

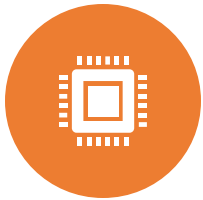
GLOBAL SUPERSTORE MANAGEMENT

Group 16

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UNDERSTANDING THE BUSINESS



The goal of this project is to develop a relational database for a superstore where customers can purchase a wide range of products, including electronics, home essentials, furniture, personal care items, clothing, and groceries. Users will register through an online application, which will capture their personal information, order history, and payment details.



Customers will have three options for order fulfillment: pickup, delivery, or in-store purchase. When choosing pickup, customers can decide to pay either before or upon collecting their orders. When selecting delivery, payment is required at the time of order placement, and a delivery service such as FedEx or UPS will handle the shipment.

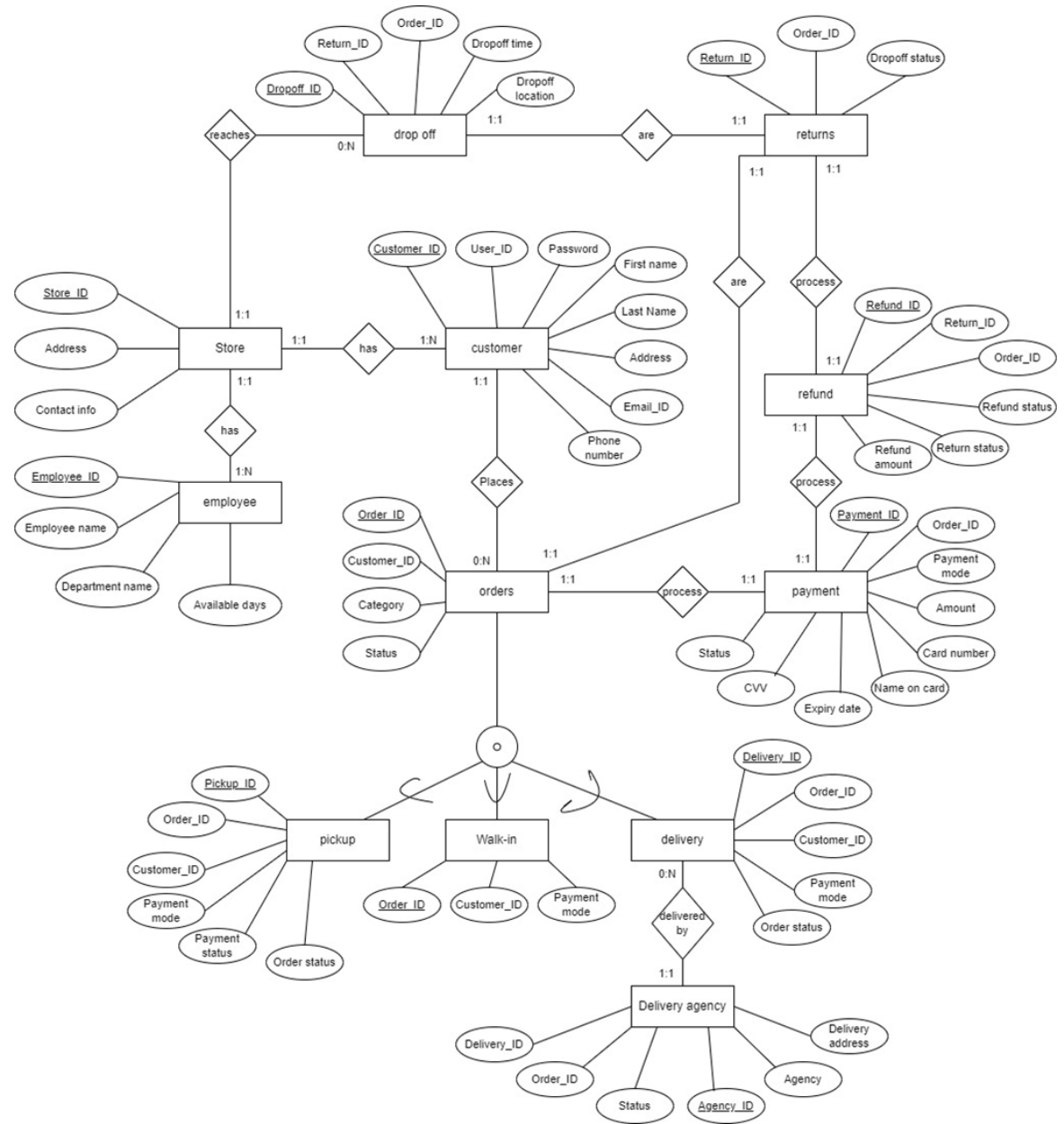


The system will also maintain records of all the employees working for the store, including their ID, name, job titles. If customers are unsatisfied with a product, they can return it to the drop off location. The refund will be processed within 5-7 business days and credited to the customer's account. All this data can be used to analyze store performance.

ASSUMPTIONS

1. A customer must have one account only
2. A customer cannot order without registering in the online application
3. An order can be assigned to only one delivery agent but a delivery agent can deliver multiple orders
4. In case of returns, order must be returned completely (no partial returns)
5. Only one mode of payment can be used for a specific order

EER DIAGRAM



SCOPE OF ANALYTICS



Simple analysis: Identifying the Top performing store, most valuable customer, most used mode of payment, etc...

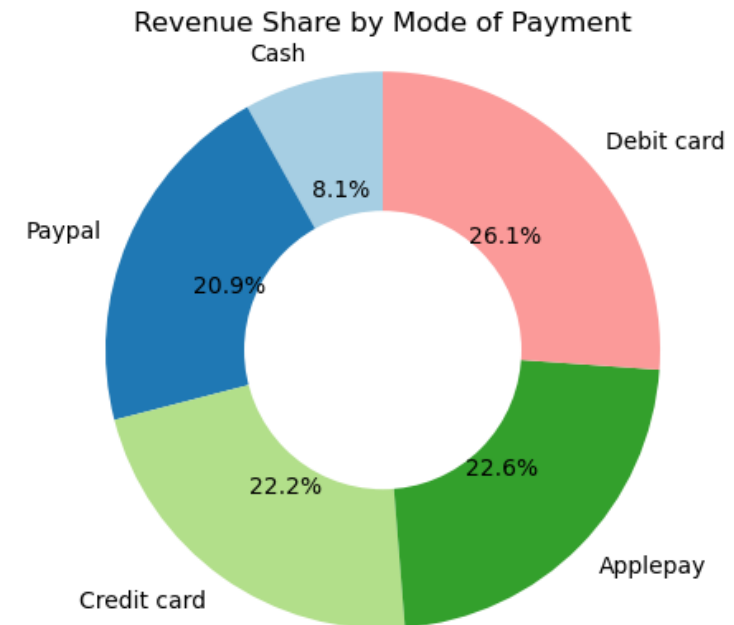


In-depth analysis: Identifying sales(\$) trend, cohort analysis, customer segmentation and analysis

Analytical Purpose:

Identifying the share of each payment method so that we can contact a credit/debit card vendor for special offers for using their credit/debit card to boost the sales further

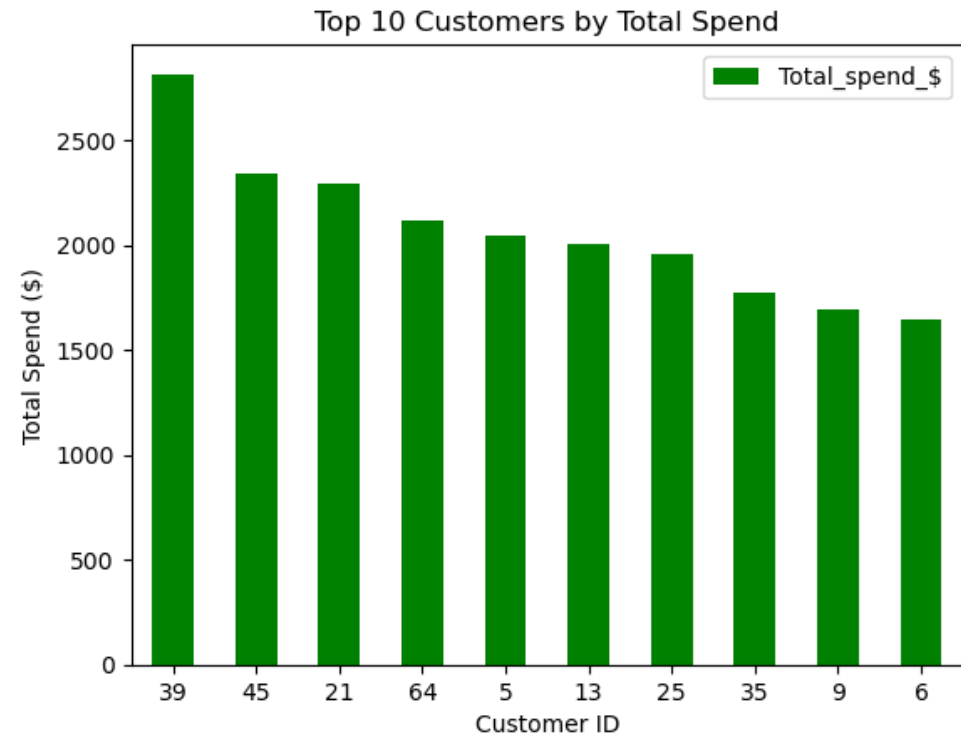
	Mode_Of_Payment	Revenue	Revenue_Share(%)
►	Cash	4636	8.13
	Paypal	11926	20.91
	Credit card	12688	22.24
	Applepay	12891	22.6
	Debit card	14906	26.13



Analytical Purpose:

Identifying and rewarding the top-10 high LTR(\$) customers with personalized gift cards in celebration of Thanksgiving

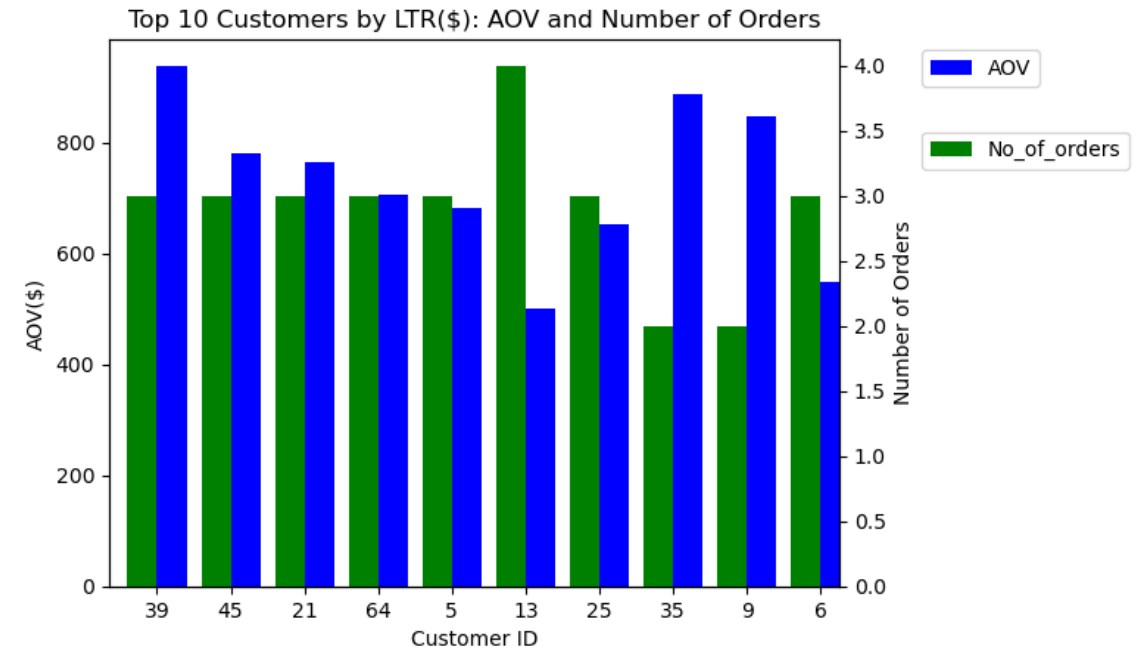
	Customer_ID	First_Name	Last_Name	Total_spend_\$_
▶	39	Bette	Kutch	2815
	45	Mercedes	Monahan	2342
	21	Lois	Kuvalis	2293
	64	Lillie	Hilpert	2120
	5	Maudie	Wyman	2048
	13	Winfield	Konopelski	2002
	25	Judson	Reynolds	1960
	35	Deja	Morar	1773
	9	Brady	Schiller	1696
	6	Lilian	Durgan	1646



Analytical Purpose:

Further analyzing the top-10 high LTR (\$) customers to evaluate if the LTR is due to few high value orders or due to several low value orders

	Customer_ID	First_Name	Last_Name	LTR(\$)	AOV(\$)	No_of_orders
▶	39	Bette	Kutch	2815	938.33	3
	45	Mercedes	Monahan	2342	780.67	3
	21	Lois	Kuvalis	2293	764.33	3
	64	Lillie	Hilpert	2120	706.67	3
	5	Maudie	Wyman	2048	682.67	3
	13	Winfield	Konopelski	2002	500.5	4
	25	Judson	Reynolds	1960	653.33	3
	35	Deja	Morar	1773	886.5	2
	9	Brady	Schiller	1696	848	2
	6	Lilian	Durgan	1646	548.67	3



Finding the Sales (\$) through each payment method

Template single collection Stage \$sort run format share docs

Database bson Query Result

```
1 db={
2   "payments": [
3     {
4       "Payment_ID": 1001,
5       "Order_ID": 1,
6       "Payment_Status": "Pending",
7       "Mode_of_Payment": "Debit card",
8       "Card_number": 3793110000000000,
9       "CVV": 901,
10      "Expiry_Date": "9/27",
11      "Name_on_Card": "Kyleigh",
12      "amount": 244.0
13    },
14    {
15      "Payment_ID": 1002,
16      "Order_ID": 2,
17      "Payment_Status": "Pending",
18      "Mode_of_Payment": "Applepay",
19      "Card_number": 5547170000000000,
20      "CVV": 473,
21      "Expiry_Date": "10/26",
22      "Name_on_Card": "Trey",
23      "amount": 318.0
24    },
25    {
26      "Payment_ID": 1003,
27      "Order_ID": 3,
28      "Payment_Status": "Completed",
29      "Mode_of_Payment": "Cash",
30      "Card_number": 0,
31      "CVV": 0,
32      "Expiry_Date": "",
33      "Name_on_Card": ""
34    }
35  ]
36 }
```

```
1 db.payments.aggregate([
2   {
3     $group: {
4       _id: "$Mode_of_Payment",
5       totalAmount: {
6         $sum: "$amount"
7       }
8     },
9     $sort: {
10      totalAmount: -1
11    }
12  })
13 ]
```

```
[
  {
    "_id": "Debit card",
    "totalAmount": 14906
  },
  {
    "_id": "Applepay",
    "totalAmount": 12891
  },
  {
    "_id": "Credit card",
    "totalAmount": 12688
  },
  {
    "_id": "Paypal",
    "totalAmount": 11926
  },
  {
    "_id": "Cash",
    "totalAmount": 4636
  }
]
```

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Identifying the employees in accounts department in store 3

Template single collection run format share docs

Database bson Query Result

```
1 db={
2   "employee": [
3     {
4       "Employee_ID": 435,
5       "Employee_Name": "Albina Jakubowski",
6       "Department_Name": "HR",
7       "Available_Days": 1,
8       "Store_ID": 1
9     },
10    {
11      "Employee_ID": 552,
12      "Employee_Name": "Prof. Taryn Gerhold",
13      "Department_Name": "Sales",
14      "Available_Days": 4,
15      "Store_ID": 5
16    },
17    {
18      "Employee_ID": 645,
19      "Employee_Name": "Dave Wiza",
20      "Department_Name": "Accounts",
21      "Available_Days": 2,
22      "Store_ID": 1
23    },
24    {
25      "Employee_ID": 770,
26      "Employee_Name": "Arielle Beahan",
27      "Department_Name": "Functional",
28      "Available_Days": 3,
29      "Store_ID": 4
30    },
31    {
32      "Employee_ID": 1087
```

```
1 db.employee.find({
2   "Department_Name": "Accounts",
3   "Store_ID": 3
4 })
```

```
[
  {
    "Available_Days": 2,
    "Department_Name": "Accounts",
    "Employee_ID": 1747,
    "Employee_Name": "Mrs. Araceli Russel II",
    "Store_ID": 3,
    "_id": ObjectId("5a934e000102030405000007")
  },
  {
    "Available_Days": 2,
    "Department_Name": "Accounts",
    "Employee_ID": 4834,
    "Employee_Name": "Arely Reynolds Jr.",
    "Store_ID": 3,
    "_id": ObjectId("5a934e00010203040500001a")
  },
  {
    "Available_Days": 5,
    "Department_Name": "Accounts",
    "Employee_ID": 9889,
    "Employee_Name": "Prof. Alda Wiza PhD",
    "Store_ID": 3,
    "_id": ObjectId("5a934e00010203040500002f")
  }
]
```

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Identifying the payment details of completed payments with amount > \$750

Template single collection run format share docs

Database bson Query Result

```
1 db={
2   "payments": [
3     {
4       "Payment_ID": 1001,
5       "Order_ID": 1,
6       "Payment_Status": "Pending",
7       "Mode_of_Payment": "Debit card",
8       "Card_number": 3793110000000000,
9       "CVV": 901,
10      "Expiry_Date": "9/27",
11      "Name_on_Card": "Kyleigh",
12      "amount": 244.0
13    },
14    {
15      "Payment_ID": 1002,
16      "Order_ID": 2,
17      "Payment_Status": "Pending",
18      "Mode_of_Payment": "Applepay",
19      "Card_number": 5547170000000000,
20      "CVV": 473,
21      "Expiry_Date": "10/26",
22      "Name_on_Card": "Trey",
23      "amount": 318.0
24    },
25    {
26      "Payment_ID": 1003,
27      "Order_ID": 3,
28      "Payment_Status": "Completed",
29      "Mode_of_Payment": "Cash",
30      "Card_number": 0,
31      "CVV": 0,
32      "Expiry_Date": "",
33      "Name_on_Card": ""
34    }
35  ]
36 }
```

```
1 db.payments.find({
2   "amount": {
3     $gt: 750
4   },
5   "Payment_Status": "Completed"
6 })
```

```
[
  {
    "CVV": 442,
    "Card_number": 5.19603e+15,
    "Expiry_Date": "5/28",
    "Mode_of_Payment": "Credit card",
    "Name_on_Card": "Sean",
    "Order_ID": 5,
    "Payment_ID": 1005,
    "Payment_Status": "Completed",
    "_id": ObjectId("5a934e000102030405000004"),
    "amount": 823
  },
  {
    "CVV": 418,
    "Card_number": 4.55637e+15,
    "Expiry_Date": "8/25",
    "Mode_of_Payment": "Debit card",
    "Name_on_Card": "Zoie",
    "Order_ID": 7,
    "Payment_ID": 1007,
    "Payment_Status": "Completed",
    "_id": ObjectId("5a934e000102030405000006"),
    "amount": 885
  },
  {
    "CVV": 829,
    "Card_number": 5.47473e+15,
    "Expiry_Date": "7/27",
    "Mode_of_Payment": "Credit card",
    "Name_on_Card": "Marcos",
    "Order_ID": 17,
    "Payment_ID": 1017,
    "Payment_Status": "Completed",
    "_id": ObjectId("5a934e000102030405000007"),
    "amount": 900
  }
]
```

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CONCLUSION

Our database isn't just a tool; it's a key element in making our global superstore successful. Looking ahead, our main goal is to provide customers with a great experience, make our operations work smoothly, and adapt to the world of retail. By staying customer-focused, improving how we work, and using data to guide our decisions, we're ready to reshape retail.

THANK YOU

ALL THE BEST FOR YOUR FINALS

