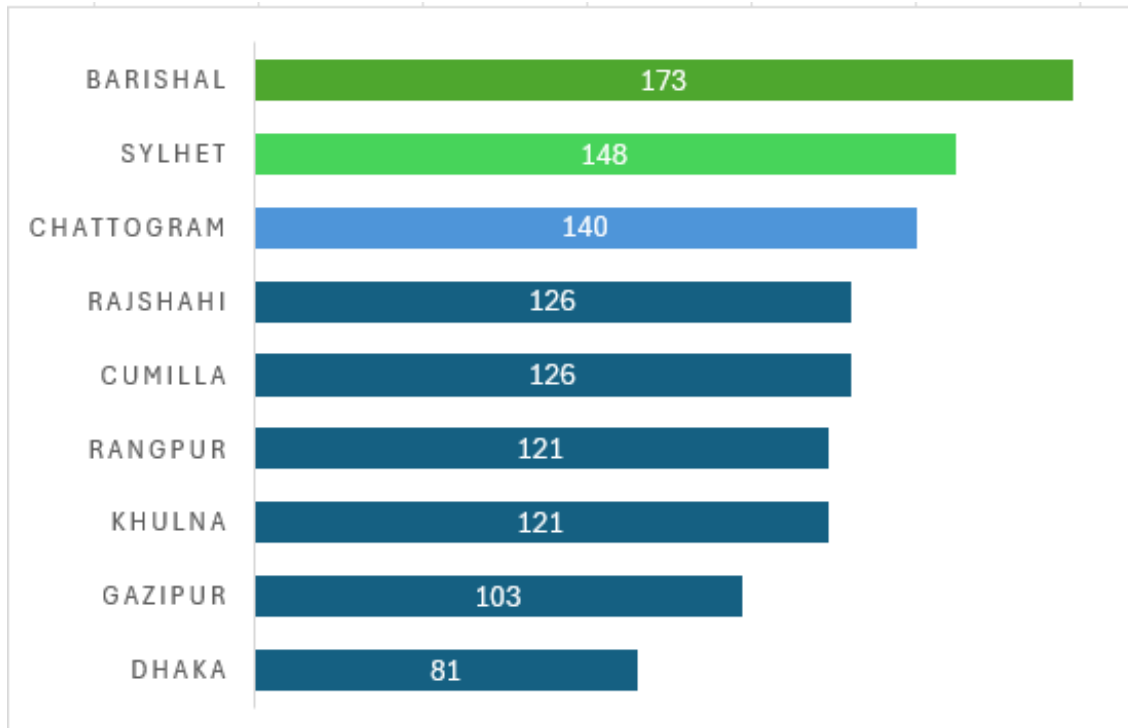
2. How many unique customers have placed at least one order?

	Amount of Unique Customers bigint 
1	100

- UrbanCart has **100 unique customers** who have placed at least one order.

3. Which cities generate the highest number of orders?

	city text	Total Orders bigint
1	Barishal	173
2	Sylhet	148
3	Chattogra...	140
4	Rajshahi	126
5	Cumilla	126
6	Rangpur	121
7	Khulna	121
8	Gazipur	103
9	Dhaka	81



- The city that generates the highest number of orders is **Barishal**, with **173 orders**. The second and third cities are **Sylhet** with 148 orders and **Chattogram** with 140 orders.

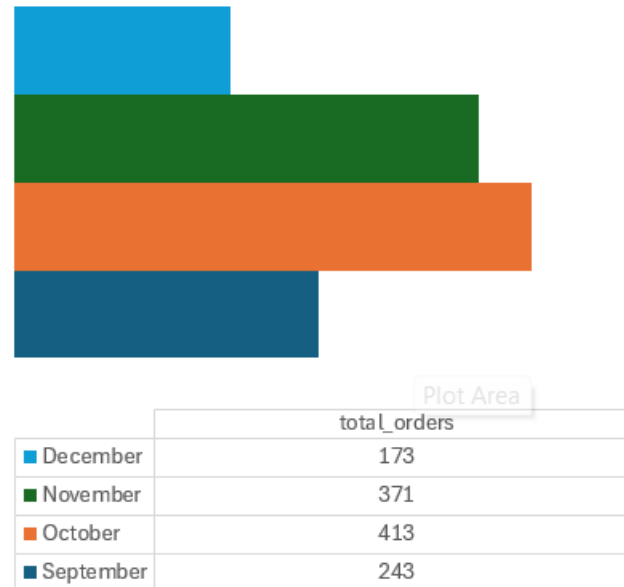
4. What percentage of customers have placed more than one order?

	percentage_more_than_one_order numeric
1	100.00

- The **percentage of customers** who have placed more than one order is **100%**

5. What is the monthly trend of total orders over time?

	month_name text	total_orders bigint
1	September	243
2	October	413
3	November	371
4	December	173



- The monthly trend of total orders shows that **October** had the highest number of orders with **413**, followed by **November** with **371**, **September** with **243**, and **December** with **173** orders.

6. What is the total revenue generated by UrbanCart?

	total_revenue numeric
1	1353914

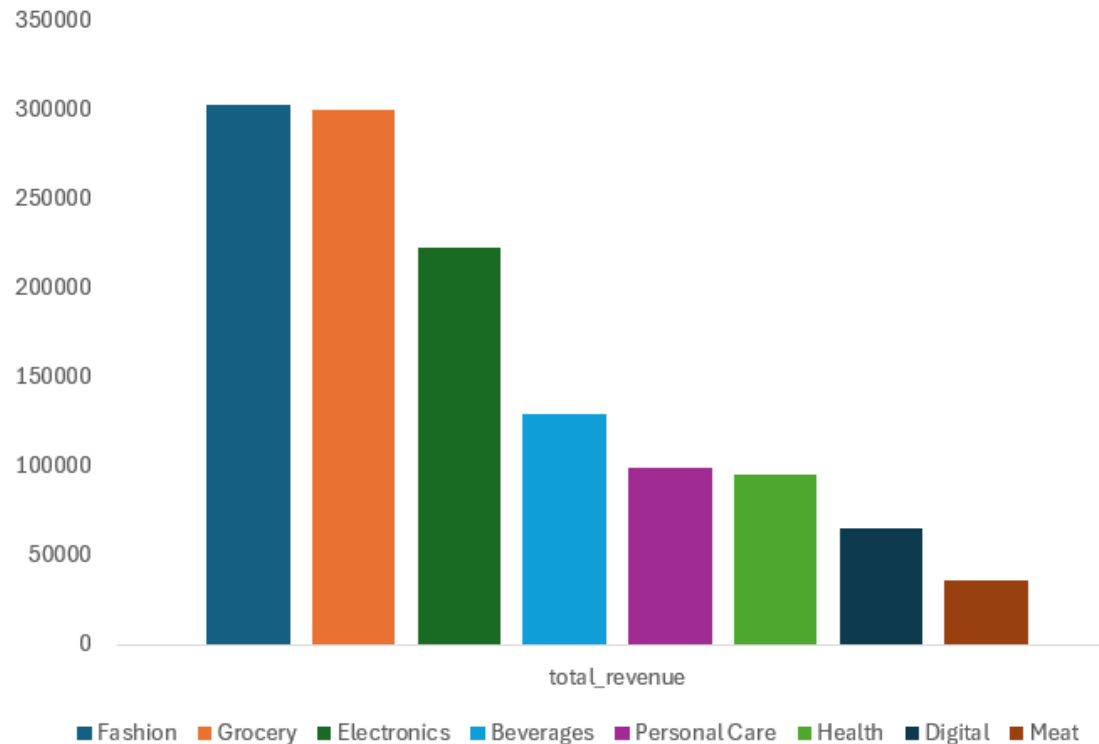
- The total revenue generated by UrbanCart from **Completed Orders** is **1,353,914**.

	total_revenue numeric
1	1789715

- The total revenue generated by UrbanCart from **Pending Orders** is **1,789,715**.

7. Which product categories contribute the most to total revenue?

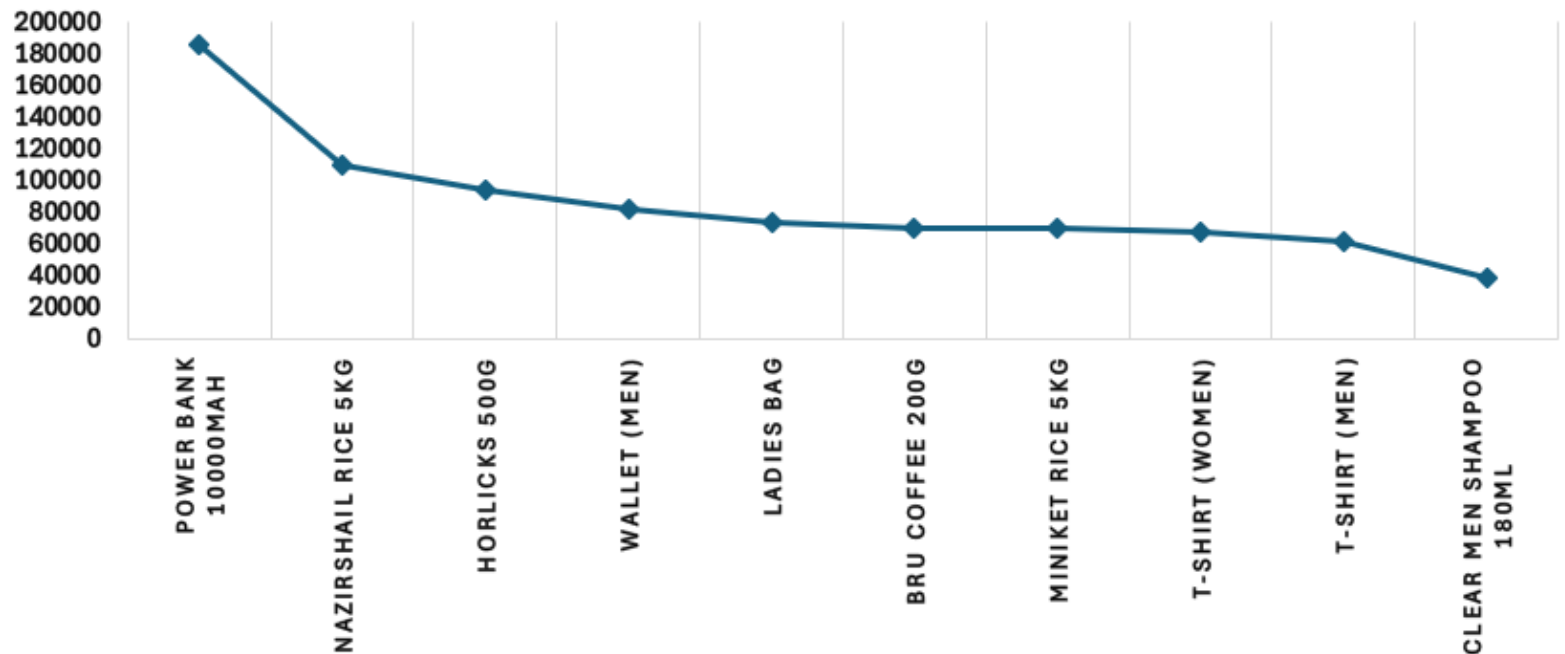
	category text	total_revenue numeric
1	Fashion	302980
2	Grocery	300721
3	Electronics	223200
4	Beverages	129400
5	Personal Ca...	99558
6	Health	95808
7	Digital	65267
8	Meat	35880



- The product categories that contribute the most to total revenue are **Fashion** with **302,980**, **Grocery** with **300,721**, and **Electronics** with **223,200**.

8. Which individual products generate the highest revenue?

	product_name text	total_revenue numeric
1	Power Bank 10000mAh	186200
2	Nazirshail Rice 5kg	110240
3	Horlicks 500g	93600
4	Wallet (Men)	81450
5	Ladies Bag	73200
6	Bru Coffee 200g	70290
7	Miniket Rice 5kg	69750
8	T-shirt (Women)	68020
9	T-shirt (Men)	61950
10	Clear Men Shampoo 180...	38380



- The individual product that generates the highest revenue is **Power Bank 10000mAh** with a total revenue of **186,200**.

9. What is the average order value (AOV) and Average Basket Size?

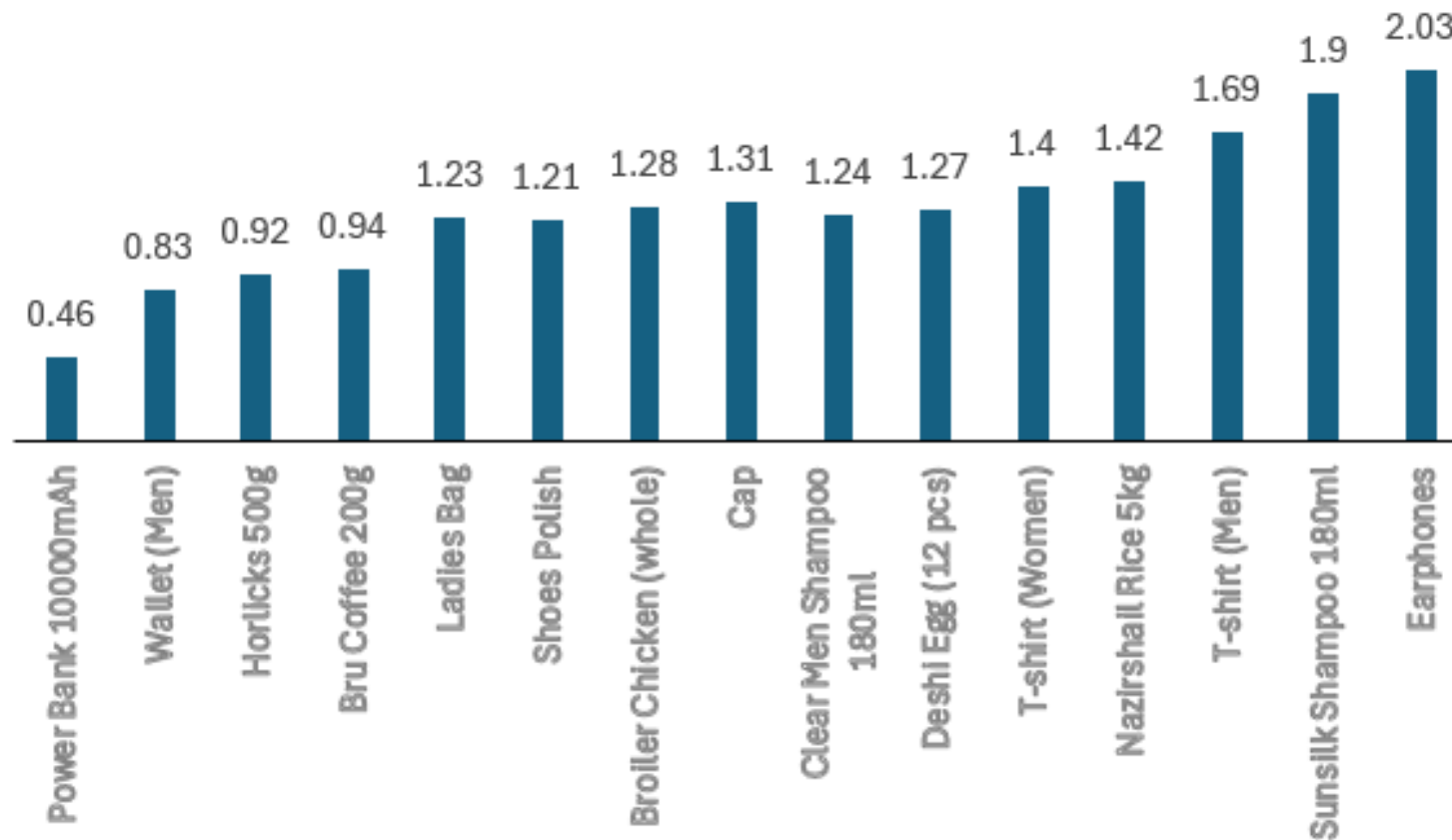
	average_order_value numeric	average_basket_size numeric
1	1870.94	9.96

- The **Average Order Value (AOV)** is **1,870.94**, and the **Average Basket Size** is **9.96**.

10. Which products are at risk of stock-out due to high sales volume and low inventory?

	product_name text	total_sales_volume numeric	stock_difference numeric	stock_status text	stock_ratio numeric
1	Power Bank 10000mAh	196	-106	at_risk	0.46
2	Wallet (Men)	181	-31	at_risk	0.83
3	Horlicks 500g	195	-15	at_risk	0.92
4	Bru Coffee 200g	213	-13	at_risk	0.94
5	Ladies Bag	122	28	Stock Suffici...	1.23
6	Shoes Polish	165	35	Stock Suffici...	1.21
7	Broiler Chicken (whole)	156	44	Stock Suffici...	1.28
8	Cap	153	47	Stock Suffici...	1.31

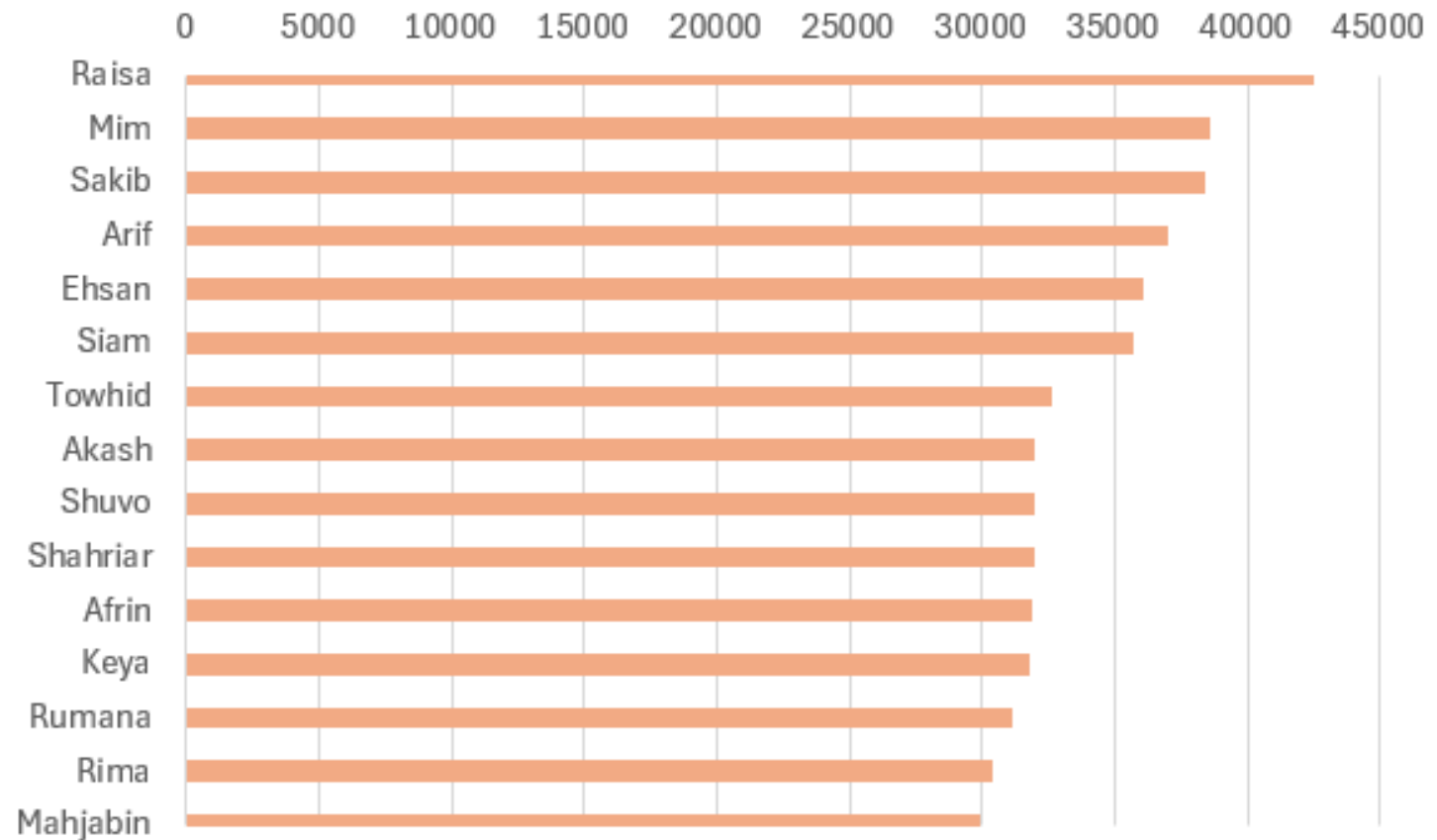
9	Clear Men Shampoo 180...	202	48	Stock Suffici...	1.24
10	Deshi Egg (12 pcs)	197	53	Stock Suffici...	1.27
11	T-shirt (Women)	179	71	Stock Suffici...	1.40
12	Nazirshail Rice 5kg	212	88	Stock Suffici...	1.42
13	T-shirt (Men)	177	123	Stock Suffici...	1.69
14	Sunsilk Shampoo 180ml	158	142	Stock Suffici...	1.90
15	Earphones	148	152	Stock Suffici...	2.03



- The products at risk of stock-out due to high sales volume and low inventory are **Power Bank 10000mAh, Wallet (Men), Horlicks 500g, and Bru Coffee 200g.**

11. Which customers contribute the highest total revenue?

	customer_id [PK] bigint	full_name text	total_revenue numeric
1	70	Raisa	42516
2	94	Mim	38605
3	87	Sakib	38413
4	19	Arif	37013
5	96	Ehsan	36092
6	40	Siam	35673
7	29	Towhid	32653
8	88	Akash	32028
9	28	Shuvo	31983
10	77	Shahriar	31955
11	52	Afrin	31884
12	46	Keya	31807
13	62	Rumana	31136
14	76	Rima	30437
15	68	Mahjabin	29978



- The customers who contribute the highest total revenue are **Raisa** with **42,516**, **Mim** with **38,605**, and **Sakib** with **38,413**.

12. What is the average number of products purchased per order?

	avg_products_per_order numeric
1	9.957

- The average number of **products purchased per order** is **9.957**.

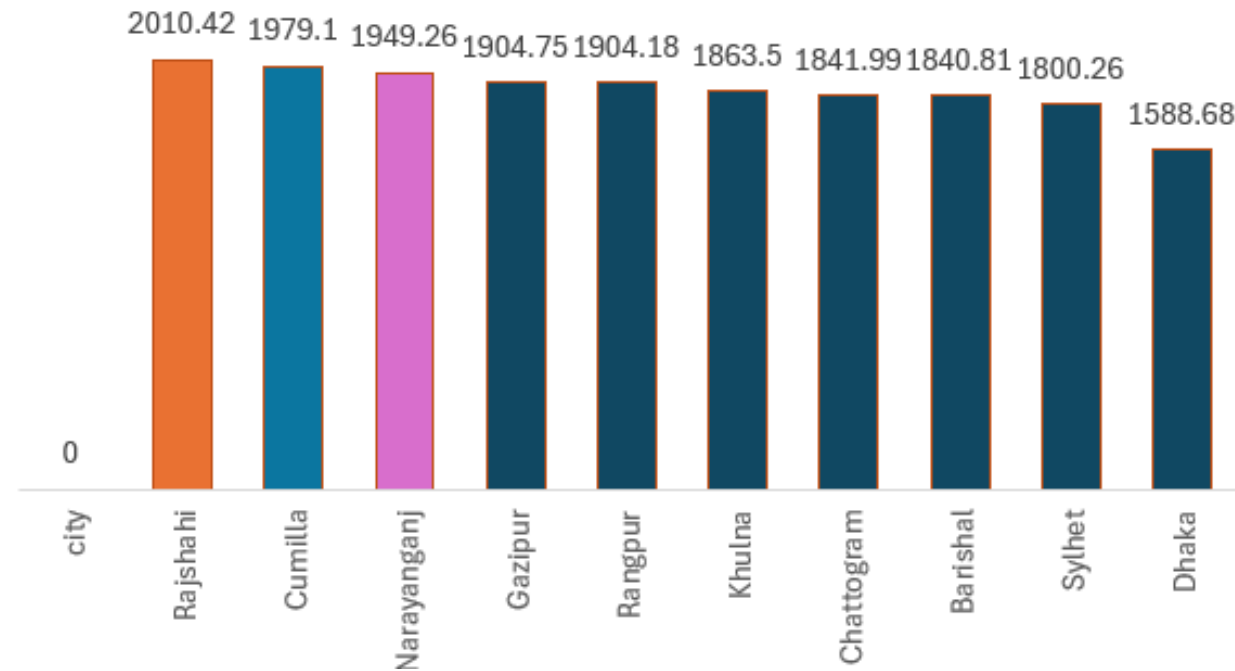
13. Do male and female customers show different purchasing patterns by category?

	category text	quantity_of_male numeric	quantity_of_female numeric
1	Beverages	643	598
2	Dairy	133	79
3	Digital	394	246
4	Electronics	265	198
5	Fashion	635	475
6	Grocery	1330	1015
7	Health	246	242
8	Home Care	355	289

- Yes, male and female customers show different purchasing patterns by category. Males tend to purchase more in categories like **Beverages**, **Digital**, **Grocery**, and **Home Care**, while females purchase more in **Personal Care**. Overall, males generally lead in most categories, except for personal care.

14. Which cities have the highest average order value?

	city text	avg_order_value numeric
1	Rajshahi	2010.42
2	Cumilla	1979.10
3	Narayanga...	1949.26
4	Gazipur	1904.75
5	Rangpur	1904.18
6	Khulna	1863.50
7	Chattogram	1841.99
8	Barishal	1840.81
9	Sylhet	1800.26
10	Dhaka	1588.68



- The cities with the highest average order value are **Rajshahi** with **2,010.42**, followed by **Cumilla** with **1,979.10**, and **Narayanganj** with **1,949.26**.

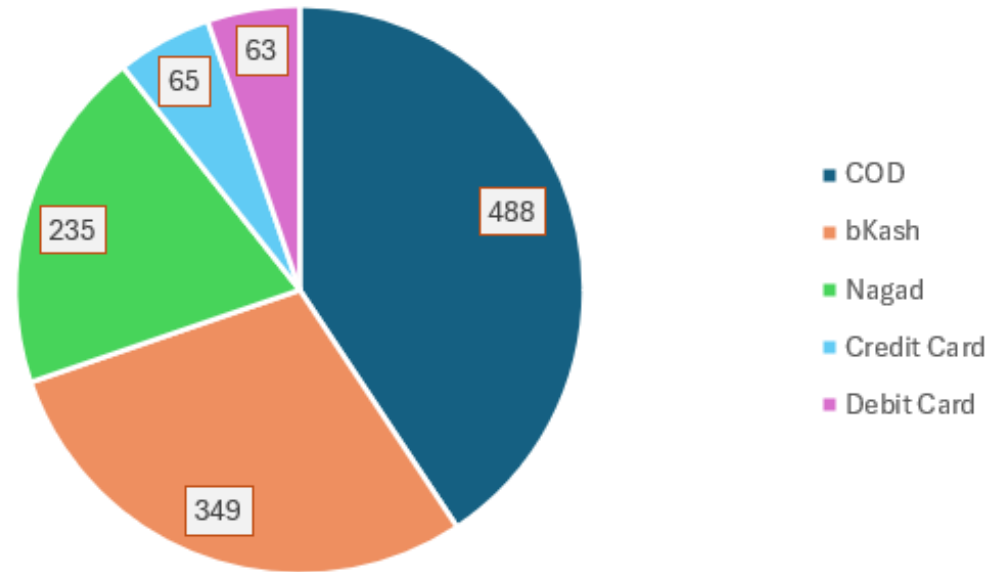
15. How does customer purchasing behavior change over time since account creation?

	city text	created_at text	months_since_creation numeric	total_orders bigint	total_revenue numeric	avg_order_value numeric
1	Chattogram	10/16/2025	3	3	6434	2144.67
2	Narayanga...	10/4/2025	3	7	8021	1145.86
3	Chattogram	10/12/2025	3	8	12072	1509.00
4	Gazipur	9/28/2025	3	8	13910	1738.75
5	Rangpur	10/5/2025	3	10	18024	1802.40
6	Rajshahi	10/13/2025	3	10	19706	1970.60
7	Chattogram	9/28/2025	3	10	20103	2010.30
8	Sylhet	9/29/2025	3	15	21804	1453.60
9	Sylhet	9/28/2025	3	12	23467	1955.58
10	Gazipur	10/3/2025	3	10	24204	2420.40

- Customer purchasing behavior shows an upward trend over time since account creation. For example, in **Chattogram**, total revenue increased from **6,434** in month 1 to **20,103** in month 3, while in **Sylhet**, revenue grew from **23,467** in month 2 to **24,204** in month 3, with average order values steadily rising.

16. Which payment methods are used most frequently?

method text	payment_count bigint
COD	488
bKash	349
Nagad	235
Credit Ca...	65
Debit Card	63

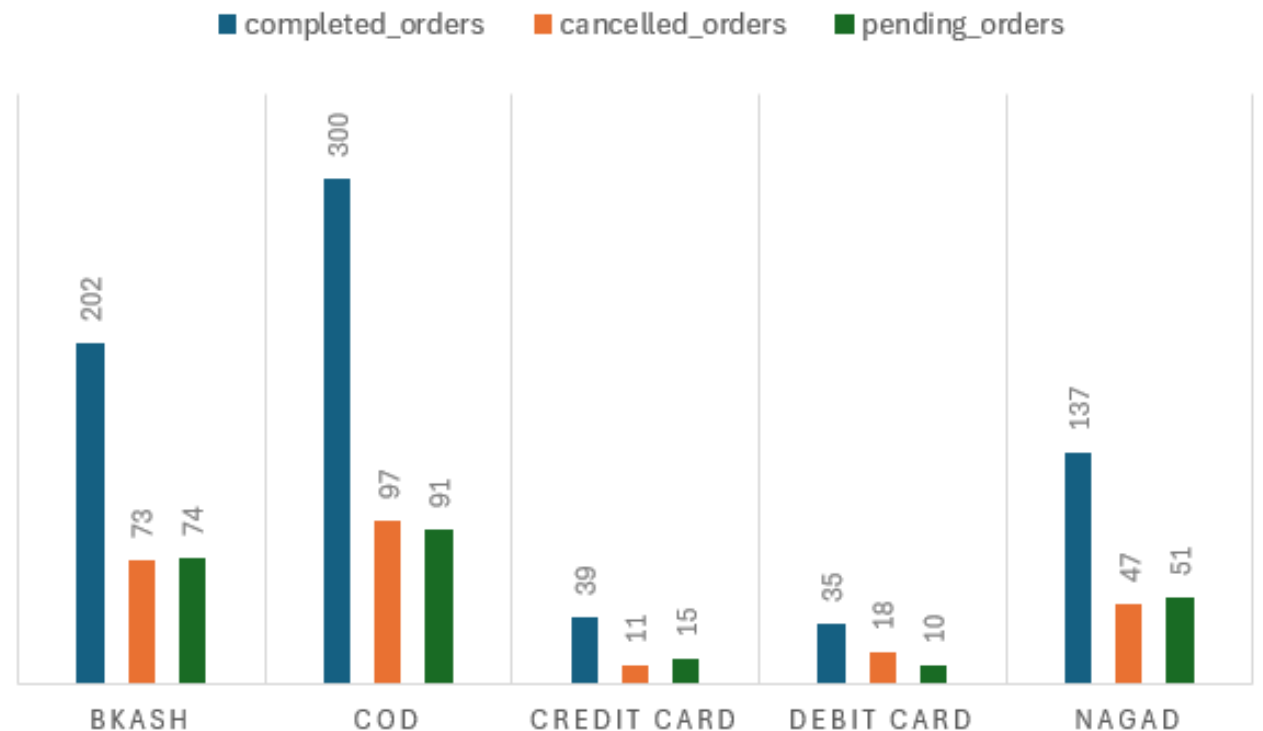


- The payment methods used most frequently are **COD (Cash on Delivery)** with **488** payments, followed by **bKash** with **349** payments, and **Nagad** with **235** payments.

17. Is there any relationship between payment method and order status?

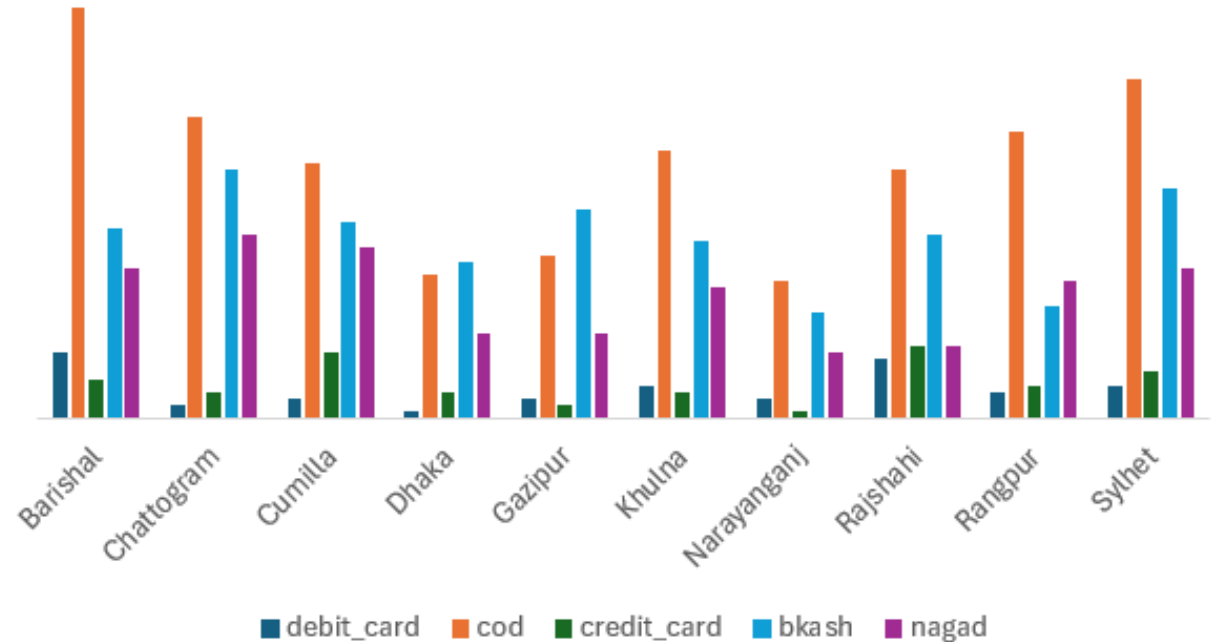
	payment_method text	completed_orders bigint	cancelled_orders bigint	pending_orders bigint
1	bKash	202	73	74
2	COD	300	97	91
3	Credit Card	39	11	15
4	Debit Card	35	18	10
5	Nagad	137	47	51

- The chart shows that **COD** has the highest number of **completed orders** (300), followed by **bKash** (202). **Nagad** also has a significant number of **completed orders** (137), while **Credit Card** and **Debit Card** have the least. Additionally, **COD** has high **cancelled** and **pending orders**, while **Credit Card** has the lowest activity overall.



18. Do certain cities prefer specific payment methods?

	city text	debit_card bigint	cod bigint	credit_card bigint	bkash bigint	nagad bigint
1	Barishal	10	63	6	29	23
2	Chattogram	2	46	4	38	28
3	Cumilla	3	39	10	30	26
4	Dhaka	1	22	4	24	13
5	Gazipur	3	25	2	32	13
6	Khulna	5	41	4	27	20
7	Narayanga...	3	21	1	16	10
8	Rajshahi	9	38	11	28	11
9	Rangpur	4	44	5	17	21
10	Sylhet	5	52	7	35	23

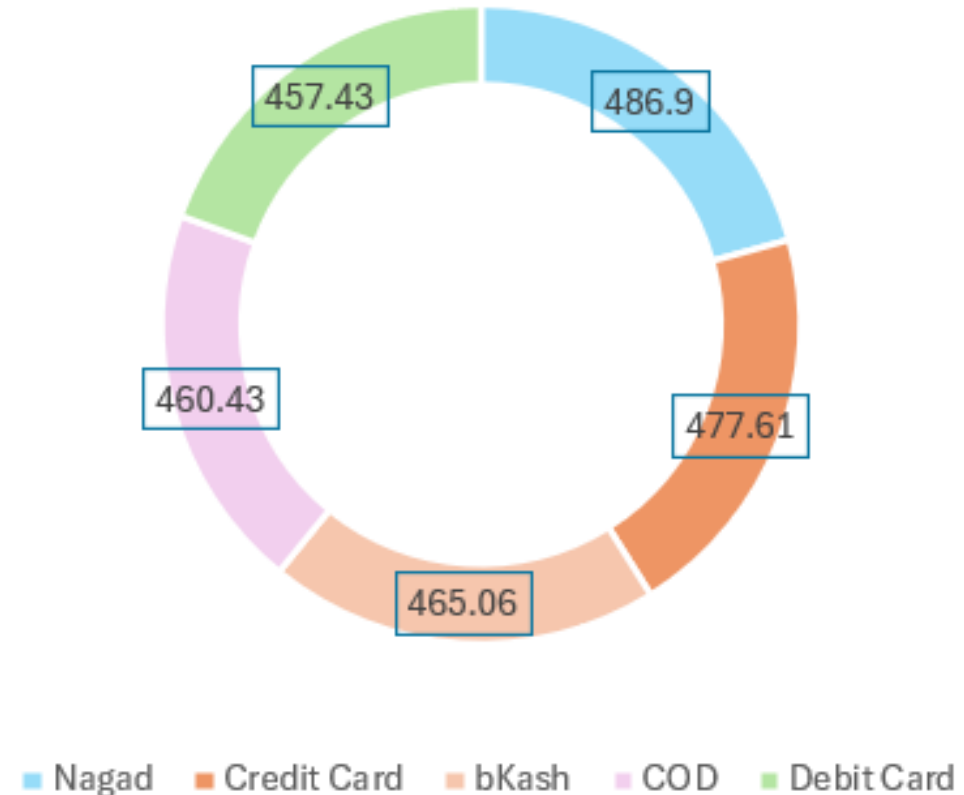


- Yes, certain cities prefer specific payment methods. For example, **Barishal** prefers **COD** with 63 transactions, **Chattogram** uses **COD** and **bKash** most frequently, while **Khulna** shows a higher preference for **COD** and **bKash**. Similarly, **Sylhet** has the highest number of **COD** transactions, while **Gazipur** leans more towards **COD** and **bKash**.

19. Are higher-value orders associated with specific payment methods?

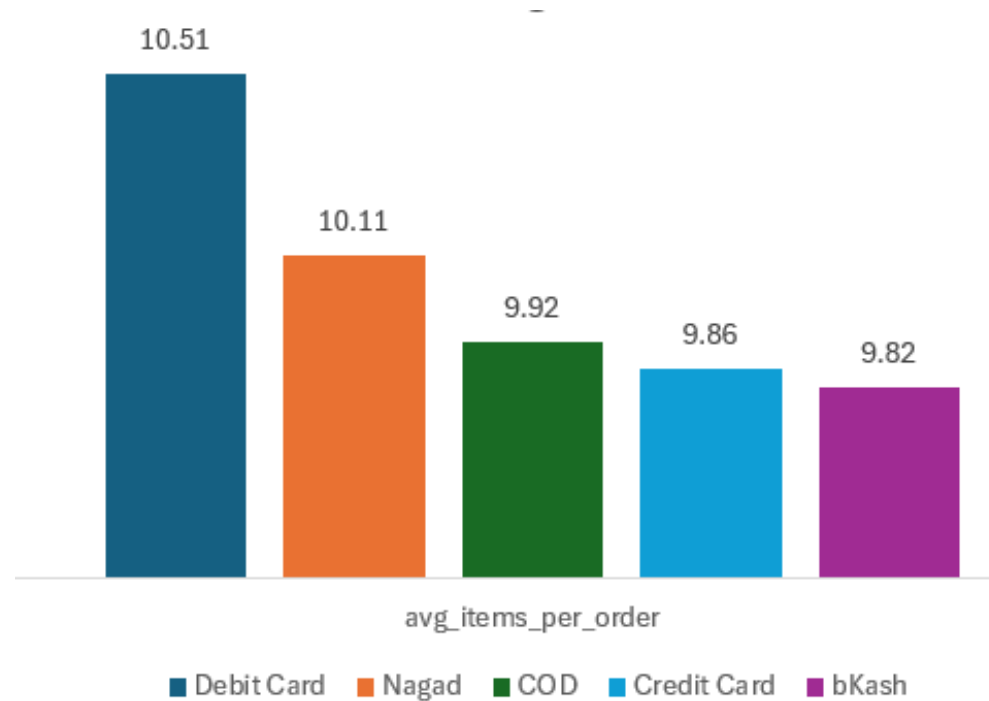
	payment_method text	avg_order_value numeric
1	Nagad	486.90
2	Credit Card	477.61
3	bKash	465.06
4	COD	460.43
5	Debit Card	457.43

- Yes, higher-value orders are associated with **Nagad** (486.90), followed by **Credit Card** (477.61). Other payment methods like **bKash** (465.06), **COD** (460.43), and **Debit Card** (457.43) have relatively lower average order values.



20. What is the average number of items per order by payment method?

	payment_method text	avg_items_per_order numeric
1	Debit Card	10.51
2	Nagad	10.11
3	COD	9.92
4	Credit Card	9.86
5	bKash	9.82



- The average number of items per order by payment method is highest for **Debit Card** (10.51 items), followed by **Nagad** (10.11 items), and the lowest is **bKash** (9.82 items).

21. Which products are most frequently ordered together?

	product_1_id bigint	product_1 text	product_2_id bigint	product_2 text	times_ordered_together bigint
1	24	Potato 1kg	30	Peanut 500g	22
2	8	Farm Fresh Milk ...	24	Potato 1kg	21
3	23	Onion 1kg	34	Shoes Polish	18
4	27	Flour (Atta) 2kg	37	Cap	18
5	4	Fresh Sugar 1kg	33	Sprite 1L	18
6	1	Miniket Rice 5kg	40	Power Bank 10000m...	18
7	5	ACI Pure Salt 1kg	8	Farm Fresh Milk 1L	17
8	4	Fresh Sugar 1kg	12	Oral Saline (ORS)	17
9	9	Bru Coffee 200g	40	Power Bank 10000m...	17
10	9	Bru Coffee 200g	12	Oral Saline (ORS)	17

- The most frequently ordered products together are **Potato 1kg** and **Peanut 500g**, which were ordered together 22 times. Other notable combinations include **Farm Fresh Milk 1L** and **Potato 1kg** (21 times), and **Onion 1kg** with **Shoes Polish** (18 times). These combinations reflect popular product pairings based on customer purchasing behavior.

22. Which product pairs appear most often across all orders?

	product_1_id bigint	product_1 text	product_2_id bigint	product_2 text	times_ordered_together bigint
1	24	Potato 1kg	30	Peanut 500g	22
2	8	Farm Fresh Milk ...	24	Potato 1kg	21
3	23	Onion 1kg	34	Shoes Polish	18
4	27	Flour (Atta) 2kg	37	Cap	18
5	4	Fresh Sugar 1kg	33	Sprite 1L	18
6	1	Miniket Rice 5kg	40	Power Bank 10000m...	18
7	5	ACI Pure Salt 1kg	8	Farm Fresh Milk 1L	17
8	4	Fresh Sugar 1kg	12	Oral Saline (ORS)	17
9	9	Bru Coffee 200g	40	Power Bank 10000m...	17
10	9	Bru Coffee 200g	12	Oral Saline (ORS)	17

- The most frequently appearing product pairs across all orders are **Potato 1kg** and **Peanut 500g**, ordered together 22 times. Other common pairs include **Farm Fresh Milk 1L** and **Potato 1kg** (21 times), and **Onion 1kg** with **Shoes Polish** (18 times). These pairings highlight the most popular combinations purchased by customers.

23. Are there product pairs that consistently drive higher order values?

	product_1 text	product_2 text	co_occurrence_count bigint	avg_order_value numeric
1	Nazirshail Rice 5kg	Power Bank 10000m...	8	4517.50
2	Ladies Bag	Power Bank 10000m...	4	4200.00
3	Broiler Chicken (who...	Power Bank 10000m...	11	3736.36
4	Taaza Black Tea 400g	Power Bank 10000m...	9	3610.00
5	T-shirt (Men)	Power Bank 10000m...	7	3464.29
6	Vim Dishwashing Bar	Power Bank 10000m...	9	3451.67
7	Lux Soap 100g	Power Bank 10000m...	4	3405.00
8	Miniket Rice 5kg	Ladies Bag	6	3400.00
9	Power Bank 10000m...	Earphones	8	3387.50
10	T-shirt (Women)	Power Bank 10000m...	10	3287.00

- The product pairs that consistently drive higher order values include **Nazirshail Rice 5kg** with **Power Bank 10000mAh** (avg. order value: 4517.50), followed by **Ladies Bag** with **Power Bank 10000mAh** (avg. order value: 4200.00).

24. Which product combinations could be recommended as bundles to increase revenue?

	product_1 text	product_2 text	co_occurrence_count bigint	avg_order_value numeric	total_pair_revenue numeric
1	Potato 1kg	Peanut 500g	20	413.25	8265
2	Farm Fresh Milk 1L	Potato 1kg	20	314.25	6285
3	Miniket Rice 5kg	Power Bank 10000mAh	18	3247.22	58450
4	Bru Coffee 200g	Power Bank 10000mAh	17	3142.94	53430
5	Bru Coffee 200g	Oral Saline (ORS)	17	879.53	14952
6	Onion 1kg	Shoes Polish	17	590.00	10030
7	Deshi Egg (12 pcs)	GP Internet Pack	16	831.13	13298
8	ACI Pure Salt 1kg	Farm Fresh Milk 1L	16	333.38	5334
9	Miniket Rice 5kg	Rupchanda Soyabean Oil ...	15	1750.00	26250
10	Nazirshail Rice 5kg	Onion 1kg	15	1477.33	22160
11	Oral Saline (ORS)	T-shirt (Women)	15	1060.27	15904
12	Flour (Atta) 2kg	Cap	15	774.00	11610
13	Peanut 500g	Water Bottle 1L	15	386.67	5800
14	Biscuits (Mixed)	Sprite 1L	15	294.67	4420
15	Banglalink Internet Pa...	Power Bank 10000mAh	14	2947.64	41267

- The table presents frequent product pairings with their corresponding co-occurrence counts, average order values, and total revenue. The top combination is **Potato 1kg** and **Peanut 500g**, appearing 20 times, with a total revenue of **8,265**. Other notable pairs include **Farm Fresh Milk 1L** and **Potato 1kg**, generating **6,285** in revenue, and **Miniket Rice 5kg** with **Power Bank 10000mAh**, driving a high total revenue of **58,450**. These combinations are prime candidates for bundling strategies to boost sales.

25. Based on product co-occurrence and customer behavior, which products should UrbanCart promote together to maximize cross-selling opportunities?

	product_1 text	product_2 text	co_occurrence_count bigint	pair_revenue numeric
1	Miniket Rice 5kg	Power Bank 10000m...	18	58450
2	Bru Coffee 200g	Power Bank 10000m...	17	53430
3	Banglalink Internet Pack	Power Bank 10000m...	14	41267
4	Broiler Chicken (whole)	Power Bank 10000m...	11	41100
5	Miniket Rice 5kg	Nazirshail Rice 5kg	13	37310
6	Nazirshail Rice 5kg	Power Bank 10000m...	8	36140
7	Wheel Washing Powder 1...	Power Bank 10000m...	11	34010

8	T-shirt (Women)	Power Bank 10000m...	10	32870
9	Taaza Black Tea 400g	Power Bank 10000m...	9	32490
10	Nazirshail Rice 5kg	Wallet (Men)	11	32460
11	Potato 1kg	Power Bank 10000m...	12	32365
12	Rupchanda Soyabean Oil ...	Power Bank 10000m...	10	31225
13	Sprite 1L	Power Bank 10000m...	11	31160
14	Wallet (Men)	Power Bank 10000m...	10	31150
15	Vim Dishwashing Bar	Power Bank 10000m...	9	31065

- The table highlights the most frequent product pairs and their associated revenue. The combination of **Miniket Rice 5kg** and **Power Bank 10000mAh** leads with the highest revenue of **58,450**, appearing 18 times. Other key pairs include **Bru Coffee 200g** with **Power Bank 10000mAh** (revenue: **53,430**) and **Banglalink Internet Pack** paired with **Power Bank 10000mAh** (revenue: **41,267**). These popular combinations show strong sales potential, making them ideal for targeted bundling strategies.