



Blackwell Electronics: A Path Forward

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Data Mining and Blackwell Electronics

Collecting and analyzing data is at the heart of Data Mining. With this, Blackwell can learn more about its customers to:

1. Improve marketing
 2. Minimize customer loss
 3. Maximize customer gain
- ... and so much more!



About the Data

Information about the sales data from Blackwell Electronics customers:

Age of customer

Region of customer

Amount spent

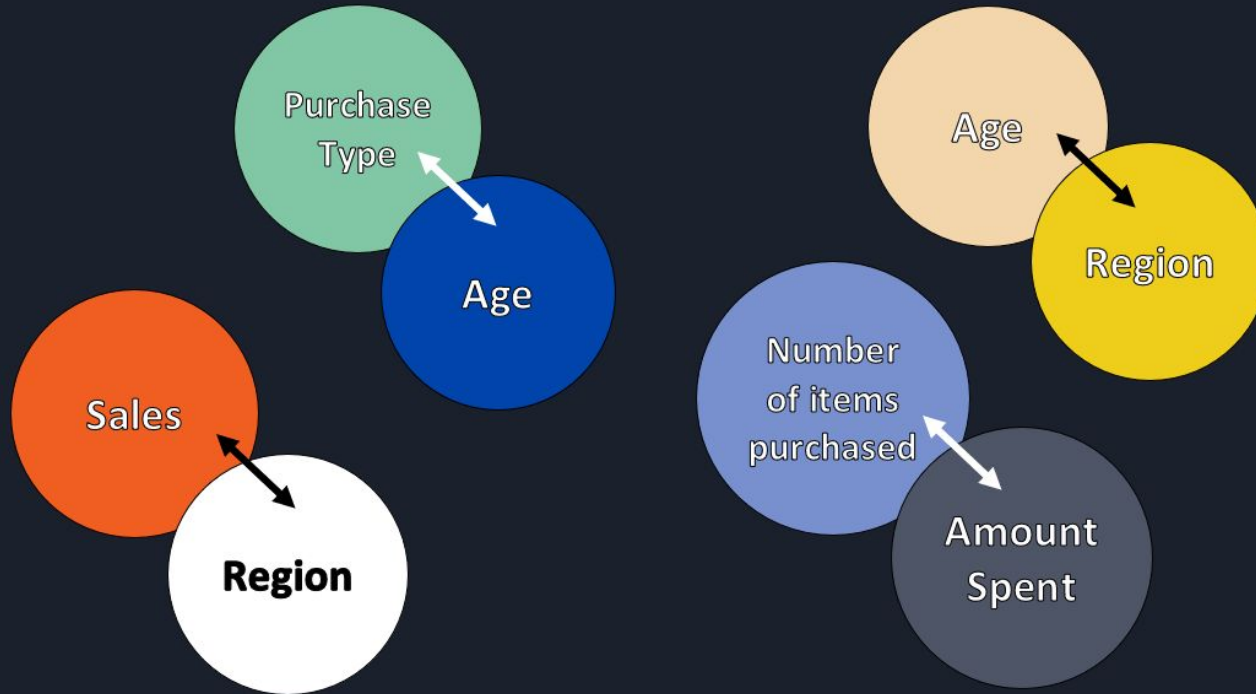
Number of items purchased

Purchase type (Online or in-store purchase)

This sales data had nearly 80,000 entries, collected over the past year.

Trend Analysis --- Roadmap

Looking for **insight** in relationships





eCommerce is off to a great start!

In just one year since the Blackwell Electronics eCommerce website launched...

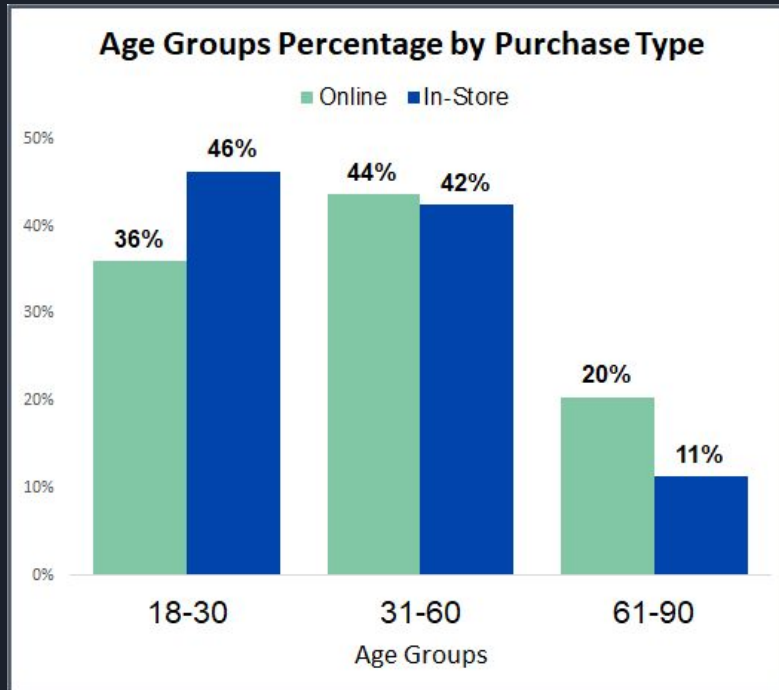
50% of total purchases were made online.

About 54% of total sales were made up by online purchases.

The eCommerce website was responsible for \$35,891,990 in sales revenue!

This means that investing more in eCommerce is likely to improve Blackwell Electronics!

Is there a correlation between customer age and whether the transaction was carried out online or in-store?



Findings

- Middle-aged customers show basically no preference for online or in-store shopping
- Elderly customers show a preference for online shopping
- Young customers show a preference for in-store shopping

Recommendations

- Incentivize younger customers to adopt online shopping

Are there differences in the age of customers between regions?

Findings

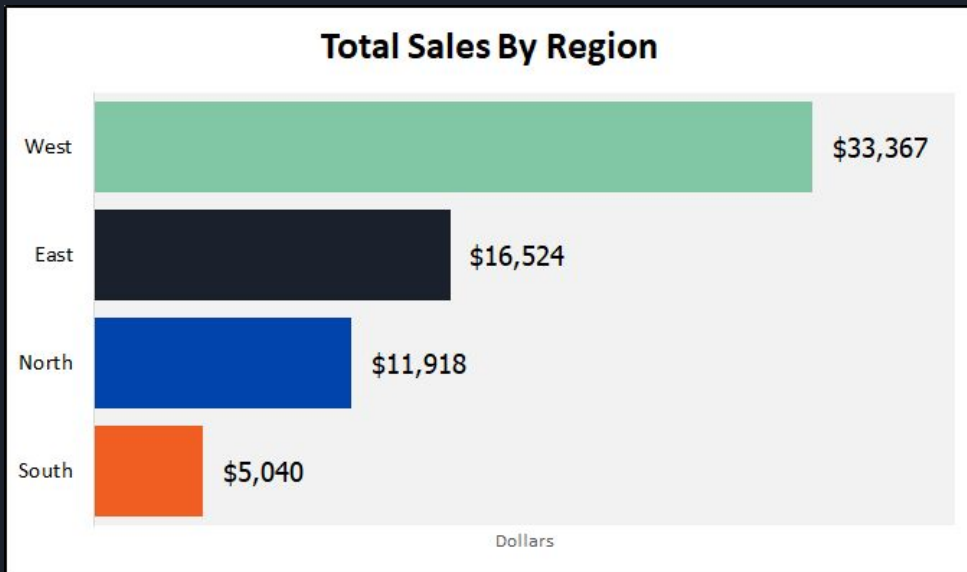
- 100% of customers in the West region were young and middle-aged
- 40% of customers in the South region were elderly
- The North and East regions had similar age demographics

Recommendations

- Prioritize young and working customers

Region ▾	Age	Percentage
= North	18-30	45%
	31-60	42%
	61-90	13%
= South	18-30	22%
	31-60	38%
	61-90	40%
= East	18-30	39%
	31-60	47%
	61-90	14%
= West	18-30	55%
	31-60	45%
	61-90	0%

Do customers in different regions spend more per transaction?
Which regions spend the most/least?



Findings

- About 50% of total sales came from the West region
- South region has huge potential to grow

Recommendations

- Optimize eCommerce experience in East region
- Continue to expand eCommerce presence in South and West region

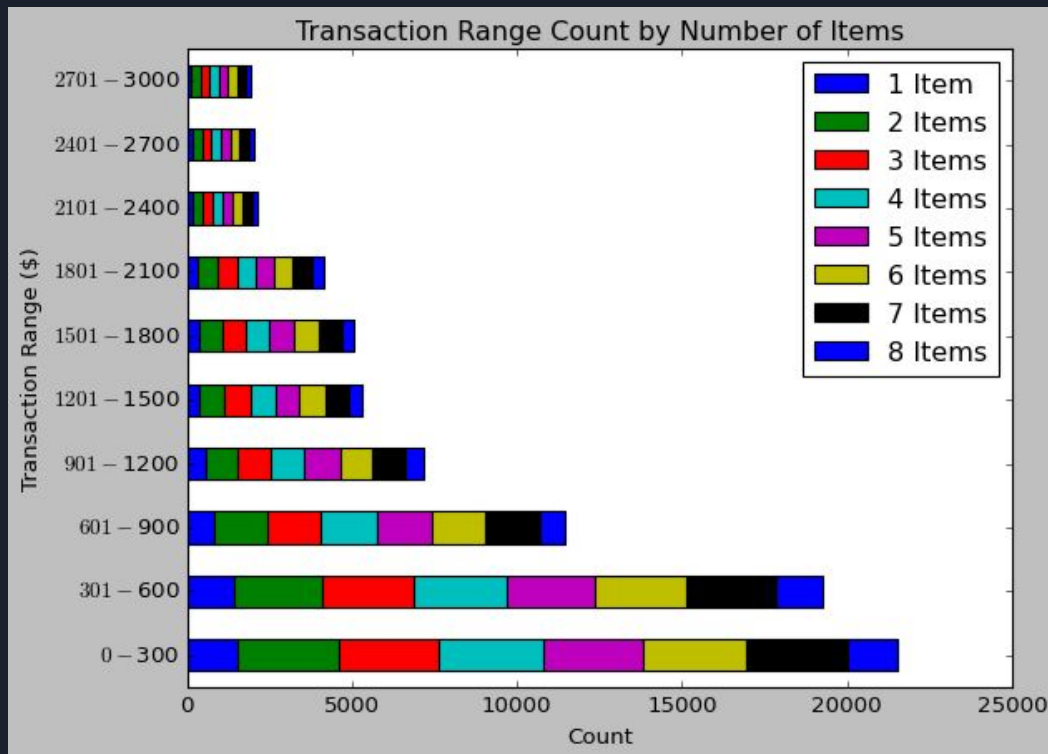
Is there a relationship between number of items purchased and amount spent?

Findings

- 70% of total transaction amounts were between \$0-\$900.
- 84% of total purchases involved between 2 and 7 items.

Recommendations

- Bundle popular items together.
- Have frequent promotions.





What can we anticipate about our **customers**?

we can predict region **62%**
certainty

we can predict purchase type **89%**
certainty

Marketing Focus by Demographics

Increase Large Sales (\$2000+)

8% Last Year's Sales

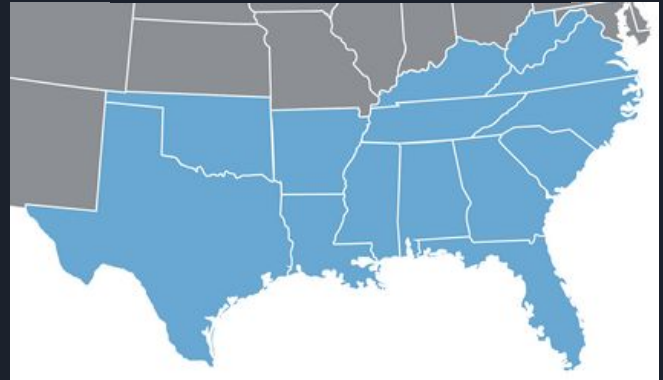
Focus on: Young | East | Online



More Sales from the South

25% Last Year's Transactions


Target: Online | Middle Age | \$-50





Key Highlights and Takeaways

1. eCommerce website is successful!
2. Young and middle-aged customers are our major customer base!
3. Bulk and affordable purchases contribute most to total sales!
4. The South region has huge potential to grow!



Going Forward / Blackwell Electronics' Data-Driven Future

Additional applications for Data Mining and Machine Learning:

1. Optimize product placement in physical stores
2. Future store locations
3. Predicting customer spending patterns
4. Market Basket Analysis (cross-selling)
5. Recommendation systems
6. Automated customer response systems