



# Team: Solarsisters

## Final Project for INFO5001

Northeastern Seattle 2025 Spring Semester

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## Summary

### Market Profit Report

#### 3 Markets:

- Market 1: USA
- Market 2: German
- Market 3: China

Create more than 30 products and Price them differently for different markets.

### Advertising Cost

Advertising Expenses				
	Market 1	Market 2	Market 3	Totals
Channel 1	\$ 59,412	\$ 173,243	\$ 80,346	\$ 313,001
Channel 2	\$ 59,903	\$ 399,900	\$ 288,581	\$ 748,384
Channel 3	\$ 64,495	\$ 448,545	\$ 486,806	\$ 999,846
Channel 4	\$ 265,222	\$ 93,968	\$ 117,294	\$ 476,484
Totals	\$ 449,032	\$ 1,115,656	\$ 973,027	\$ 2,537,715

Add these numbers to the model and print Market Profitability Report as required.

### Channel Profit Report

#### 4 Channels:

- Channel 1: Official Website
- Channel 2: Amazon
- Channel 3: eBay
- Channel 4: Walmart

### User Interaction

#### 1. Employee Portal (with Admin role):

choose from list of reports and see the report

#### 2. Customer Portal :

- Log In
- Sign-Up
- Create new Order

Welcome to Solar Sisters business!!!

Please select from the following options(enter a number):

- 1. Employee portal
- 2. Customer portal
- 3. Exit application

Please enter your username:

Melody

Please enter your password:

password

Login successful!

Welcome to the employee portal, Melody

Please select from the following options(enter a number):

- 1. View Market Profitability Report
- 2. View Channel Profitability Report
- 3. View Advertising Efficiency Report
- 4. Logout

Please select from the following options(enter a number):  
New users must Sign-up first

- 1. Login
- 2. Sign-up
- 2

Welcome to the customer sign-up page!

Please enter your username:

TaylorSwift

Create your password:

password

Welcome TaylorSwift

Your account has been created successfully!

Please select from the following options(enter a number):

- 1. Create new order
- 2. View existing orders
- 3. Logout

# Employee Portal(Admin Role)

## Market Profitability Report:

Solution Offer	Quantities sold in markets			Sales Revenue in markets			Total Revenue	Ad budgets for markets	Profit
	USA	Germany	China	USA	Germany	China			
1. Aerodynamic Cotton Keyboard	1400	0	0	317800	0	0	317800	288581	0
2. Aerodynamic Cotton Keyboard	1969	0	0	941182	0	0	941182	117294	0
3. Aerodynamic Cotton Keyboard	1757	0	0	386540	0	0	386540	486806	0
4. Aerodynamic Cotton Keyboard	1468	0	0	408104	0	0	408104	80346	0
5. Aerodynamic Cotton Keyboard	0	1331	0	0	342067	0	342067	0	-100266
6. Aerodynamic Cotton Keyboard	0	1533	0	0	461433	0	461433	0	-57833
7. Aerodynamic Cotton Keyboard	0	1699	0	0	497807	0	497807	0	448545
8. Aerodynamic Cotton Keyboard	0	1734	0	0	286110	0	286110	0	49262
9. Aerodynamic Cotton Keyboard	0	0	1436	0	0	179500	179500	0	119597
10. Aerodynamic Cotton Keyboard	0	0	1870	0	0	744520	744520	0	265222
11. Aerodynamic Cotton Keyboard	0	0	1657	0	0	439105	439105	0	64495
12. Aerodynamic Cotton Keyboard	0	0	1739	0	0	549524	549524	0	374610
13. Aerodynamic Wooden Shirt	1198	0	0	180898	0	0	180898	288581	0
14. Aerodynamic Wooden Shirt	1429	0	0	617328	0	0	617328	117294	0
15. Aerodynamic Wooden Shirt	2063	0	0	750932	0	0	750932	486806	0
16. Aerodynamic Wooden Shirt	1571	0	0	331481	0	0	331481	80346	0
17. Aerodynamic Wooden Shirt	0	1569	0	0	531891	0	531891	0	399900
18. Aerodynamic Wooden Shirt	0	1225	0	0	531650	0	531650	0	93968
19. Aerodynamic Wooden Shirt	0	2152	0	0	587496	0	587496	0	437682
20. Aerodynamic Wooden Shirt	0	1740	0	0	220980	0	220980	0	138951
							173243	0	47737

## Product Market Report:

Solution Offer	Quantities sold in markets			Revenue in markets			Total Revenue
	USA	Germany	China	USA	Germany	China	
1. Aerodynamic Cotton Keyboard	6594	6297	6702	2053626	1587417	1908649	5549692
2. Aerodynamic Wooden Shirt	6261	6686	5595	1880639	1872017	1757969	5510625
3. Fantastic Granite Clock	6115	6635	6265	1671292	1809530	2059929	5540751
4. Sleek Wooden Chair	7502	5191	7651	1522150	2260675	1945954	5728779
5. Rustic Concrete Hat	6491	6289	5824	1512435	2249765	1655758	5417958
6. Durable Leather Gloves	6311	5729	6291	2491890	1818355	1629666	5939911
7. Fantastic Steel Knife	6252	6275	6994	1262400	2060312	1962600	5285312
8. Lightweight Aluminum Wallet	6959	6672	6352	2153533	2543631	2100051	6797215
9. Ergonomic Silk Hat	6442	6033	6480	1693925	1501737	2158133	5353795
10. Rustic Linen Wallet	7462	6396	6228	1820062	1702507	1988219	5510788
11. Awesome Bronze Lamp	6087	6328	7084	1993071	1837190	2143695	5973956
12. Fantastic Wool Wallet	6265	6450	6406	2319442	2509000	1723831	6552273
13. Intelligent Rubber Computer	6914	6054	5797	2762189	1583265	1759606	6185060
14. Lightweight Iron Gloves	6430	6716	6102	1755490	2260986	1900109	5916585
15. Synergistic Granite Keyboard	6059	6907	6095	1548951	2000128	1815366	5364445
16. Awesome Bronze Pants	6418	6570	6837	1226406	1496772	2126891	4850069
17. Incredible Marble Table	6087	7217	6623	2029297	2273842	2604693	6907832
18. Aerodynamic Wool Gloves	7070	7052	6567	1536701	2204003	2257125	5997829
19. Mediocre Cotton Bottle	5382	6299	6298	1370333	1792147	1966695	5129175
20. Fantastic Marble Coat	5864	6402	6616	1463720	1367346	2134545	4965611

## Channel Profitability Report:

Solution Offer	Profit	Quantities sold in channels			Sales Revenue in channels			Total Revenue	Ad budgets for channel
		Website	Amazon	eBay	Walmart	Website	Amazon	eBay	Walmart
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1. Awesome Wooden Coat	0	1706	0	0	0	220074	0	0	0
2. Awesome Wooden Coat	0	1494	0	0	0	204678	0	0	0
3. Awesome Wooden Coat	0	1447	0	0	0	522367	0	0	0
4. Awesome Wooden Coat	0	1839	0	0	0	785253	0	0	0
5. Awesome Wooden Coat	0	1814	0	0	0	667552	0	0	0
6. Awesome Wooden Coat	0	1377	0	0	0	347004	0	0	0
7. Awesome Wooden Coat	0	0	0	1693	0	294582	0	0	0
8. Awesome Wooden Coat	0	0	0	1871	0	310586	0	0	0

## Advertising Efficiency Report:

Market	Channel	Revenue	Ad Budget	Profit	Efficiency
USA	Official Website	15488885	59412	15429473	259.70
USA	Amazon	14604735	59903	14544832	242.81
USA	eBay	16006796	64495	15942301	247.19
USA	Walmart	12645267	265222	12380045	46.68
Germany	Official Website	16245071	173243	16071828	92.77
Germany	Amazon	15025782	399900	14625882	36.57
Germany	eBay	15032973	448545	14584428	32.51
Germany	Walmart	13899081	93968	13805113	146.91
China	Official Website	15510076	80346	15429730	192.04
China	Amazon	16636833	288581	16348252	56.65
China	eBay	14278723	486806	13791917	28.33
China	Walmart	16000690	117294	15883396	135.42

# Intelligent Advertising Cost Allocation System

Innovative Feature: Smart Advertising Budget Allocation Algorithm

## Multi-level Allocation Strategy:

- Global Allocation: Distributes overall advertising budget based on market-channel efficiency ratios
- Local Optimization: Optimizes product advertising expenditure within a single market-channel

## Core Technical Advantages:

- Dynamic resource allocation based on sales efficiency
- Automatic avoidance of invalid data (NaN, zero value handling)
- Two-tier algorithm ensures optimal resource allocation

# Customer Portal

Please select from the following options(enter a number):

1. Create new order
  2. View existing orders
  3. Logout
- 1

Please select the market:

1. USA
  2. Germany
  3. China
- 1

Please select the channel(enter a number):

1. Official Website
  2. Amazon
  3. eBay
  4. Walmart
- 1

🌟 Exclusive Deals - Shop Direct on Our Official Website! us 🛒

Showing advertisement for USA on Official Website

Please select the item you want to buy(enter a number):

1. Awesome Copper Car (Price: 161)
2. Sleek Rubber Car (Price: 343)
3. Mediocre Leather Table (Price: 406)
4. Heavy Duty Concrete Gloves (Price: 299)
5. Durable Steel Gloves (Price: 163)
6. Lightweight Rubber Knife (Price: 337)

120. Aerodynamic Silk Chair (Price: 114)

99

Please enter the quantity:

1

The item has been added to your cart.

Please select from the following options(enter a number):

1. Add more items to the order
  2. Place order
- 2

Congratulations! Your order has been placed successfully.

The order ID is 805173

Item	Price	Quantity	Item Total
Mediocre Bronze Coat	182	1	182
Enormous Granite Computer	137	1	137

Total price of the order: 319

Thank you for shopping with us!

Returning to the customer homepage...

Please select from the following options(enter a number):

1. Create new order
2. View existing orders
3. Logout

# Customer Portal

Please select from the following options(enter a number):

1. Add more items to the order
  2. Place order
- 2

Congratulations! Your order has been placed successfully.

The order ID is 441529

Item	Price	Quantity	Item Total
Ergonomic Rubber Gloves	268	1	268
Aerodynamic Silk Chair	109	2	218

Total price of the order: 486

Thank you for shopping with us!

Returning to the customer homepage...

Place order and show order details

Please select from the following options(enter a number):

1. Create new order
  2. View existing orders
  3. Logout
- 2

Please select the order to view(enter a number):

1. Order ID: 805173
2. Order ID: 441529
3. Back to customer homepage

Keep creating new order and view all existing orders

# Customized Advertisement

Please select the channel(enter a number):

1. Official Website
2. Amazon
3. eBay
4. Walmart
- 4

📱 中国购物狂欢 · 尽在沃尔玛! 🎉 CN  
Showing advertisement for China on Walmart

Please select the item you want to buy(enter a number):

1. Awesome Copper Car (Price: 238)
2. Sleek Rubber Car (Price: 149)
3. Mediocre Leather Table (Price: 166)
4. Heavy Duty Concrete Gloves (Price: 338)
5. Durable Steel Gloves (Price: 322)
6. Lightweight Rubber Knife (Price: 196)

Language: Chinese

Please select the channel(enter a number):

1. Official Website
2. Amazon
3. eBay
4. Walmart
- 2

📦 Top-Angebote für Deutschland – Jetzt auf Amazon.de! 📦 DE  
Showing advertisement for Germany on Amazon

Please select the item you want to buy(enter a number):

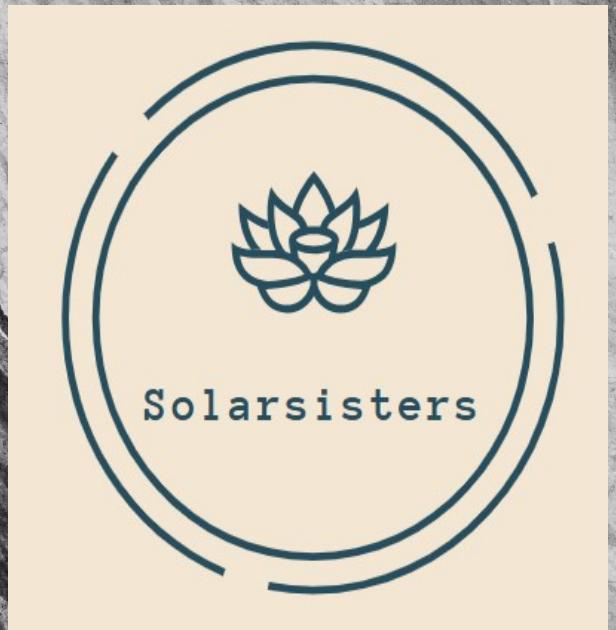
1. Awesome Copper Car (Price: 345)
2. Sleek Rubber Car (Price: 253)
3. Mediocre Leather Table (Price: 136)
4. Heavy Duty Concrete Gloves (Price: 470)
5. Durable Steel Gloves (Price: 214)
6. Lightweight Rubber Knife (Price: 459)

Language: German

# Business Perspective

Our application provides valuable insights into:

- Which markets are most profitable for specific products
- Which channels provide the best return on advertising investment
- How to optimize product offerings across different markets
- The effectiveness of our advertising expenditure



Thanks for attention

**Team: Solar Sisters**

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