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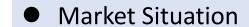
- Market & Company Situation
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- Solutions --- Process & Information System
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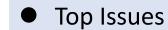


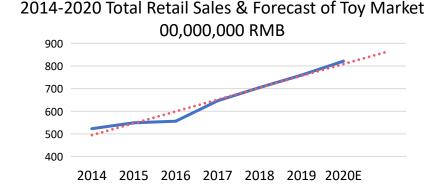
### **Case Overview**

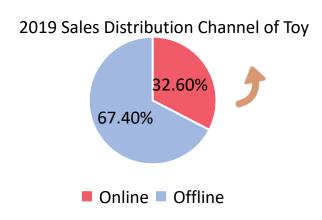
### **Fun Sports**

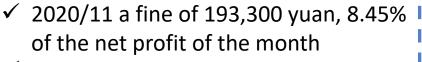
Founded in 2015, a small B2C online store operates sense training equipment with its inhouse R&D capabilities, outsourcing production and online sales channels.











✓ The overall profit margin decrease

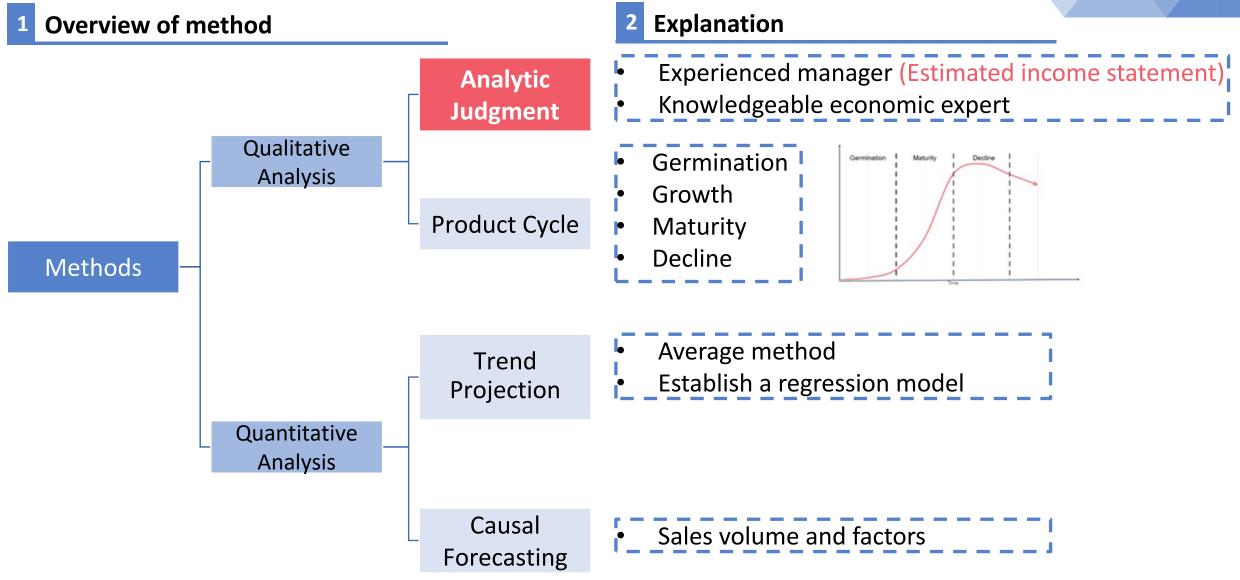
- Company Situation
- ✓ Operate as wholesalers or distributors
- ✓ Products report a gross profit margin of >50%
- ✓ Tmall is a main "battlefield"

#### The CEO requires us to:

- Clarify the warehouse process
- Improve the sales forecast
- Deal with the OEM capacity constraints
- Give the solutions for these issues



## Sales Forecasting Method



## Estimated Income Statement of Peak Season (June)

Fun Sports' Income Statement For the year ended 30 June 2020		
	¥	¥
Sales Revenue (380 * ¥5738)		2,180,440
Cost of Sales	mergency proce	ssing costs
Opening inventory	0	
<b>Add:</b> purchases (400 * ¥2800+50*¥3000)	1,270,000	
Less: closing inventory (70* ¥2822)	197,540	1,072,460
Gross Profit		1,107,980
The increase of storage fee		
Less: Administrative and Marketing expenses (380* ¥500+ ¥15,000)		205,000
Profit for the month		902,980

#### Notes

#### **Known Conditions**

- > Actual orders: 380 units
- > Sales forecast of July: 450 units.
- > Processing Price: 2800 yuan per unit
- ➤ Emergent Processing Price: 3000 yuan

#### **Assumption-Marginal Costing**

- ➤ **Price** of multi-functional climbing frames: *5738 yuan*.
- No opening inventory
- ➤ Variable administration and marketing expenses per unit: 500 yuan (resulted by the promotion costs).
- Fixed administration and marketing expenses: 15,000 yuan in July.

Profit for the month

387,996

## Estimated Income Statement of Off-season (August)

# Fun Sports' Income Statement For the year ended 31 August 2020

	¥	¥	
Sales Revenue (142 * ¥5738)		814,796	
Cost of Sales			
Opening inventory	0		
<b>Add:</b> purchases (150 * ¥2800)	420,000		
Less: closing inventory (8* ¥2800)	22,400	397,600	
Gross Profit		417,196	
The increase of storage fee			
Less: Administrative and Marketing expenses (142*¥100+¥15,000)		29,200	

#### **Notes**

#### **Known Conditions**

- > Actual orders: 142 units
- > Sales forecast of July: 150 units.
- > Processing Price: 2800 yuan per unit

#### **Assumption-Marginal Costing**

- Price of multi-functional climbing frames : 5738 yuan.
- No opening inventory
- Variable administration and marketing expenses per unit : 100 yuan (the lower promotion cost).
- Fixed administration and marketing expenses: 15,000 yuan in July.

### Conclusion Based on Estimated Income Statement

1 Estimated income statement of peak season (June)

2 Estimated income statement of off-season (August)

Profit for the month

902,980

Profit for the month

387,996

Revenue

Peak season > Off season

**Based on the qualitative analysis method** (the judgement of Zhao Hui):

- ✓ We estimate the income statement of June and August with the relevant costs.
- ✓ The revenue peak season largely exceeds the off season
- ✓ But the artificial forecast also brings loss, such as emergency processing costs in peak season and the increase of storge fee resulted by overstocked inventory in off season



### 1 External Factors

**Case Overview** 

#### **External Factors**

#### 1.Demand trends

- Composition of people
- Changes in lifestyle

#### 2.Policy & Economy

- The three-child
- Epidemic

#### 3.Competitor

- Target market
- Price
- Promotion
- Service

### 2 Internal Factors

#### **Internal Factors**

#### 1. Marketing strategy

- Advertising (Zhi Tong Che)
- Promotion (6·18,11·11)

#### 2. Commodity status

- Page views
- Collection
- Evaluation

#### 3. Historical data

Sales records for 2020

### 1 Commodity Status

- Page views
- Collection
- Duration of stay
- The amount to be paid

This intuitively shows the attention of the product.

### **2** Convert Information

- Order conversion rate
- Order Pay conversion rate

It helps FS estimate sales volume.

### 3 Traffic Sources

- Search traffic
- Live traffic
- "Zhi Tong Che" traffic
- Key words

By Identifying different traffic sources, FS can know where sales are growing.

### 4 Competitive Information

- Information related product
- Store turnover rate

This shows related reference.

### 5 Composition of Buyers

- Geography
- Gender
- Age
- New or old buyers

This helps FS to realize the location of our goods so that FS can predict more precise.

Sales Forecast

### **Commodity Status**

- The amount to be paid
- Collection
- Page views
- **Duration of stay**

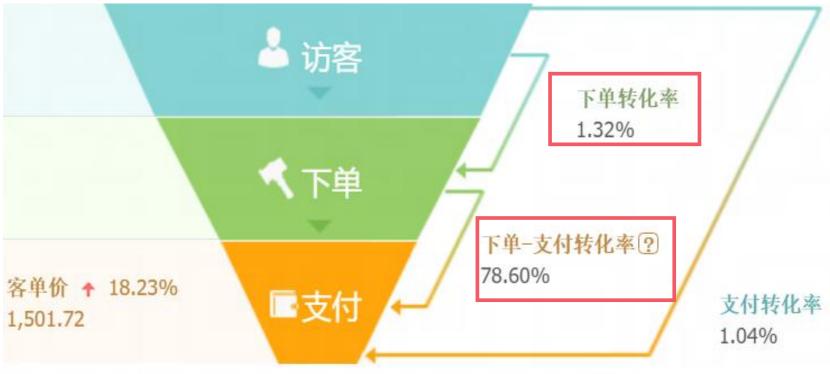
This intuitively shows the attention of the product.



#### **Convert Information**

- Order conversion rate
- Order Pay conversion rate

It helps us estimate sales volume.

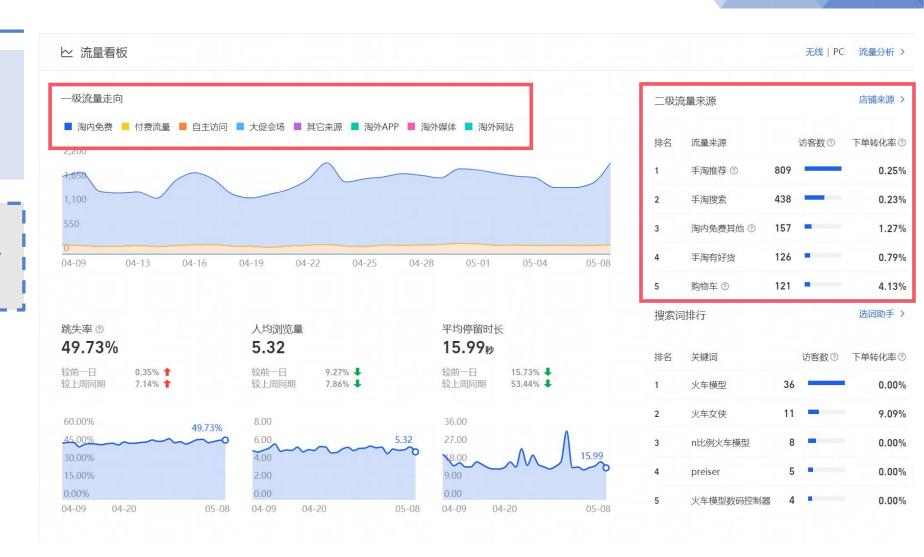




### **Traffic Sources**

- Search traffic
- Live traffic
- "Zhi Tong Che" traffic
- Key words

By Identifying different traffic sources, FS can know where sales are growing.



### **Competitive Information**

電 竞争情报

- Informat
- Store tur

This shows

销售全额

07-01

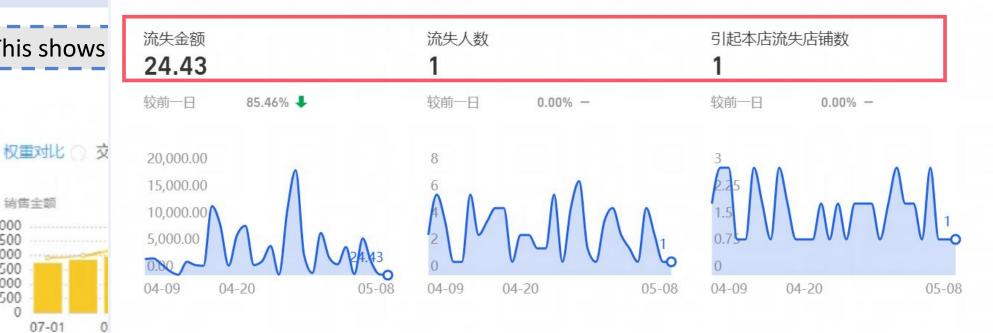
3,000

2,500

2,000 1,500

1,000

500









访客位置

浙江省杭州市

浙江省杭州市

山东省淄博市

河南省南阳市

浙江省杭州市

陕西省西安市

河南省南阳市

河南省邓州市

浙江省杭州市

浙江省杭州市

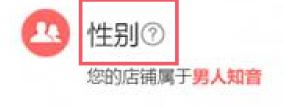
河南省郑州市

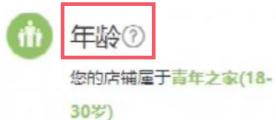
## Data That Helps Sales Forecast

### **5** Composition of Buyers

- Gender
- Age
- New or old buyers
- Geography

This helps FS to realize the location of our goods so that FS can predict more precise.







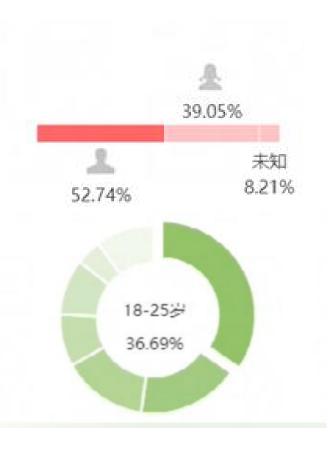
#### 店铺新老访客⑦



访客类型 新访客

老访客

访客数占比下单转化率1,36365.15%0.29%72934.85%1.23%



**Inventory Management** 

## Optimize Method & Model

### "Semi-system" Forecast

**Case Overview** 

- An artificial forecast → "Semi-system" forecast
- Do more accurate forecast after the information system has classified and summarized the various data
- Adjust the forecast period and times
- ✓ Do the annual forecast at the beginning of the year
- ✓ Adjust these numbers in time at the beginning of the quarter or month by using the real-time information
- $\checkmark$  The peak season  $\rightarrow$  the presale

### **Model---multiple Linear Regression Analysis**

$$SV_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + ... + \beta_k X_{kt} + \gamma_t$$
  $t=1,2,...,T$ 

SV = Sale Volume ; t = The Year t  $\beta_k$  is the coefficient of the  $X_{kt}$ y<sub>+</sub> is the random error term

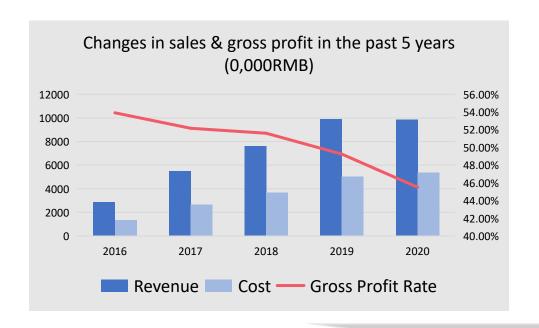
#### Relevant Variables

The first indicators	The secondary indicators	
Mague	Policy Index X <sub>1t</sub>	
Macro	Consumption Level per people X <sub>2t</sub>	
Influence	Competitor Index X <sub>3t</sub>	
	Quality X <sub>4t</sub>	
Products	Function X <sub>5t</sub>	
& store	Store Reputation Index X <sub>6t</sub>	
characteristics	Logistics Speed X <sub>7t</sub>	
Marketing Influence	"Zhi Tong Che"Referral Traffic Index X <sub>8t</sub>	
	Live Referral Traffic Index X <sub>9t</sub>	
	Homestays Referral Traffic Index X <sub>10t</sub>	

(The above assumptions are based on the not complete approximate correlation between explanatory variables, no multicollinearity) (Liu and Shang, 2022)

### Increasing on Gross Profit Margin --- Sensitivity Analysis

#### 1 Decrease in The Gross Profit Rate



### 2 The Assumption and Formulation

Assuming: (based on the cost behavior method)

Q = sales volume and increases by m, P = price,

GP<sub>1</sub> = gross profit before, VC = Variable Cost, FC = Fixed Cost

 $GP_2 = (1+m)Q * (P-VC)-FC$ 

The rate of change in gross profit --- M=(GP<sub>2</sub>-GP<sub>1</sub>)/GP<sub>1</sub> \* 100%

Sensitivity= M/m

We can also analyze the sensitivity of gross profit to sales volume **based on the accurate sales forecast**. Then, to figure out **the top products** whose gross profit **fluctuates severely.** Last, doing **target marketing** for this product could **increase our company's overall gross profit rate in a short period (distribute more capacity on the high-profit products )**.



## **Inventory Problem**

- **OEM**
- **Poor quality control of OEM**
- **Quality Problem**
- Product is defective
- No strictly controlled quality
- **Actual inventory inconsistent** with records—OEM
- **Quantity Problem**
- FS →only confirm end-of-themonth order of the platform & receipt document
- No physical inventory
- Cannot grasp the actual quantity information.

### **Inventory Department**

- Non-standard warehouse operation Quality Problem
- ✓ Warehouse keeper → Cannot distinguish between normal and defective products
- ✓ Warehouse keeper → Directly replace some parts of the returned goods, resulting. in repeated return
- Failure to track returns in time Quality Problem
- Returned goods → Directly be transferred to the OEM for maintenance
- Don't follow up the storage of inventory after maintenance and only confirm the inspection list
- Obsolete warehouse system Quantity Problem
- Cannot satisfy complex business
- Actual inventory inconsistent with records—FS Quantity Problem
- Frequent receipt and delivery → Warehouse is difficult to check inventory

### Inventory Problem & Negative Influence

- 3 Sales Department
- Overstocked commodities
- Quality Problem
- ✓ Too long storage time
- Quality is difficult to be checked

- Inconsistent platform display quantity and records
- Quantity Problem
- ✓ Virtual inventory quantity ≠ Quantity in account book
- ✓ The inventory information on different sales platforms is not updated together in time

### **Negative Influence**

#### **Quality Problem**

- Cost of returned goods increase
- Brand reputation decrease

#### For FS

- **Customers loss**
- Gross margin decrease

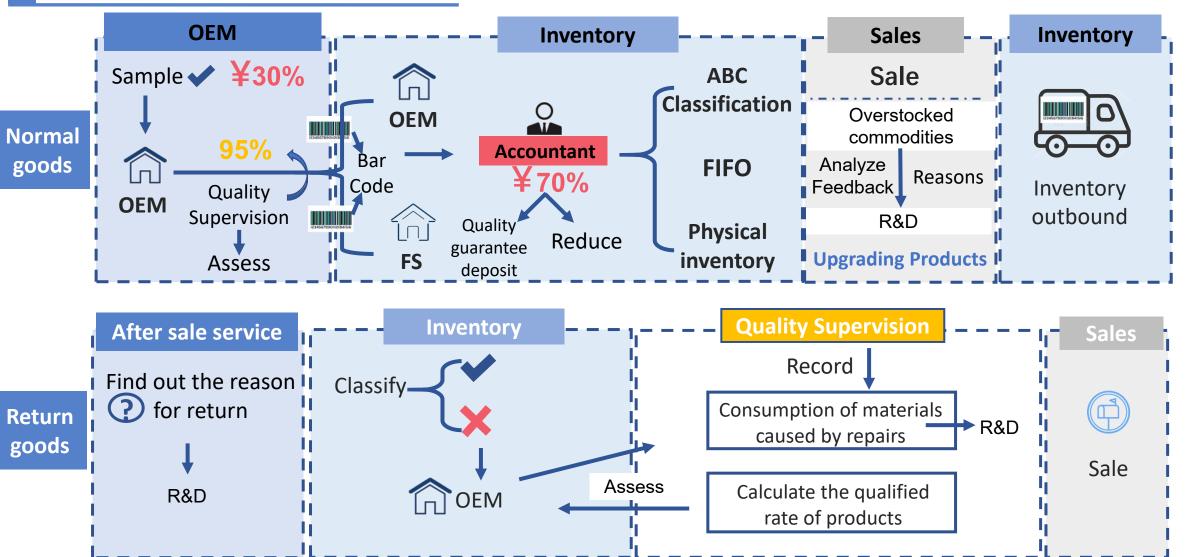
#### **Quantity Problem**

- Emergency processing and
  - ordering costs increase

Case Overview Sales Forecast Inventory Management Outsourcing Plan Feasible Strategy

### Solutions

2 Refine Process (Details in Appendix 1)



(Luo, 2021) (Sun, 2021)

### Solutions

- **Improve Internal Control**
- Control environment

Convey the sense of responsibility

Control activity

Train employees regularly

Risk assessment

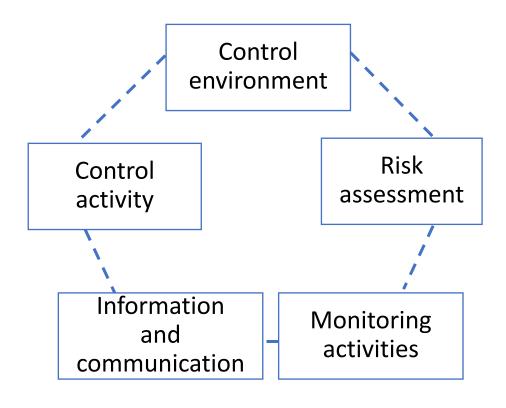
Evaluate the risk and make plan

Information and communication

Strengthen information exchange among departments

Monitoring activities

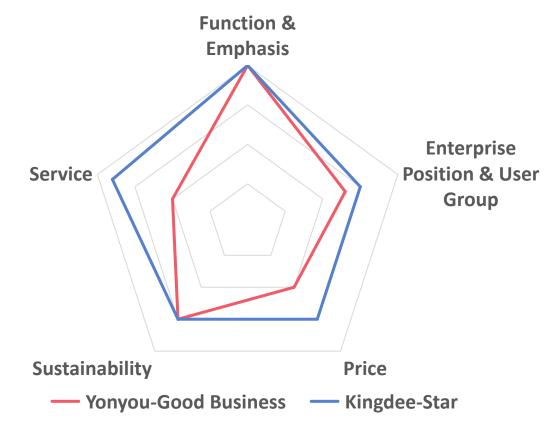
Set personal balanced scorecard



### **Solutions**

4 Replace the Information System

(Details in Appendix 2&3)



### Kingdee Cloud · Star

- Kingdee金蝶
- Simple & professional
- ✓ For small and micro enterprises inventory system
- ✓ Simpler interface and powerful
- High privacy
- ✓ Has strict permission Settings
- ✓ Has great advantageS in the management of OEM
- Provide one-to-one service
- Provide 8 hours of online technical support



## Short term >> Expand Capacity (3 years)

1 Outsourcing Agreement

## OUTSOURCING AGREEMENT

Between:

**Case Overview** 

Fun Sports (the "FS")

And:

**OEM** 

- 1. Expand Capacity
  - 1.1 FS makes orders of June and November within a month ahead each year for peak season according to the advance sale quantity.
  - **1.2** FS increases the deposit by 5% to 10% to ask OEM to expand current capacity.

2 Notes

#### 1.1 Advance sale

- ✓ Reduce the cost of stockout
- ✓ Ensure continuous capital flow

#### 1.2 Increase deposit

✓ Facilitate the production priority of our products

## Short term >> Improve Flexibility (3 years)

**Outsourcing Agreement** 

**Case Overview** 

#### **OUTSOURCING AGREEMENT**

- 2. Improve Flexibility
  - 2.1 If the amount of emergency processing does not exceed 5% of the agreed capacity, OEM should complete the production.
    - Otherwise, OEM should **compensate** the price of the unfinished products.
  - **2.2** OEM should **install the same information system** with FS and label bar code for the products. It also can track the inventory quantity.

### **Notes**

- **Limited amount of** emergent processing
- Make emergency processing plan early
- **Ensure continuous supply**

- **Information system**
- ✓ Track inventory quantity timely
- **Prepare** production for processing early

## Short term >> Decrease Price (3 years)

1 Outsourcing Agreement

## OUTSOURCING AGREEMENT

- 3. Price
  - **3.1** OEM should give FS **a purchase discount** based on the increased order quantity.

If OEM wants to adjust the processing price, it should provide specific cost terms.

**3.2** OEM should **accept the supervision of FS.** If the products have problems, the **other price used as quality guarantee** deposit will be **reduced**.

2 Notes

## 3.1 Provide specific cost terms

- ✓ Comply the cost pricing model
- ✓ Avoid increasing price randomly

## Short term >> Renegotiate the agreements (3 years)

1 Outsourcing Agreement

## OUTSOURCING AGREEMENT

#### 4. Confidentiality

- Without the agreement of FS, **OEM shouldn't provide the**relevant drawing and information to others.
- Otherwise, OEM should refund all the money.

### 5. Small products

- 5.1 FS guarantees the minimum annual order quantity on the beginning of each year. But order shall be placed in batches on a quarterly basis.
- 5.2 If the minimum amount is not reached, FS will compensateOEM with the price for the rest of products.

Notes

#### 5.1 Annual order quantity

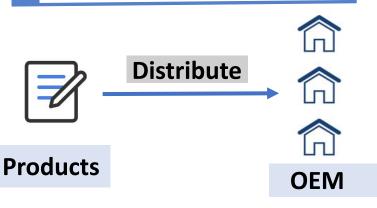
- ✓ Decrease the purchasing costs
- ✓ Acquire the scale effect

#### 5.2 Quarterly basis

- ✓ Improve the frequency of cooperation
- ✓ Increase our bargaining power

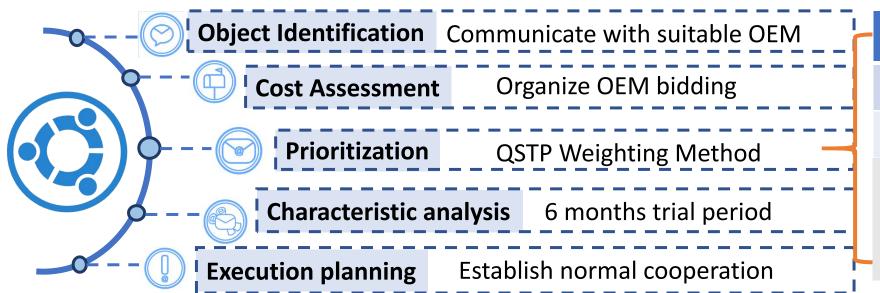
## Long term >> Establish strategic cooperation (5 to 10 years)

**Exchange existing OEM** 



- Distribute products to three factories which have big capacity
- Improve centralizing management level of production
- ✓ Continue to **expand the scope of cooperation**

6 σ management method



### **QSTP Weighting Method**

Quality	Service	Tech	Price
35%	25%	10%	30%

- Score based on the overall situation of OEM
- Select the top three OEM

(Jones and Robinson, 2020)

**Case Overview** 

## Long term >> Establish strategic cooperation (5 to 10 years)

2 6 σ management method— Assessment



The reasons of strategic cooperation

Strengthen the relationship with OEM

Improve supply flexibility to a certain extent

**Reduce procurement costs** 

Reduce the risk of stock shortage





## Management Circle & Effect

#### Form a full management circle



- We start from the sales budget at the beginning of the year
- Then product operation in the middle of the month
- Finally evaluate performance at the end of the year
- Based on the management goals --- increase gross profit

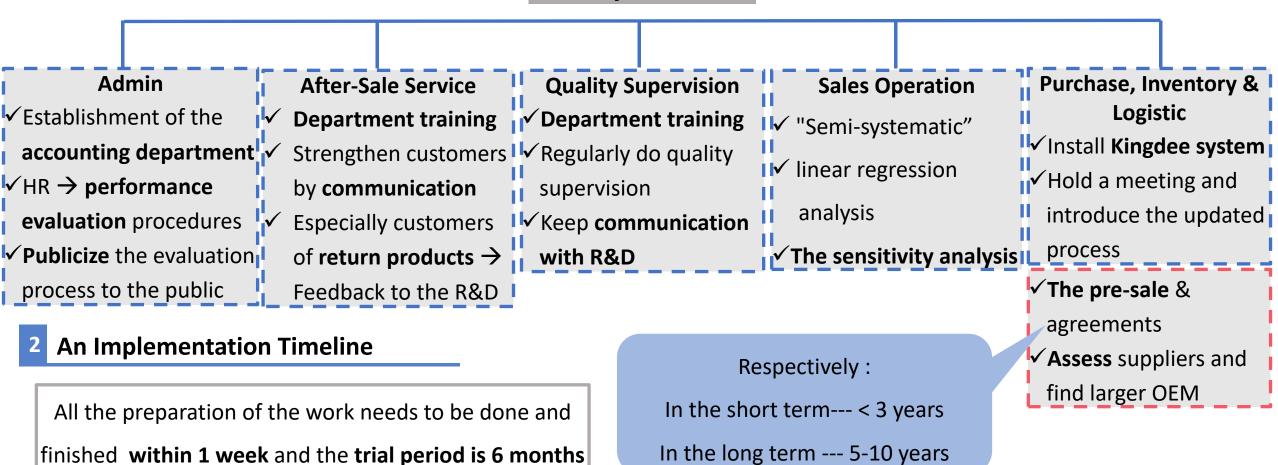
#### Use balanced score card

Strategy	Evaluation indicators		
	Cash flow		
Finance	Gross profit margin		
	Sales revenue		
Customers	Customers satisfaction		
	Goods return rate		
	Customer retention rate		
	Proportion of regular customers		
	OEM assessment		
Internal	Inventory turnover rate		
Process	Product rework rate		
Innovation &	Staff training		
Learning	Products improvement		
	(Mu and Niu 2021)		

## Feasible Strategy & An Implementation Timeline

1 Feasible Plan for Every Department

### **Fun Sports CEO**



#### Reference list:

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- 【4】刘欢欢, 尚玲. 2022. 不同商业模式下管理会计工具综合应用研究. 合作经济与科技, 149-151。
- 【5】卢馨,吴俊勇,黄惠. 2014. 中国企业成本管理趋势研究——基于文献数据的实证分析. 管理工程学报, 2:8-16。
- 【6】罗春花. 2021. 制造企业存货管理存在的问题及对策分析. 企业改革与管理, 11-37。
- 【7】孙光伟. 2021. 企业经营中如何进行存货管理. 财会学习, 154-156。
- 【8】吴大军,牛彦秀. 管理会计(第6版)[M]. 大连: 东北财经大学出版社, 2021. 100-104, 396-414。
- [9] Jones, P. and Robinson, P. (2020) Operations Management. New York: Oxford University Press.



### Appendix 1---Solutions

#### **Refine Process**

#### **Production (OEM)**

- ① Quality supervision (OEM) check sample
- Pay 30% deposit to OEM for production
- 3 Supervisors will assess the products and the qualified rate should reach 95%.
- 4 OEM labels our products with bar code and scans the code for storage.

After sales service

Accountant will pay the other 70% of the price used as quality guarantee deposit after the quality and quantity are confirmed.

1 Report reasons to R&D to upgrade products

#### Inventory

Divide them into normal and defective goods which are sent to the factory to repair

#### Inventory

- 6 Use FIFO and ABC classification to manage products
- 7 Check inventory regularly

#### Sales

- ® Deal with overstocked inventory
- **9 Feedback** market reasons to **R&D** for upgrading products

#### **Quality Supervision**

- 3 After check, supervisors will report the consumption of materials to R&D to improve products.
- 4 Calculate qualified rate to assess OEM.

## Return goods

## Appendix 2---Comparison

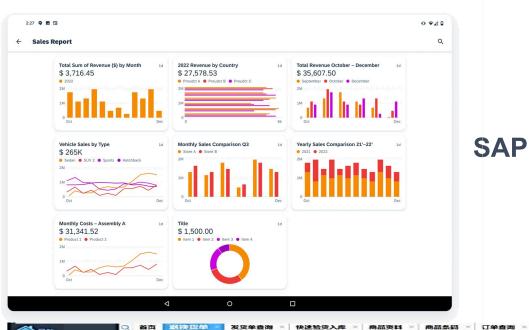
### **The Comparison of Information System Company**

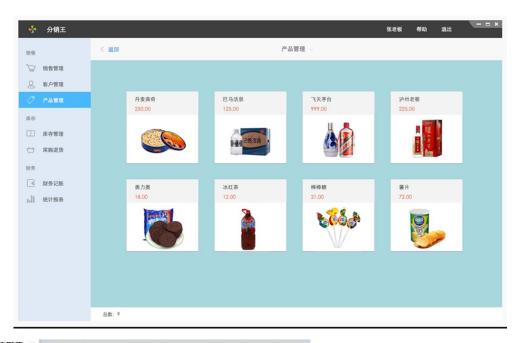
	Price	Customer	Interface	Difficulty Index	Effect
SAP	<b>+</b>			(3,h°)	400
	Tens of millions Hundreds of millions	Fortune <b>500</b> Enterprises	Novel Complex	Need <b>professional</b> SAP personnel	<b>Greatly</b> improve the level of enterprise management
Yonyou	<u>• 0 • </u>		<b>©</b>		
Kingdee	Tens of thousands Hundreds of thousands	Domestic large, medium enterprises	Traditional Complex	Software operation <b>training</b> is required	Provide <b>help</b> for enterprise management
Bai Cao					30
	Thousands	<b>Micro</b> enterprise	Simple Intuitive	Easy to operate and master	Simple function meet basic needs

The pictures of interface are in the next slides.

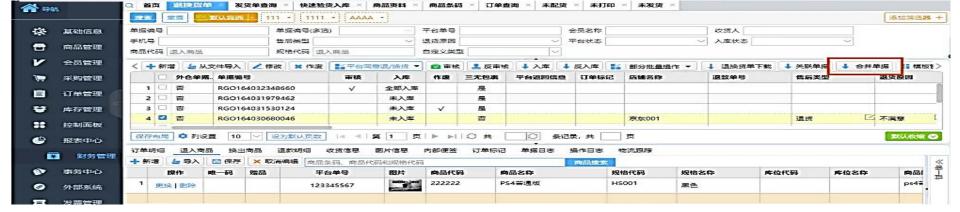
### Appendix 2---Comparison

#### **The Comparison of Information System Company**





**Bai Cao** 



Yonyou Kingdee

## Appendix 3---Comparison

### The Comparison of Yonyou "Good Business" & Kingdee "Star"

Suggestions	Good Business (Yonyou)	Star (Kingdee)	Similarity ERP system
Function and Emphasis	Basic document: sales order, purchase order, inventory order Notes print for sales and inventory	More detailed document:  purchase subsidiary sheet,  batch warehousing tracking list	<ol> <li>Both directly connecting with the E-commerce platform</li> <li>Modularization</li> <li>The editing authority of approval flow: data/document authorization</li> </ol>
Enterprise Position	Product	Product + Service	
User Group	Mainly Large enterprises (serious design & standard steps)	Mainly Small and medium-sized enterprises (simple steps)	Enterprises of all sizes
Sustainability	Good Business → U8/U9 System	Cloud Stellar → Cloud Galaxy → Cloud Constellation	A Module → Modules → System
Service	Artificial service → Registration to divide customers into different needs (weak motivation)	Personalized 8-hour one-on-one training (strong motivation)	Video course + Customer service
Price	¥1998 per user annual  Plus user: ¥1000 per user annual  Annual total = ¥11998	6000¥ annual Annual total = ¥8250	Charging by the number of users and permissions (calculated by 8 users + 3 permissions)