BUSINESS REPORT

Coursework report for ST2187

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Executive Summary

This report aims to improve the profitability and competitiveness of the company through boosting revenue, minimizing cost and improving customer experience by leveraging on key insights for appropriate strategies. The company has to continuously review and streamline its profit flow to achieve good consistent returns, additionally to optimize processes to remain attractive to customers.

Product Mix

Product mix for segments and category have remained relatively unchanged while market share has adjusted over time. Also, profit margins within the market, segments and category vary, readjusting focus on highly profitable aspects is proposed. Anomalies in profit and sales will be extensively investigated to further understand the opportunities it offers and the threats it presents.

Discount Evaluation

Historically, high discounts have proven to be ineffective and induce sizeable loss. It is advisable to restrict and review all current discount policies and be conservative in future discounts.

Shipment Analysis

Standard shipment is heavily utilized however second class shipment is most profitable, restructuring of shipment process is of paramount importance to remain competitive. A deeper understanding of shipment choices allows for a better understanding of popular product features and improves overall customer experience.

Product Analysis

Prioritizing sub-categories to establish a strong presence in profitable markets is recommended. Establishing a complementary bundling strategy and further investigating individual products allows for targeted strategies to tackle underperforming products, boost highly profitable products and exploit popular products. Also, major reassessment and overhaul of tables are critical due to unprofitability.

Country Performance

Country segments' performance is categorized for catered strategies to boost overall profits. Bottom and top performers are also thoroughly analyzed to eliminate ineffectiveness to reap higher profits and improve customer experience.

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Company overview

Reference 1.1 – Company overview

Profit, Sales & Quantity growth

Profit, Sales & Quantity

	2011	2012	2013	2014
Sales	7,066,631	8,235,204	10,481,384	13,569,058
Profit	736,630	948,043	1,227,796	1,609,955
Profit margin	10.42%	11.51%	11.71%	11.86%
Profit growth		28.70%	29.51%	31.13%
Sales Growth		16.54%	27.28%	29.46%
Quantity growth		21.31%	28.77%	26.38%

Projected profits

Sceanrio		2014 Actual	2015	2016	2017
Worst Case (28.7%)	Profit growth	29.8%	38.3%	49.3%	63.5%
	Profit	$1,609,955	$2,227,000	$3,325,505	$5,436,650
Base (29.8%)	Profit growth	29.8%	38.7%	50.2%	65.1%
	Profit	$1,609,955	$2,232,274	$3,352,283	$5,535,463
Best Case (31.1%)	Profit growth	29.8%	39.0%	51.2%	67.1%
	Profit	$1,609,955	$2,238,507	$3,384,515	$5,656,618

Sales are growing at an average of 24.43 % yearly, with increasing growth rate every year forward.

Profit margin averages at 11.34% and profit growth rate average at 29.78%, increasing yearly.

The quantity growth rate has slowed down from 2013 to 2014[1], with the average quantity growth rate of 25.49% yearly. Given profits and sales are rising, we can conclude that either:

1. Reduction of sales of unprofitable products
2. Increase in sales of highly profitable products

Recommendation

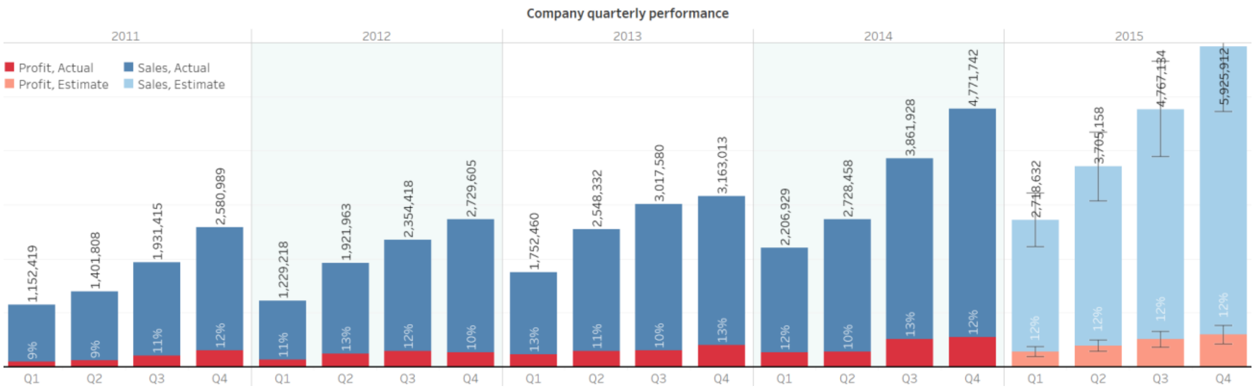
- Set 2014 as the model for best practice to obtain best case scenario profit growth rate, estimating further profit accumulation of $160k from projected profits from 2015 to 2017[2].

[1] Quantity growth dropped by 2.39% from 2013 to 2014 (2013: 28.77%, 2014: 26.38%)

[2] Sum of projected best-case profit – sum of projected base profit = $160k

Company quarterly performance

Reference 1.2 – Company quarterly performance



Sales follow a seasonal pattern, with a sudden drop in sales in Q1. Observed sales growth as the year progresses[3].

<u>Recommendation</u>

- Implement flexible employment[4] on a quarterly or yearly basis that terminates at year-end. This optimizes labor employment, reducing employment spending and worker management.
- Source for adjustable storage unit schemes that allow for efficient utilization of space to reduce storage infrastructure overhead cost[5].
- Experimental solutions should be tested in Q1 to minimize the risk of disrupting sales.

[3] Average % of total year sales, Q1: 16.11%, Q2: 21.86%, Q3: 28.37%, Q4: 33.66%

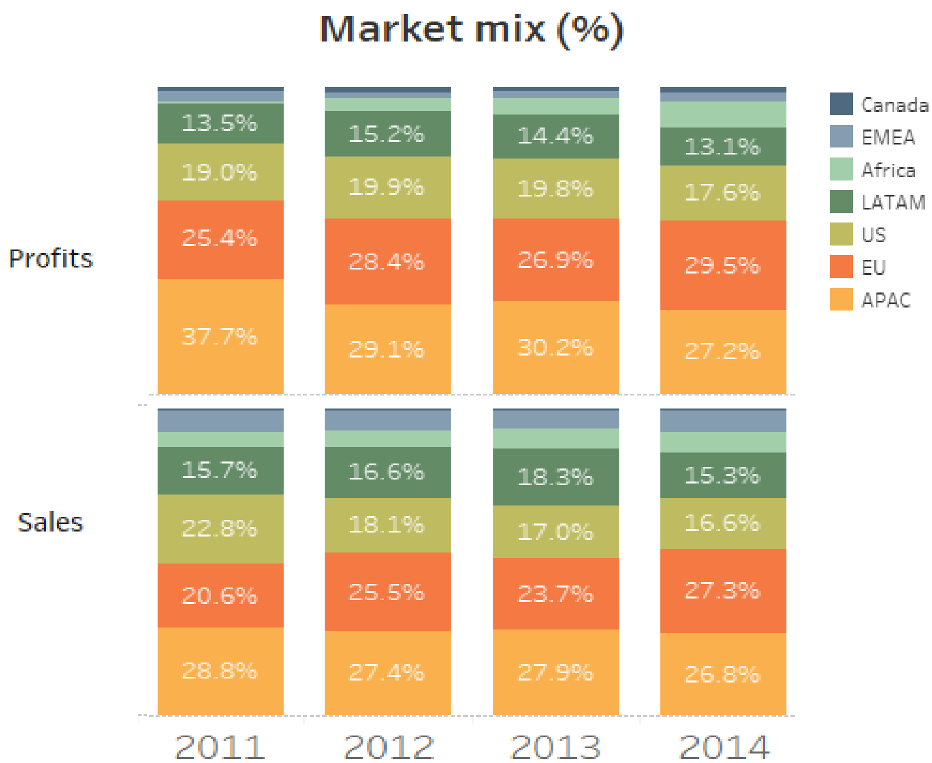
[4] Part-time and contractual employment

[5] In 2014 sales increase by 53.8% from Q1 to Q4, indicating more than 50% unutilized storage in Q1

Product Mix

Reference 2.1 – Product mix

Market mix



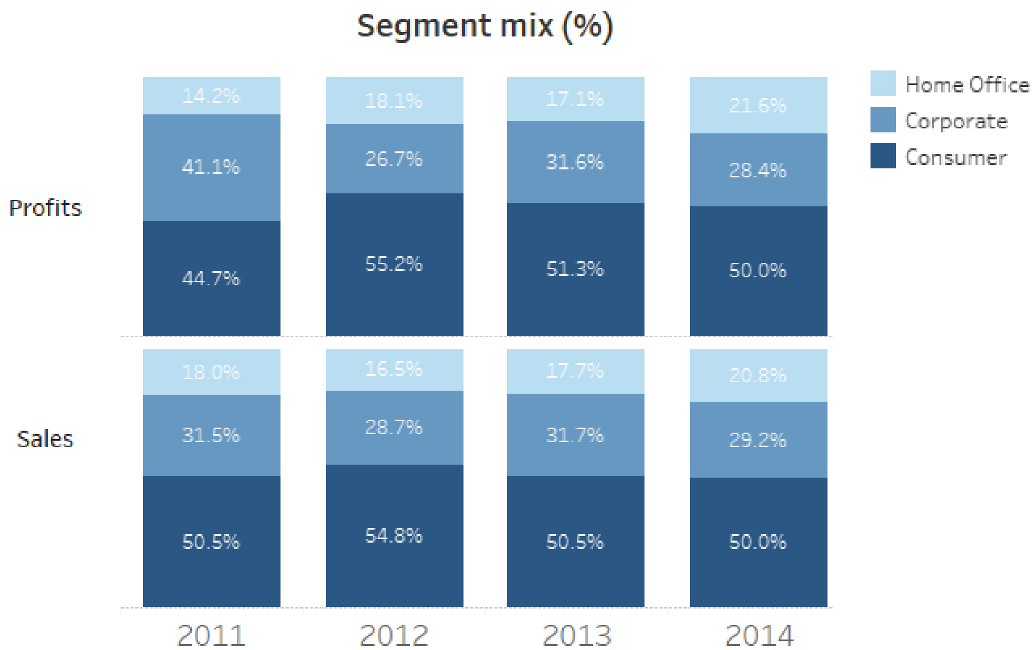
Profit contribution from markets is not proportional to sales. APAC and EU have a higher than proportional profit to sales ratio[6]. EU and Africa sales market share[7] has been growing relatively faster than other markets, APAC market has declined in market share and overtaken by EU in 2014.

<u>Recommendation</u>

- Aggressive expansion into EU and Africa to leverage on rising demand, especially into EU with higher profit margins.
- The profit margin for APAC in 2011 is exceptionally high[8], reintroduce similar business models as in 2011 to suit APAC preferences.

[6] APAC and EU average yearly sales amount to 52.3% and yearly profit of 56.0%
[7] From 2011 to 2014, EU and Africa market share grew by 6.7% and 8.2% respectively
[8] 28.8% of sales accounts for 37.7% of profits

Segment mix



Profit contribution by segment is consistent with the sales. Little changes in demand in corporate and consumer[9], but an increase in home offices[10].

<u>Recommendation</u>

- Boost marketing initiatives towards consumers who contribute over 50% of total sales.
- Design corporate bundles similar to 2011 because of significant higher profit margin[11].

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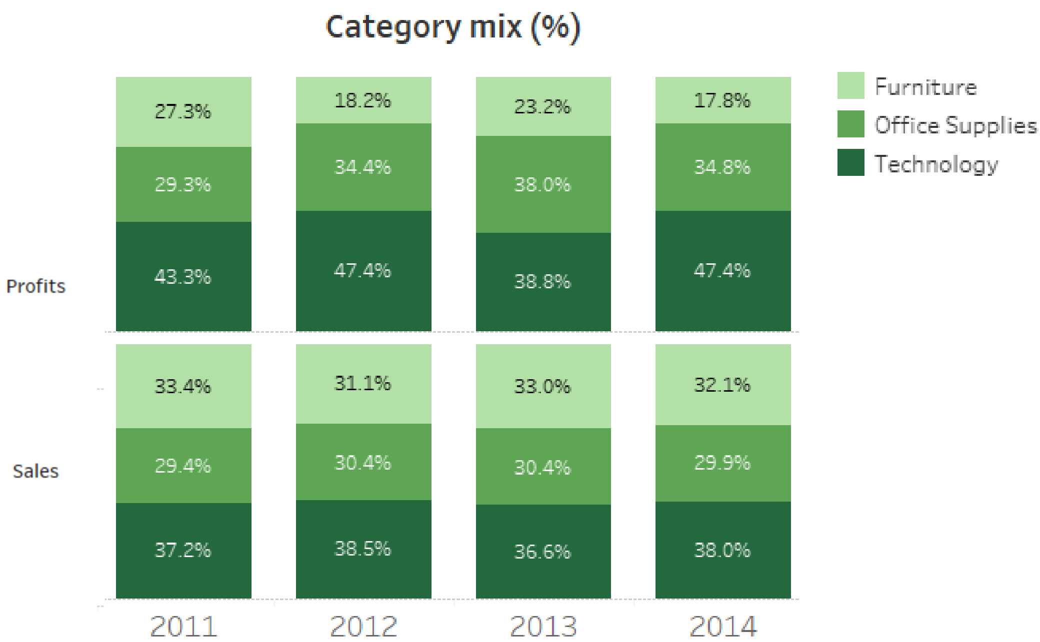
[9] Segment has a ratio of 5:3:2 with consumer, corporate and home office respectively

[10] Increase in sales mix from 16.5% to 20.8% in 2012 to 2014

[11] 2011 corporate accounts for 41.1% of profits despite sales of 31.5%

Category mix



Profit contribution by categories is inconsistent with the sales, suggesting that technology has the best profit margins, followed by office supplies. Furniture profits less than proportional to sales[12]. There is also little changes in demand of categories[13].

<u>Recommendation</u>

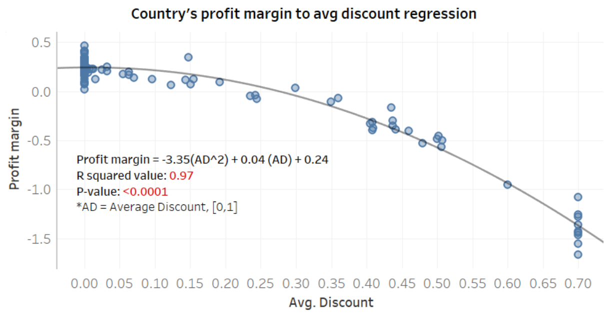
- Divert resources from furniture to technology, expanding technology catalog to leverage on the higher profitability.

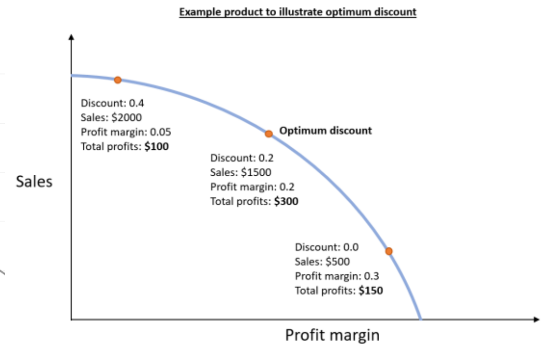
[12] Furniture account for 32.1% of sale but only 17.8% of profits in 2014

[13] Segment has a ratio of 4:3:3 with technology, office supplies and furniture respectively

Discount Evaluation

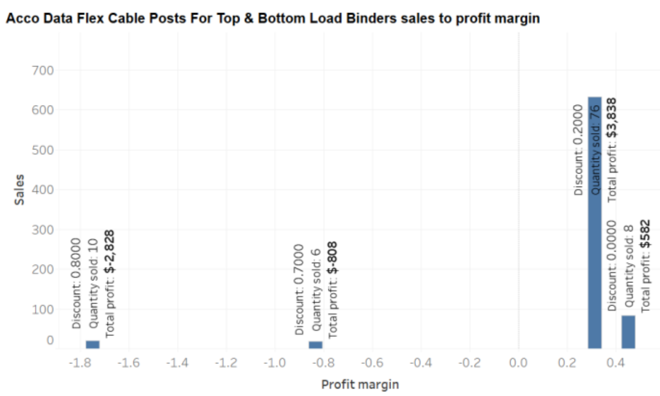
Reference 3.1 – Discount Evaluation

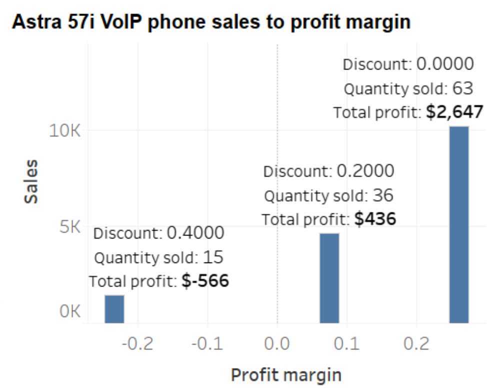




Discount strategies are designed to spur more sales, however may incur a loss as excessive discounts are prescribed. The regression model demonstrates that increasing discounts beyond 0.27[14] results in a loss.

<u>Recommendation</u>





- Discounts only work for certain product[15] where sales increases accordingly. For products that benefit from discounts, the "optimum discount" has to be identified through investigation[16] for implementation.
- Strictly limit discounts to below 0.27[17].

[14] With reference to the profit margin equation, when AD = 0.27, the profit margin will be 0.

[15] i.e Acco Data Flex Cable Posts has beneficial discounts, Astra 57i VoIP does not have beneficial discount

[16] Holding all other variables constant, test sales and profit margin of products through various discounts, before calculating profits (profit margin x sales) and optimum discount (highest profit)

[17] Only 1 country (Indonesia) maintains a positive profit margin with 0.3 average discount

Shipping Mode analysis

Reference 4.1 – Shipping mode analysis

Shipment ratio

Ratio of shipping piority to mode

Order Priority	Same Day	First Class	Second Class	Standard Class	Grand Total
Critical	21.0%	42.2%	36.9%		100.0%
High	8.2%	21.8%	25.8%	44.2%	100.0%
Medium	2.2%	8.0%	16.3%	73.5%	100.0%
Low				100.0%	100.0%
Grand Total	5.3%	14.3%	19.9%	60.5%	100.0%

	Same Day	First Class	Second Class	Standard Class
Avg. Days before shipping	0.03	2.17	3.25	4.99
Avg. Shipping Cost	$43.77	$40.15	$30.40	$19.98

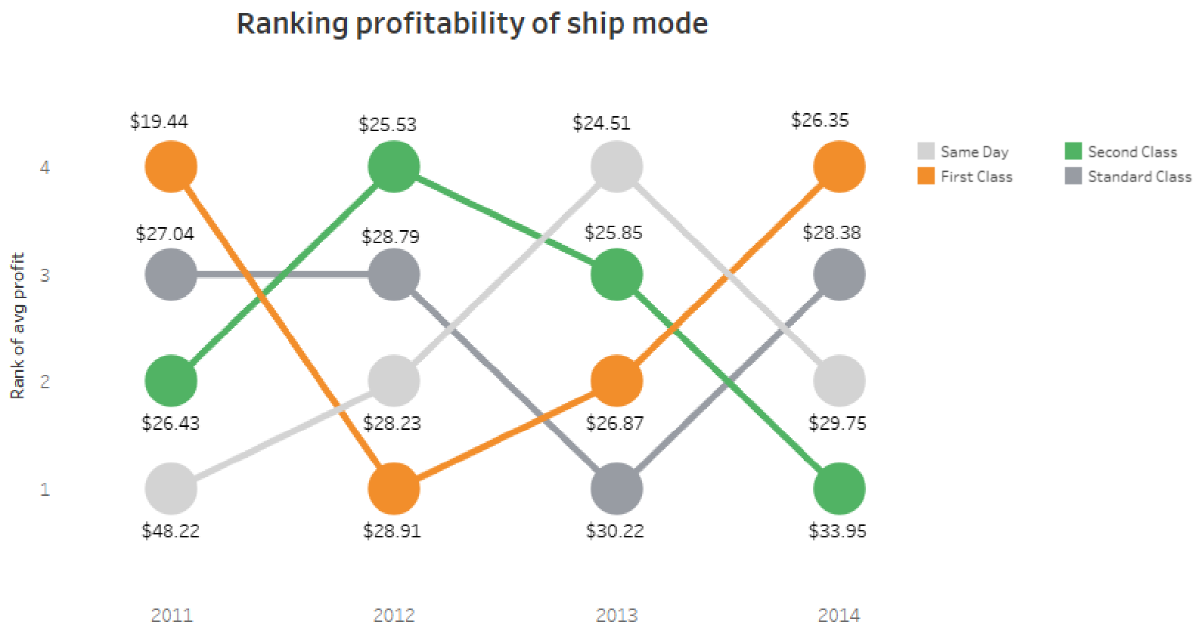
High, medium and low order priority relies heavily on standard class shipments. As higher class shipment mode results in faster shipments, the respective priority rating requires suitable shipment modes as excessive delays would assumingly result in refunds and customer dissatisfaction (Voxware, 2012).

<u>Recommendation</u>

- Given standard class is significantly cheaper[18], customers are highly price elastic to shipping cost. Adjust pricing for same day, first class and second class shipping with shipment partners to remain competitive and to optimize shipping mode usage.
- Despite same day delivery costing 10% more and decreasing shipping delays by 98.6%, the majority of critical orders prefer first class. Review collaborations with same day delivery services through customer feedback to understand the underlying issues.

[18] Standard class is 25.3%, 50.2% and 54.4% cheaper than second class, first class & same day delivery respectively

Ranking shipment profitability



Despite the majority of customers preferring standard class, the second class has improved in relative average profit and the first class has deproved. Standard class and same day have an inconsistent fluctuating rank of average profit and no visible pattern.

<u>Recommendation</u>

- Divert marketing resources from first to second class to leverage on high profitability of shipment mode.

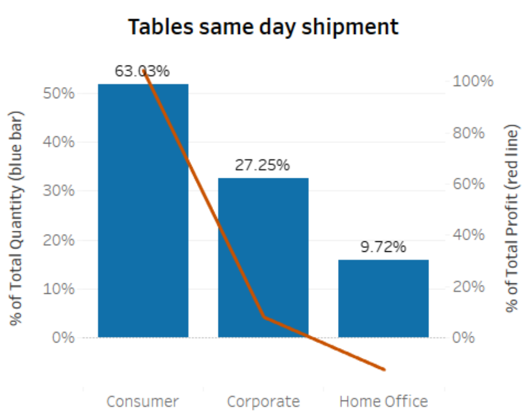
Sub-category shipment profitability

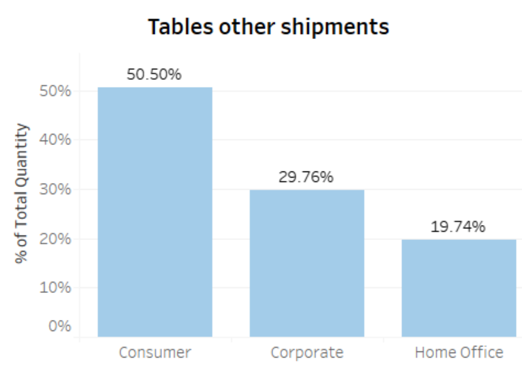
Sub-category shipment profit per item

	Same Day	First Class	Second Class	Standard Class
Accessories	$11.60	$10.16	$12.54	$11.07
Appliances	$28.03	$21.23	$19.84	$22.92
Art	$3.61	$3.63	$3.36	$3.65
Binders	$3.53	$3.26	$3.74	$2.77
Bookcases	$15.36	$22.51	$17.89	$19.26
Chairs	$12.35	$9.36	$13.17	$12.32
Copiers	$44.19	$41.33	$32.86	$32.37
Envelopes	$3.36	$3.26	$3.85	$3.70
Fasteners	$1.06	$1.17	$1.45	$1.33
Furnishings	$5.60	$3.77	$4.30	$4.74
Labels	$1.59	$1.43	$2.01	$1.71
Machines	$38.53	$-0.78	$12.73	$12.87
Paper	$5.05	$4.39	$4.90	$4.61
Phones	$-0.28	$17.16	$16.55	$19.64
Storage	$6.12	$3.62	$5.85	$6.65
Supplies	$2.31	$2.04	$3.06	$2.49
Tables	$17.18	$-19.42	$-24.75	$-19.30

Sub-category profit varies amongst various shipment modes for Tables[19], Machines[20] and Phones[21]. Differing shipment modes could entail different reliability, insurance policies, speed of delivery and country coverage (Mary R Brooks, 2012).

<u>Recommendation</u>





- Same day table shipments have a higher proportion of consumer and reap higher profit margin. Last-minute options and consumer-friendly features should take priority when replacing table catalog.
- Investigate characteristics of first class machines and same day phones[22].

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[19] Same day obtains positive profit, other shipment mode results in a loss
[20] Only first class shipments results in a loss relative to other shipment modes
[21] Only same day shipments results in a loss relative to other shipment modes
[22] Same day delivery could result in mishandling of fragile phones and result in a refund

Product Analysis

Reference 5.1 – Product Analysis

Ranking sub-category

Rank of sub-category (Profit)

Sub-Category	2011	2012	2013	2014	Grand Total
Copiers	4.00	2.00	1.00	1.00	2.00
Phones	1.00	1.00	7.00	2.00	2.75
Chairs	2.00	4.00	2.00	5.00	3.25
Bookcases	3.00	6.00	3.00	3.00	3.75
Appliances	5.00	5.00	4.00	4.00	4.50
Accessories	6.00	3.00	6.00	6.00	5.25
Storage	8.00	7.00	5.00	7.00	6.75
Binders	11.00	9.00	9.00	8.00	9.25
Paper	7.00	12.00	8.00	11.00	9.50
Art	9.00	10.00	11.00	9.00	9.75
Machines	12.00	8.00	12.00	10.00	10.50
Furnishings	10.00	11.00	10.00	12.00	10.75
Envelopes	13.00	13.00	13.00	13.00	13.00
Supplies	14.00	14.00	14.00	14.00	14.00
Labels	15.00	15.00	15.00	15.00	15.00
Fasteners	16.00	16.00	16.00	16.00	16.00
Tables	17.00	17.00	17.00	17.00	17.00

Sub-categories are ranked[23] on yearly profit contributed.

<u>Recommendation</u>

- Exclusive deals with suppliers of top quartile sub-categories ensure monopoly over this sub-category.
- Streamline bottom quartile sub-categories catalog by eliminating unprofitable products.

[23] Rank is calculated by averaging the total profit rank across the year

Complementary goods

Frequently bought together sub-category

	Accessories	Appliances	Art	Binders	Bookcases	Chairs	Copiers	Envelopes	Fasteners	Furnishings	Labels	Machines	Paper	Phones	Storage	Supplies
Appliances	198															
Art	470	295														
Binders	588	391	895													
Bookcases	246	149	385	479												
Chairs	347	186	467	595	281											
Copiers	227	151	333	424	218	275										
Envelopes	274	155	359	452	222	308	218									
Fasteners	233	162	408	430	225	298	193	224								
Furnishin..	355	201	467	595	259	366	212	255	260							
Labels	269	144	387	480	231	290	243	225	227	286						
Machines	146	99	267	312	145	165	121	135	131	161	154					
Paper	373	253	480	684	262	394	219	254	265	379	280	158				
Phones	387	212	520	632	270	362	252	277	276	374	276	191	380			
Storage	492	272	833	944	396	474	362	378	383	478	422	269	516	536		
Supplies	246	156	336	455	203	309	207	214	222	255	226	124	233	267	385	
Tables	99	61	115	151	61	97	67	67	58	97	80	38	96	103	129	57

Observing the products frequently bought together, we can boost sales of multiple products by targeting one product due to complementary nature.

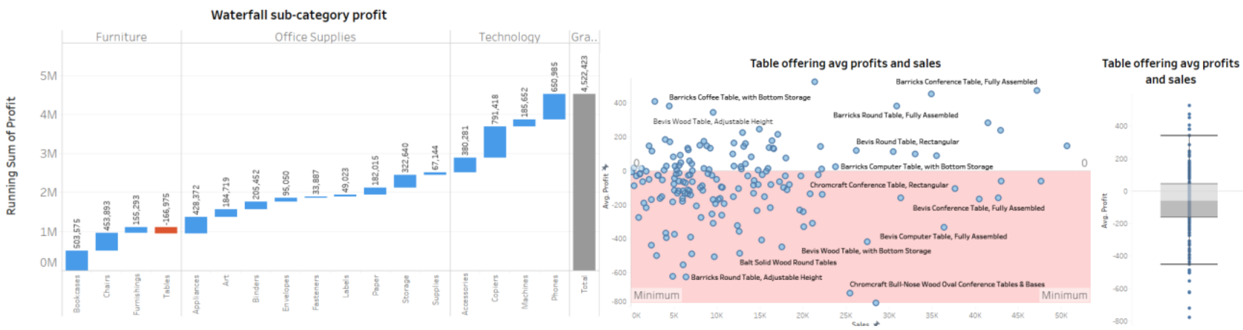
<u>Recommendation</u>

- Bundle options for complementary products to stimulate an increase in sales per order.
- Expand the selection of complementary products[24] to top-quartile sub-category incentivizes customers to purchase both products from the company.
- Tables are not complementary to other products, justifying a reduction in table catalog.

[24] Mainly Binders and Storage

Tables Restructuring

Reference 5.2 – Tables Evaluation



Delving deeper into the lowest ranking sub-category, tables is the only sub-category producing an overall loss of $166,975. Tables have a negative median[25], proving that the majority of the table catalog is unprofitable.

<u>Recommendation</u>

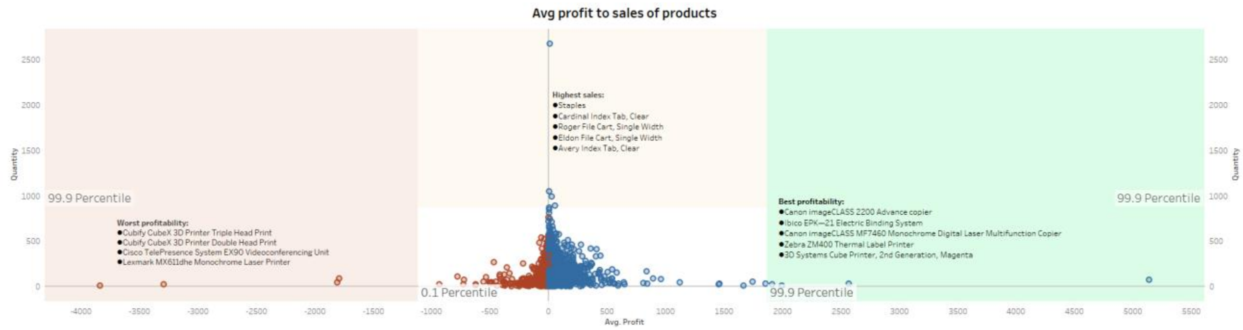
- Streamlining table offerings by reducing unprofitable products, starting with high sales and high average loss. Expected savings up to $205k[26] in 2015.
- Investigate common characteristics of high and low profit and sales tables for future review of new options.

[25] IQR is -$61

[26] Expected loss growth of 31% (average of loss growth), resulting in expected total table loss of $205k in 2015

Individual product performance

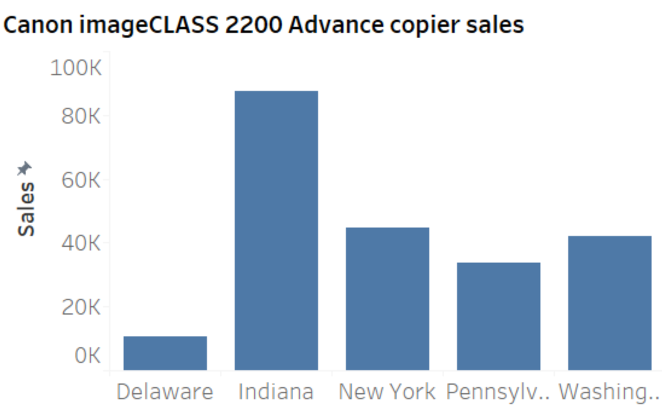
Reference 5.3 – Individual Product Analysis



Products in the red region are highly unprofitable, products in the green region are highly profitable and products in the yellow region are popular products.

<u>Recommendations</u>

- The red region should be terminated immediately.
- The green region products, mainly copiers and binders should be thoroughly investigated to identify key features in its profitability.
- Bundle popular products with complementary products to increase sales per order.

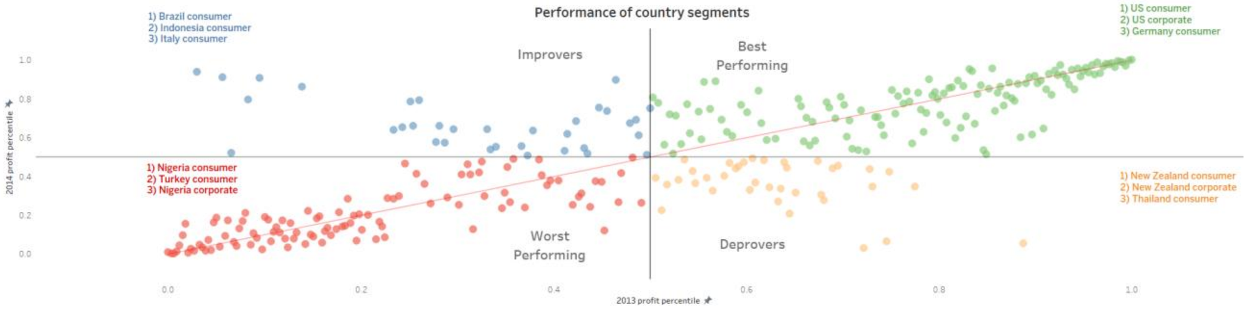


- Product with best average profit[27] is only sold in the US. The product could be available only in the US, consider exporting this product to other countries.

[27] Best performance in average profit, Canon imageCLASS 2200 Advance copier (TEC-CO-10004722)

Country performance

Reference 6.1 – Country performance



The performance of country segments is plotted against profit percentiles in 2013 (x-axis) and 2014 (y-axis). The graph is segmented into 4 quadrants[28]. The red 45 degrees line across the graph represents the improvement line, country segments below the line have worsened over the year and improved if above the line.

Recommendation

- Best performers' and Improvers' business models should be set as the best practices.
- For country segments below the improvement line (especially Deprovers quadrant), aggressive marketing to boost profits to sustain overall future profit growth.
- Worst performers should be streamlined,
    - Adopt the best performers' business model and adapted to suit local preference.
    - In extreme cases, eliminate volatile country segments if unprofitable due to external event[29].

[28] bottom-left is worst performers, bottom-right is de-provers, top-left is fast improvers and top-right is best performers

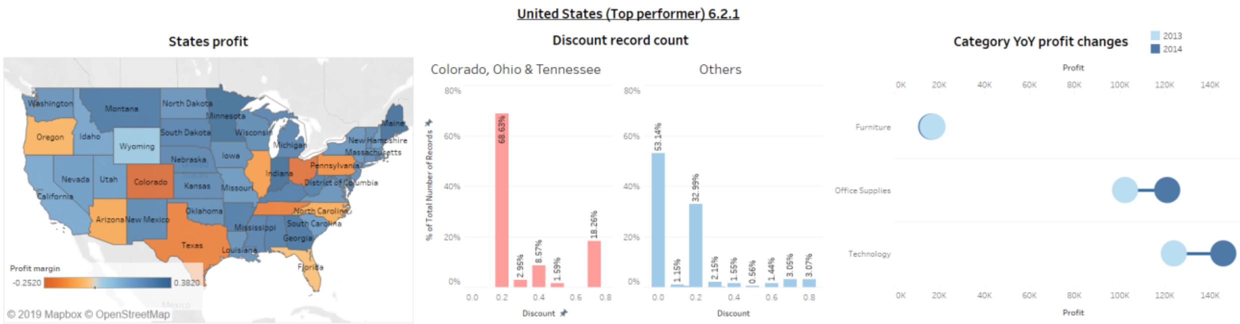
[29] Environmental factors, political instability, natural disasters, collapsing economy

Top / bottom performer evaluation

Reference 6.2 – Top & bottom performance countries analysis

Best performer

Reference 6.2.1 – United States (Top performer) 6.2.1



The United States achieved the best overall performance[30], delving deeper is of paramount importance in eliminating ineffectiveness. While overall profits margins are high, several states[31] are reaping in a loss. Technology profits have also improved.

<u>Recommendation</u>

- The 3 least profitable states have higher discounts[32] than other states. Discounts in these 3 states should be more conservative.
  - Reduce discounts from products
  - Cut out 0.7 discount entirely, expected saving to be $89.8k[33]
- With the rapid introduction of disruptive technology (James Manyika, 2013) and growing technology profits, other country technology catalog should adopt similar products to US technology to remain competitive[34].

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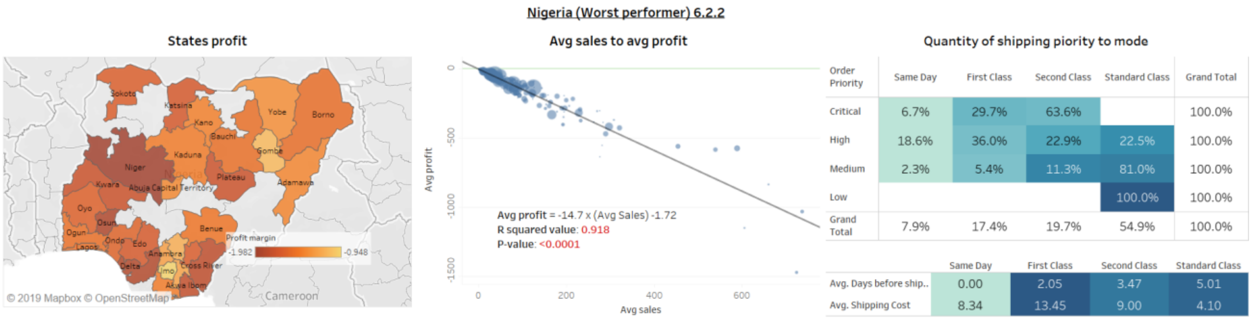
[30] 2 of top 3 country segment are US consumers and corporate as seen in "Performance of country segment"
[31] Colorado, Tennessee and Ohio
[32] Other states have 53% non-discounted items, mentioned 3 states do not have any non-discounted items
[33] Assuming all sales in 0.7 discount will cease once the discount is terminated
[34] Technology relevance is important to increase sales

Worst performer

Reference 6.2.2 – Nigeria (Worst performer) 6.2.2



Nigeria scored last in overall profitability[35], salvaging profitable aspects would result in considerable savings.

Nigeria performed the poorest amongst all countries due to,

1. All states yield a loss[36].
2. Average profit decreases as sales increases[37], proving an unsustainable long-run market.

Operationally, the average shipment cost for same day shipment cost is lower than first and second class shipment[38]. Critical order priority is heavily skewed towards second class shipment[39], while most high priority orders skewed to first class shipment despite same day to have a lower cost.

<u>Recommendation</u>

- Rectifying shipment mode selection issue,
    - Assuming shipment mode is selected by customers, review extremely unpopular same day delivery services.
    - Customers could be misinformed on pricing and suitable shipment modes. Implement a shipment mode recommendation system to advise on appropriate shipment mode.

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[35] 2 of bottom the 3 country segment are Nigeria consumer and corporate, seen in "Performance of country segment"

[36] Profit margins range from -0.9 to -2.0

[37] According to the regression line (Avg profit = -14.7 x [Avg Sales] -1.72), Nigeria is unlikely to return positive profits

[38] Cost of same day delivery is 67.0% and 92.6% of first class and second class shipment respectively

[39] Second class shipment is for 63.6% of critical orders

- Resolving overall loss from Nigeria,
  - An investigation is needed to identify factors for its high unprofitability. 2013 is especially unprofitable and is the main focus of the investigation.
  - Due to Nigeria's political instability from the Boko Haram interference (Maïa de la Baume, 2014), withdrawing from Nigeria is advised in extreme cases until the situation is less volatile. Withdrawing from Nigeria would assumingly result in a saving of $67k[40] year on year.

[40] On average expected to save on loss to be $67k, minimum(2012) of $55k and maximum(2013) of $88k

Appendix

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