



**APICS CASE  
COMPETITION**

In collaboration with  
**Deloitte.**

# IMPROVING TECHSOFT'S BOTTOMLINE THROUGH COST CUTTING INITIATIVES

Unique ID: 2102302

## PROBLEM STATEMENT

*Techsoft is facing pressure to cut costs in its global supply chain operation for its new vision card.*

SITUATION	PROBLEMS	ASSUMPTIONS	SOLUTIONS
<ul style="list-style-type: none"><li>• The production and warehouse facilities in Singapore are serving the North American market.</li><li>• Industry is known for high customer service level, short lead time, and desirable delivery efficiency, which may lead to higher costs in production.</li><li>• Meanwhile, Techsoft expects to cut the current 4 suppliers down to 2 for cost advantage.</li></ul>	<ul style="list-style-type: none"><li>• High shipping cost due to several expedited orders.</li><li>• High total holding cost due to excess inventory.</li></ul>	<ul style="list-style-type: none"><li>• Production model: Make-to-Order.</li><li>• Techsoft currently applies the same order processing strategy to all customers.</li><li>• Specifications are locked in 2-3 weeks before production. Volume detail may be changed up to 2 weeks before receipt</li><li>• Weekly production capacity is 350.</li><li>• Semi-finished graphics cards are held in inventory for 7 weeks.</li></ul>	<ul style="list-style-type: none"><li>• Tailor service offerings to each customer segment.</li><li>• Consolidate the number of suppliers.</li><li>• Utilize technology to better forecast demand and manage inventory.</li></ul>

# INDUSTRY OVERVIEW

## Graphics Card and Computer Chip Manufacturing

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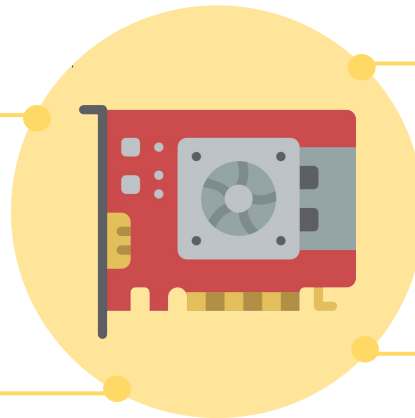
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Driven by rapid technological change and evolving industry standards

**20%** of revenue spent on **R&D**

Price continues to **fall**  
at an annualized rate of **1.4%**

→ pressure on profitability

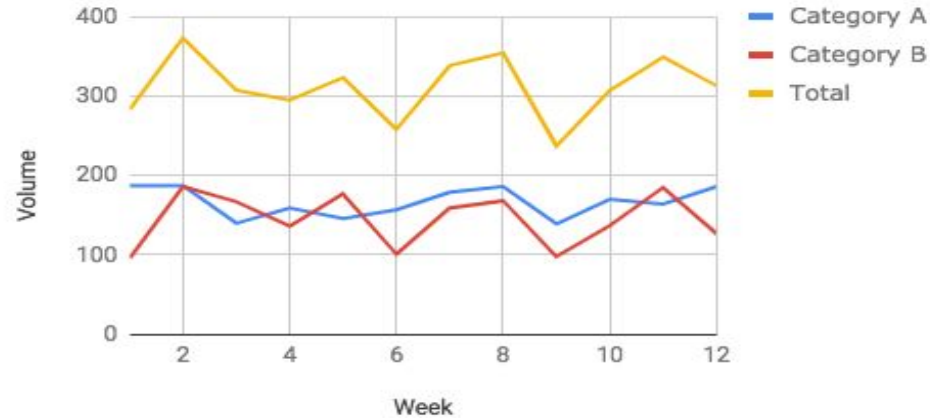


**Highly competitive** in performance,  
product offering, access to customers

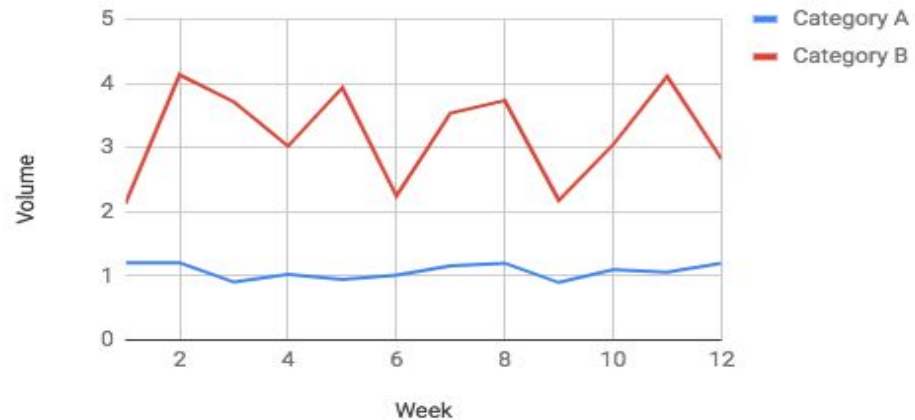
as well as partners across the distribution  
channels, delivery service, cost, and pricing

Characterized by **short** lead time  
and **quick** delivery schedule

# CUSTOMER ANALYSIS



**Figure 1:** Sales per each category - 1st Quarter



**Figure 2:** Sales per each customer of each category - 1st Quarter  
(Sales per each category/ Number of customers in that category)



## CHARACTERISTICS

**A**

- 95% service level
- Stable sales (1st quarter)
- Stable but low volume per order
- Willing to freeze orders early
- Easy demand forecasting

**B**

- 90% service level
- Fluctuating sales (1st quarter)
- Fluctuating but high volume per order
- No preference of when to freeze order
- More difficult to forecast demand

# SOLUTION 1: CUSTOMER SEGMENTATION

## Category A

- Use past sales data to forecast demand
- Pre-process materials early
- Production starts soon after initial order (6~4 weeks before receipt)
- Prioritize early, low-cost shipping plan, minimize length of stay in warehouse

## Category B

- Maintain a semi-finished inventory anticipating demand, but avoid early material purchase to minimize excess
- Production starts 2 weeks before receipt to maintain order flexibility
- Prioritize expedite shipping method, minimize length of stay in warehouse

# SOLUTION 2: SUPPLIER CONSOLIDATION

## NANOTECH

*Service, Delivery*

- Acceptable fulfillment level (~100% in average)
- Innovation → Alternative sources and new delivery methods → lower cost materials

**CATEGORY  
A**

**VS**

**CATEGORY  
B**

- Techsoft being the largest customer → receive price advantage
- High fulfillment level that keeps up with fluctuating demand of this category

## WORLDCOMM

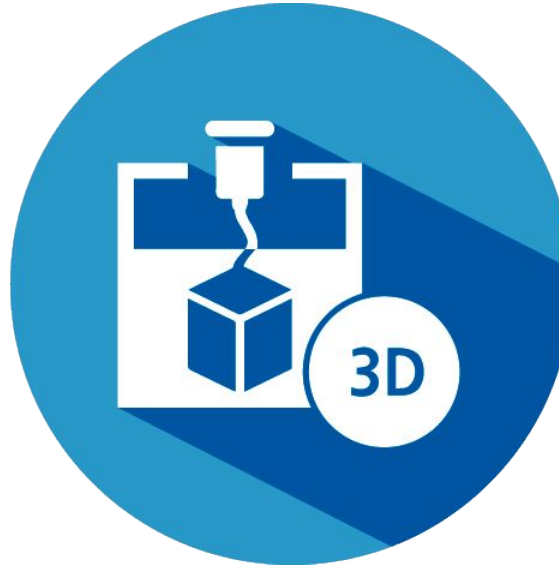
*Price, Service*

# SOLUTION 3: TECHNOLOGY IMPLEMENTATION



## CLOUD-BASED NETWORK

- Transparent, real-time data



## 3D PRINTING

- Flexible postponement strategy
- Enhanced communications with customers regarding product specifications, designs, etc.



## DATA ANALYTICS PLATFORM

- Forecast customers' demand and preferences

# FINANCIAL IMPACT

	Current Practice	After Implementation	
		<i>Early production allows for low-cost shipping methods</i>	
<i>Orders locked</i>	After 4 - 5 weeks	After 1 week	After 3 weeks
<i>Production starts on</i>	Week 7	Week 3 or week 4	Week 5 or week 6
<i>Times saved</i>	None	3 - 4 weeks	1 - 2 weeks
<i>Shipping option &amp; per unit cost</i>	Air expedited: \$ 8.8 ~ \$ 13.15	Sea: \$ 4.49 ~ \$ 8.94	Sea: \$ 4.49 ~ \$ 8.94  Air Cargo: \$ 5.8 ~ \$ 10.25
<b>Estimated Cost savings</b>	<b>Per unit</b>	<b>\$ 3.0 ~ \$ 8.65</b>	
	<b>Per quarter</b>	<b>\$ 6,000 ~ \$ 17,300</b>	



# SOLUTION SUMMARY

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### CUSTOMER SEGMENTATION

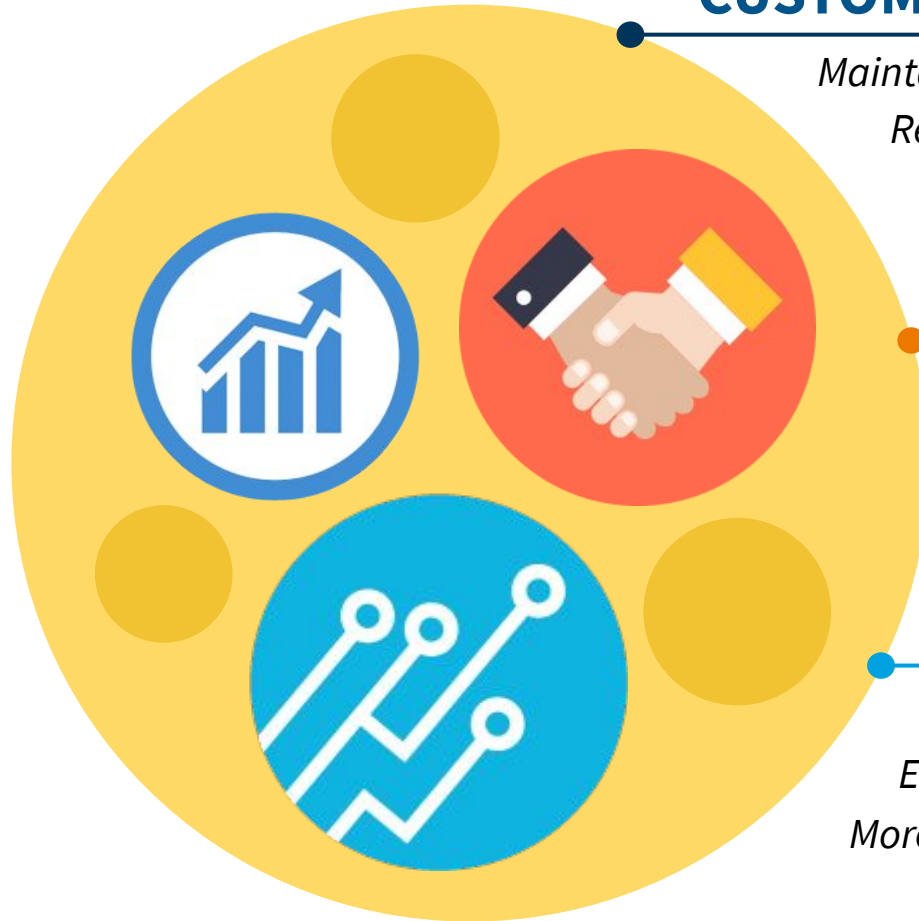
*Maintain service level and customer satisfaction*  
*Reduce excess stock and shipping costs significantly*  
*Prevent full-capacity production*

### SUPPLIER CONSOLIDATION

*Make use of quantity discounts*  
*Early access to proprietary and innovative technology*  
*Potential benefits from cost-cutting innovation*

### TECHNOLOGY IMPLEMENTATION

*Become technological industry leader*  
*Enhance shipment visibility for customers*  
*More responsive to customers' demand*



THANK YOU

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## RISKS & MITIGATIONS

Risks	Mitigation
<ul style="list-style-type: none"> <li>• Unexpected demand fluctuation in Category A leads to loss sales or excess inventory.</li> </ul>	<ul style="list-style-type: none"> <li>• Better and up-to-date data analytics and include more risk factors</li> </ul>
<ul style="list-style-type: none"> <li>• Customers from Category A change order at last minute.</li> </ul>	<ul style="list-style-type: none"> <li>• Keep constant dialogue with customers</li> </ul>
<ul style="list-style-type: none"> <li>• Disruption in production if suppliers fail to meet demand.</li> </ul>	<ul style="list-style-type: none"> <li>• Perpetual performance evaluation</li> <li>• Develop a list of alternative suppliers</li> </ul>
<ul style="list-style-type: none"> <li>• Ending a contract with long-term supplier (Flexit) may decrease credibility</li> </ul>	<ul style="list-style-type: none"> <li>• Be clear and honest about changing business landscape and the need for less costly materials</li> </ul>