**DSA CAPSTONE PROJECT**

**BY**

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**CASE STUDY 2**

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## Summary of Key Insights – KMS SQL Case Study

### 1. ****Top-Performing Product Category****

* **Category:** Furniture
* **Total Sales:** ₦1,850,000 (approx.)

**Insight:**  
Furniture was the highest-selling category, indicating strong customer demand. KMS should prioritize inventory, promotions, and bundle offers around this category to maximize revenue potential.

### 2. ****Regional Sales Performance****

**Top 3 Regions:**

1. **West** – ₦3,597,549.27
2. **Ontario** – ₦3,063,212.48
3. **Prarie** – ₦2,837,304.61

**Bottom 3 Regions:**

1. **Nunavut** – ₦116,376.48
2. **Northwest Territories** – ₦800,847.33
3. **Yukon** – ₦975,867.38

**Insight:**  
The top regions are high-performing markets likely due to strong demand and operations. The bottom regions could benefit from targeted marketing, supply chain improvements, or alternate fulfillment strategies.

### 3. ****Appliance Sales in Ontario****

* **Result:** No appliance sales found in the dataset  
  **Insight:**  
  No product category labeled "Appliances" was recorded, suggesting they were either not sold or renamed/missing in the data. Clarification from KMS is recommended.

### 4. ****Bottom 10 Customers – Revenue Opportunity****

| **Customer Name** | **Total Sales (₦)** |
| --- | --- |
| Jeremy Farry | 85.72 |
| Natalie DeCherney | 125.90 |
| Nicole Fjeld | 153.03 |
| Katrina Edelman | 180.76 |
| Dorothy Dickinson | 198.08 |
| Christine Kargatis | 293.22 |
| Eric Murdock | 343.33 |
| Chris McAfee | 350.18 |
| Rick Huthwaite | 415.82 |
| Mark Hamilton | 450.99 |

**Recommendation:**  
To boost revenue from these customers:

* Send personalized offers
* Recommend relevant products
* Request feedback to understand disengagement
* Share content that improves product awareness

### 5. ****Shipping Method with Highest Cost****

| **Shipping Method** | **Total Shipping Cost (₦)** |
| --- | --- |
| Delivery Truck | 51,971.94 |
| Regular Air | 48,008.19 |
| Express Air | 7,850.91 |

**Insight:**  
Delivery Truck, though slower, incurred the highest cost—likely due to frequent use and heavier items. KMS should assess whether this method is being overused inefficiently.

## Customer & Segment Insights

### 6. ****Most Valuable Customers****

| **Customer Name** | **Total Sales (₦)** |
| --- | --- |
| Emily Phan | 117,124.44 |
| Deborah Brumfield | 97,433.13 |
| Roy Skaria | 92,542.15 |
| Sylvia Foulston | 88,875.76 |
| Grant Carroll | 88,417.00 |
| Alejandro Grove | 83,561.93 |
| Darren Budd | 81,577.34 |
| Julia Barnett | 80,044.45 |
| John Lucas | 79,696.19 |
| Liz MacKendrick | 76,306.43 |

**Insight:**  
These top customers frequently purchase Furniture, Office Supplies, and Technology. They should be considered for loyalty programs and VIP targeting.

### 7. ****Top Small Business Customer****

* **Customer:** Dennis Kane
* **Total Sales:** ₦75,967.59

**Insight:**  
Dennis Kane stands out among small businesses and should receive relationship management support, tailored offers, and potential loyalty rewards.

### 8. ****Most Active Corporate Customer (2009–2012)****

* **Customer:** Adam Hart
* **Orders Placed:** 18

**Insight:**  
Adam Hart is a consistent, engaged customer. His purchasing pattern makes him ideal for feedback loops, loyalty incentives, and customized product bundles.

### 9. ****Most Profitable Consumer Customer****

* **Customer:** Emily Phan
* **Total Profit:** ₦34,005.44

**Insight:**  
Emily Phan not only leads in sales but also profitability. Her behavior could inform high-margin product targeting and exclusive campaign strategies.

### 10. 🔁 ****Returned Items & Customer Segment****

* **Insight:** No column in the dataset indicates returns.  
  **Implication:** KMS currently lacks data to analyze customer returns or segment behavior related to returns.

## Shipping Strategy vs Order Priority

### 11. ****Order Priority vs Shipping Method Efficiency****

| **Order Priority** | **Delivery Truck (₦)** | **Express Air (₦)** | **Regular Air (₦)** |
| --- | --- | --- | --- |
| Critical | 10,783.82 | 1,742.10 | 8,586.76 |
| High | 11,206.88 | 1,453.53 | 10,005.01 |
| Medium | 9,461.62 | 1,633.59 | 9,418.72 |
| Low | 11,131.61 | 1,551.63 | 10,263.62 |
| Not Specified | 9,388.01 | 1,470.06 | 9,734.08 |

**Insight:**  
KMS is not aligning shipping method with order urgency. Express Air, intended for urgent deliveries, is used equally for low-priority orders. Likewise, Delivery Truck is overused for critical orders.

### Recommendation:

* Use **Express Air** mainly for Critical and High priority orders
* Use **Delivery Truck** and **Regular Air** for Low and Medium orders
* Automate shipping method selection based on order priority to reduce costs and ensure timely deliveries