VARIETY IS THE SPICY OF INNOVATION

FUN
SPORTS

-- THE INVENTORY MANAGEMENT PRACTICE

OF AN E-COMMERCE COMPANY

Team: Voyager

April 30rd 2022 Beijing
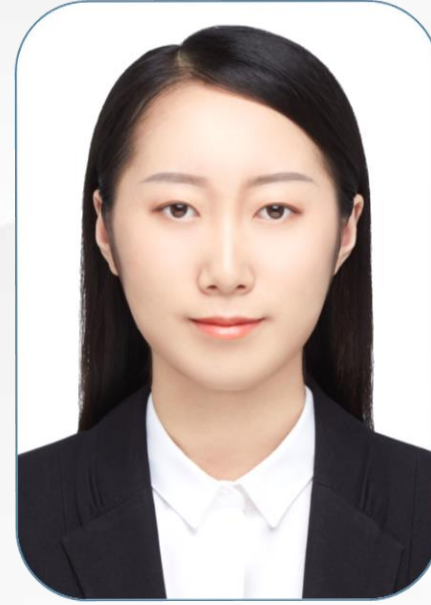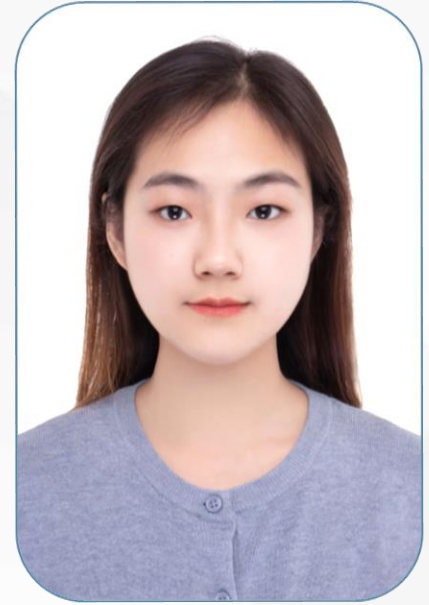
Li Xiaoyi

Li Han

Ma Liyang

Lisa

Leng Ruobing
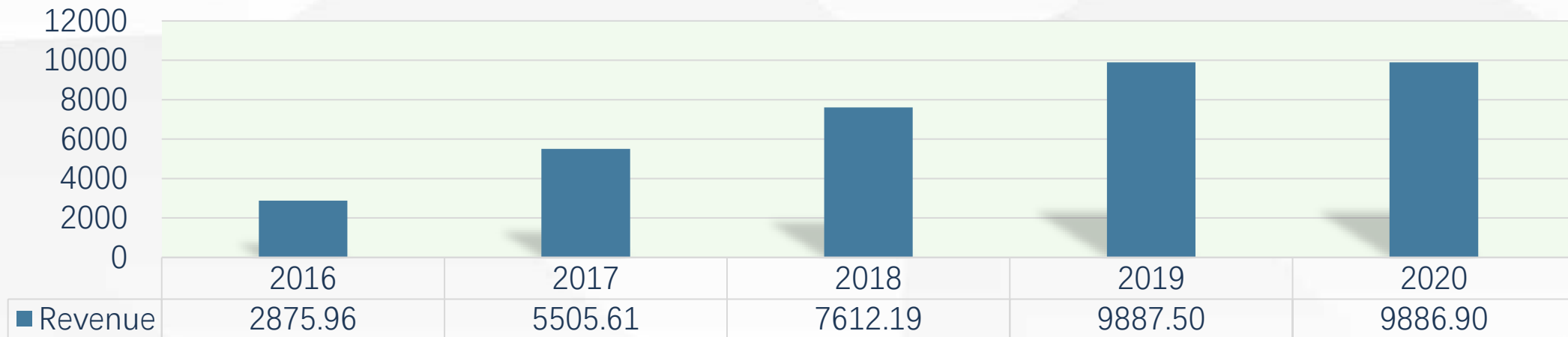
Chen Fang

Song Yawei

Zhang Ying

Xu Ying

Julie

MEMBER INTRODUCTION

Case Review >> Sales In The Past Five Years And Each Month of 2020

Changes In Sales of Fun Sports In The Past 5 Years (0,000RMB)

	2016	2017	2018	2019	2020
Revenue	2875.96	5505.61	7612.19	9887.50	9886.90

Revenue In Each Month of 2020 (0,000RMB)

	1	2	3	4	5	6	7	8	9	10	11	12
Revenue	423.12	293.75	490.48	585.61	678.86	1564.3	878.98	867.68	879.86	716.58	1889.3	598.34
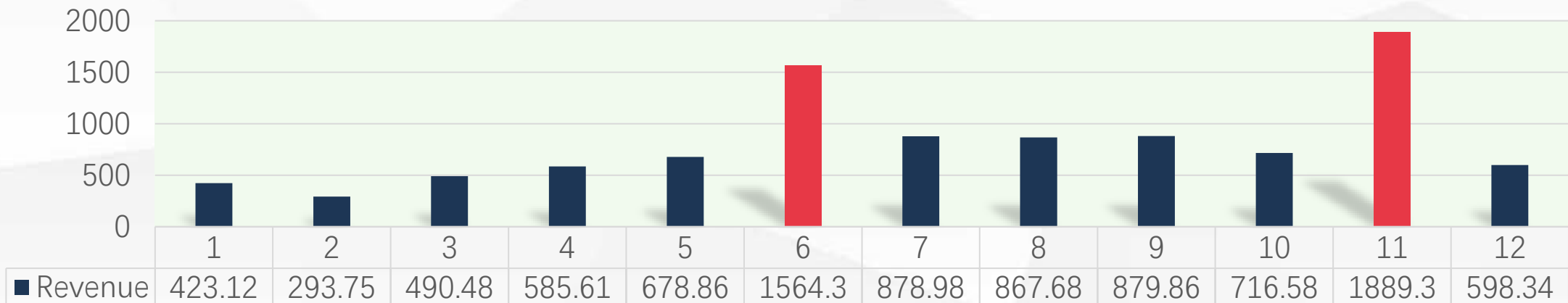
Case Review >> Revenue From Each Platform In 2020

Revenue From Each Platform In 2020 (RMB)

Wechat Mall
4,933,500
5%

offline sales
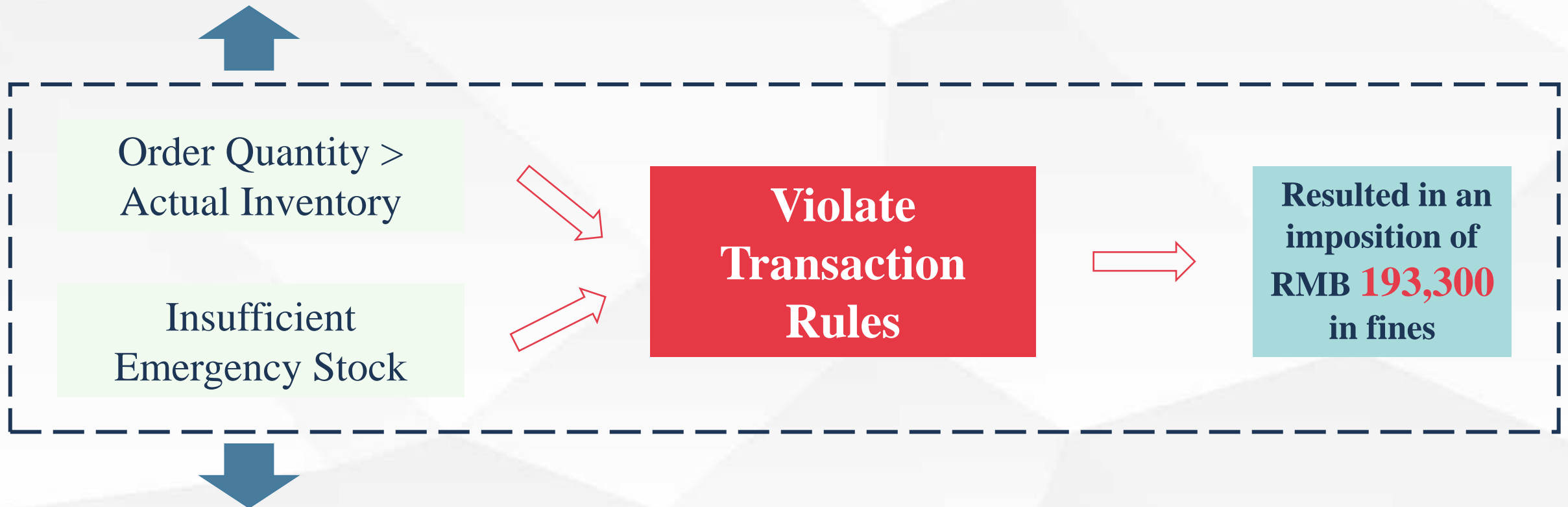986,700
1%

JD
11,840,200
12%

Tmall
80,908,600
82%

■ Tmall ■ JD ■ Wechat Mall ■ offline sales
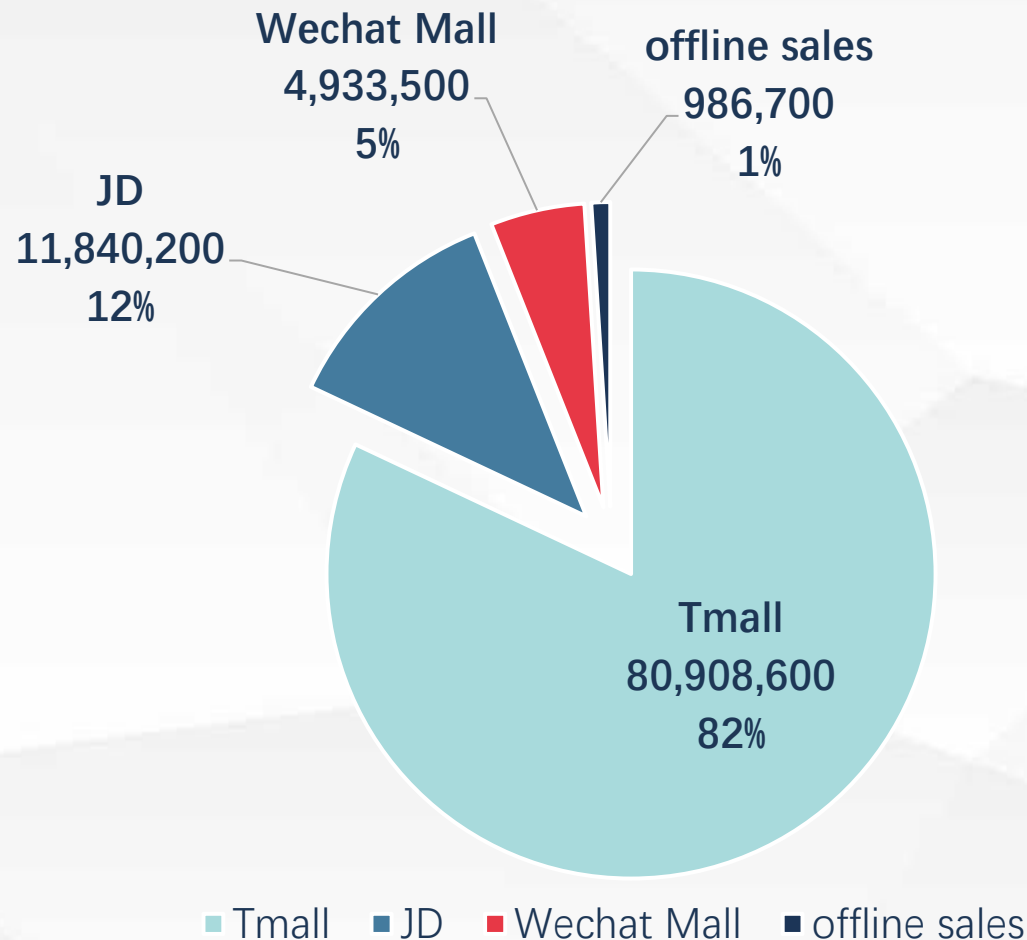
- Because of the popularity of products and the natural drainage capacity of online platforms, sales have been rising these years. The average sales growth rate is nearly 30% per year. Although there are impacts from Convid-19, the revenue reached to RMB98.669 million in 2020, almost same as the previous year.

- In general, with continuous recognition of product reputation and the increase of online visitors, the sales volume of FS is on the rise. **Tmall is the main battlefield of its business.** Due to the mid-year promotion on June 18 and the "**Double Eleven**" event on November 11 by Tmall, the sales in June and November are certainly the best of the year with the performance reached more than RMB16 million in just one day.

Case Review >> Sales Increase But Penalty For Overselling

Institutional defects of company's internal **control system** and **quality control of products** produced by OEMs

Order Quantity > Actual Inventory

Insufficient Emergency Stock

Violate Transaction Rules

Resulted in an imposition of RMB 193,300 in fines

FS' core competitiveness includes R&D and sales. The Company has outsourced its production to various factories so that it **does not own any workshop and has limited warehouse capacity**

Problem Analysis >> Virtual Inventory is Inconsistent with Actual Inventory

Multi-Platform Sales

➕

Virtual Inventory > Actual Inventory

Fine For Overload

Virtual Inventory Management

Fun Sports has selected a mode in which virtual inventory is greater than actual inventory on the online store inventory settings. The considerations are as follows:
- Enterprises have a certain space for emergency stocking.
- Under multi-platform sales ,it is difficult to accurately estimate the sales volume of each platform.

Advantage
- The excess part of the order can be collected from the supplier to avoid the extra cost of emergency production.
- In a certain category of commodities, providing bargaining power, such as imported milk powder, has a certain delivery cycle, and sellers can negotiate prices with suppliers based on virtual orders, and then centralize transportation to reduce logistics costs.
- Encourage buyers to place orders.

Disadvantage
- It is difficult to match the supply cycle, the risk of return is high, and the cost of out-of-stock is extremely high.
- Fraud exists.

Problem Analysis >> Lacking Effective Inventory Stock-taking System

Warehouse

OEM Warehouse

Internal Warehouse

Certificates of quality inspection →

Receipt documents

Records of Inventory

Inbound

Outbound

← Orders realized

Platform

TMall

JD

WeChat Mall
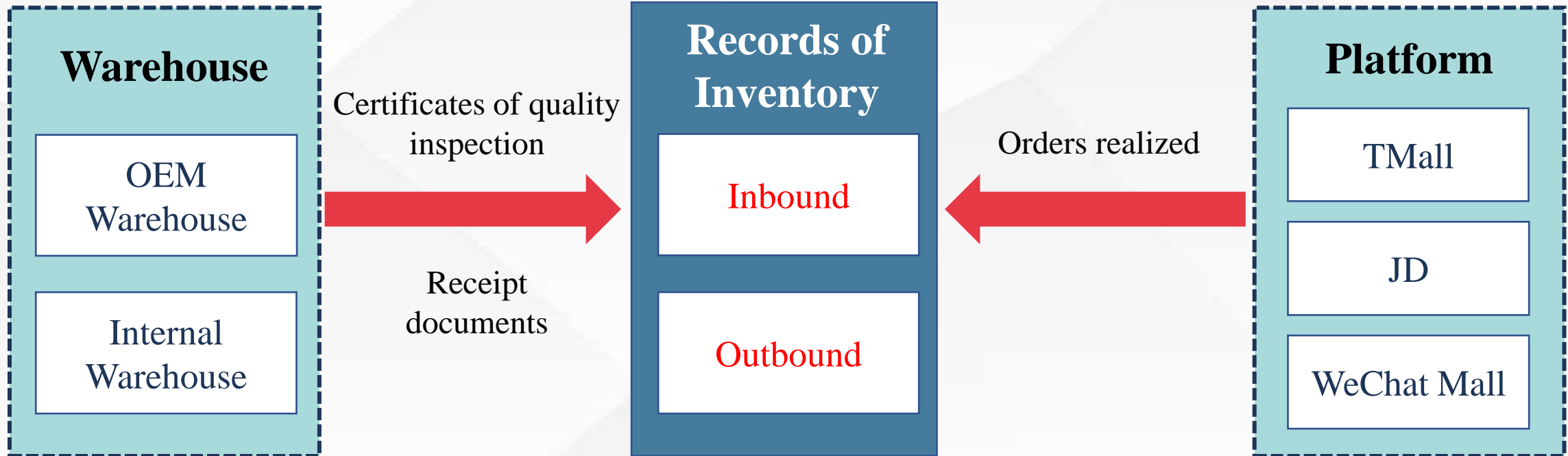
- Due to the production and storage of large-size items are in the hands of OEMs. the quantity of goods inbound can only be confirmed based on certificates of quality inspection and receipt documents issued by OEMs, and the quantity of goods outbound is confirmed at the end of each month based on orders realized online.
- Besides, for our own warehouses, it is also difficult to check the goods inventory due to frequent inbound and outbound deliveries. Therefore, The inventory records do not reflect the actual quantity and quality of the inventory.

Problem Analysis >> The Actual Inventory Does Not Match The Records

Our Own Warehouses

Outdated current inventory system

The inventory information about our own warehouses and those of our **OEMs cannot be shared in real time.**

Defective and repaired products find it **difficult to be recorded** in our inventory system.

Some products with excess inventory have been long kept .

OEM Inventory

No physical inventory count

The repaired goods are not accurately recorded.

Lacks smooth information communication between FS and its OEMs.

Problem Analysis >> High Return Rate & Poor Product Quality

Problem

Proportion of reasons for return：CU-032 Vientiane Combination Set

Courier 5%

Return in 7 days without any reason 60%

Quality 33%

Delivery is not timely 2%

■ Return in 7 days without any reason ■ Delivery is not timely ■ Quality ■ Courier
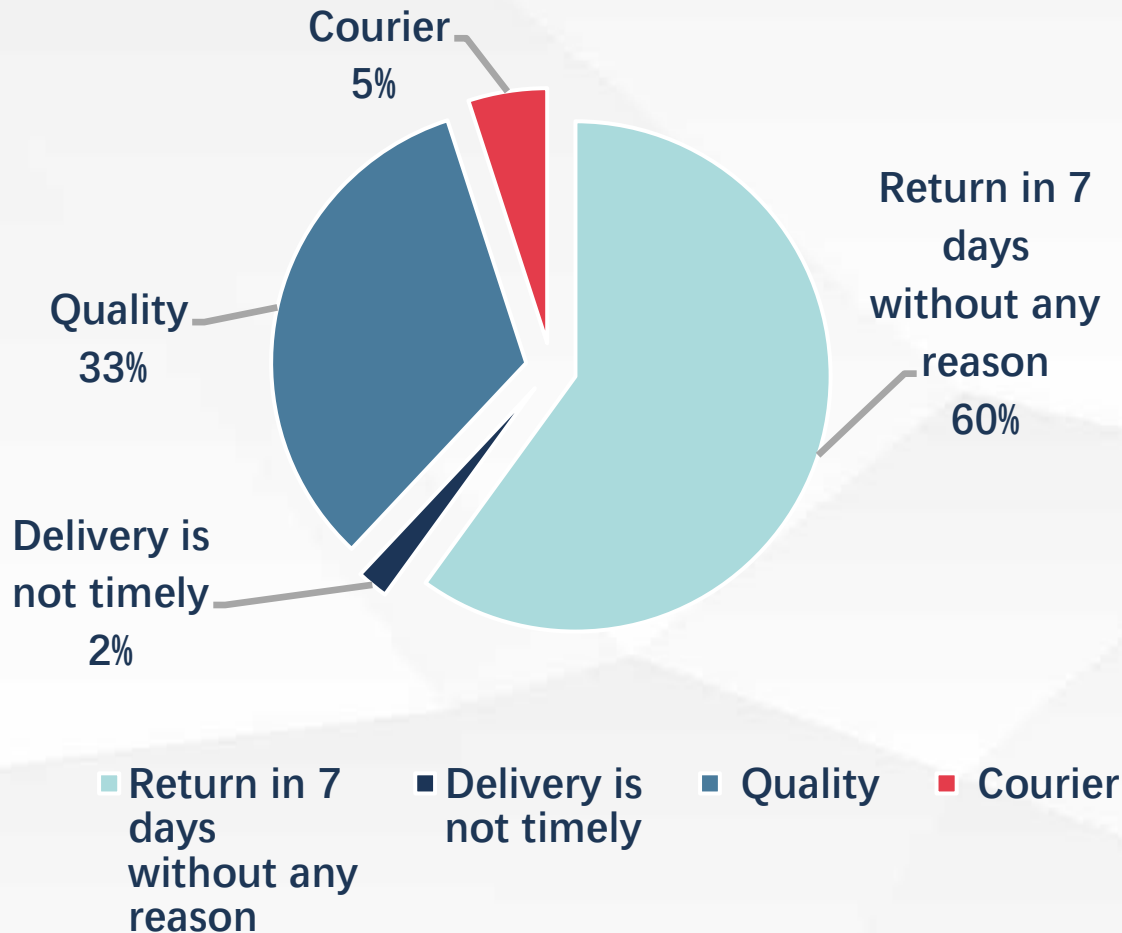
- A rapid increase in sales.
- Accompanied by a high return rate.

Although the 7-day No Reason Return policy was attributed to most return, some customers complained about product defects.

The quality problem may be a result of poor quality control by OEMs.

Problem Analysis >> Summary

Information System Obsolescence

OEM warehouse for bulk goods storage

Own small goods storage warehouse

Tmall

JD

WeChat Mall

Multi-Channel Operation

Customers

Physical Inventory — *Virtual Inventory* → *Commodity Oversold*

Confirm the goods in warehouse according to the warehouse receipt and the warehouse receipt
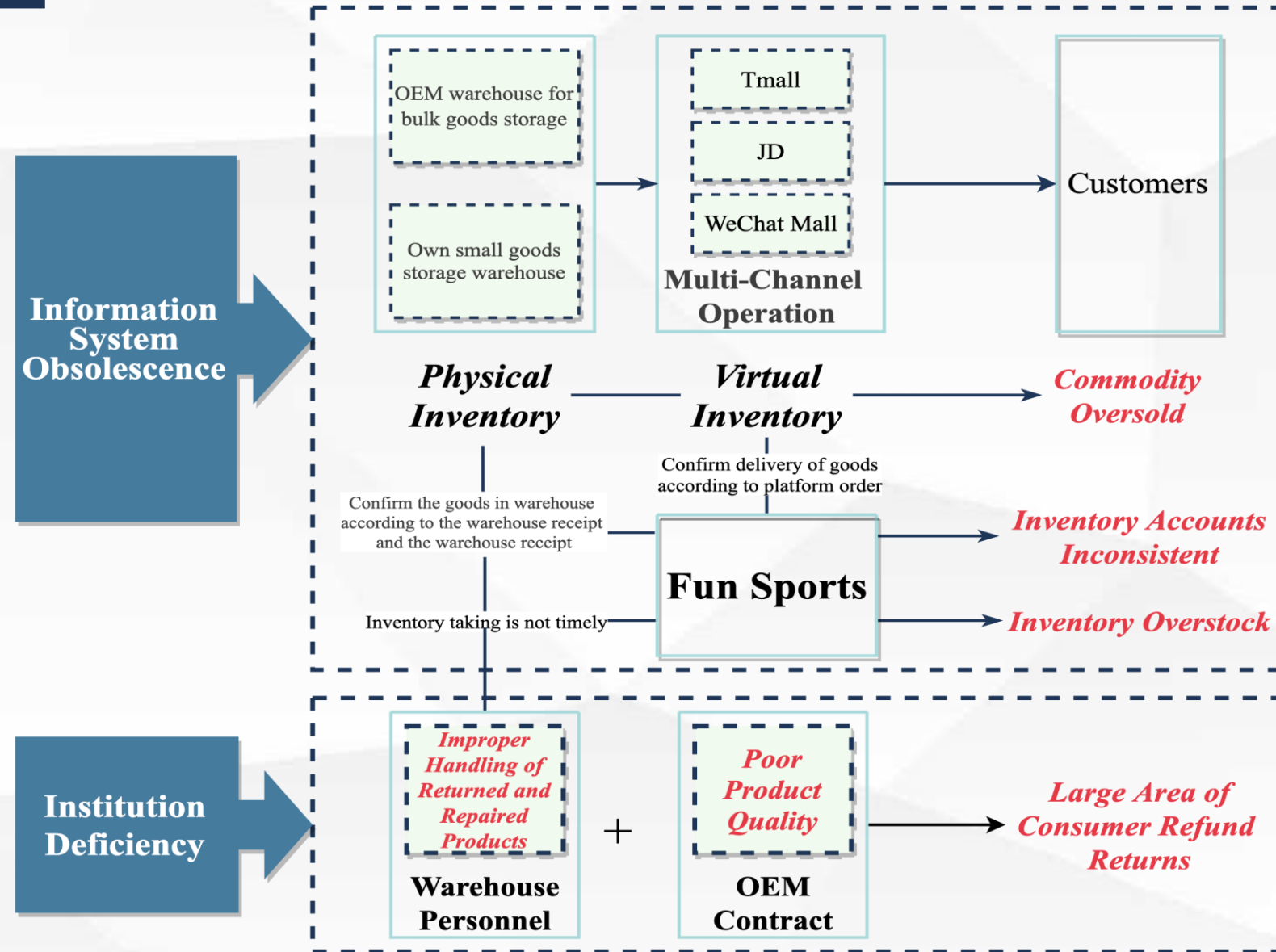
Confirm delivery of goods according to platform order

Fun Sports → *Inventory Accounts Inconsistent*

Inventory taking is not timely → *Inventory Overstock*

Institution Deficiency

Improper Handling of Returned and Repaired Products + *Poor Product Quality* → *Large Area of Consumer Refund Returns*

Warehouse Personnel **OEM Contract**

- **Operations Department of Online Business**
  Julie:
  The **virtual inventory** on the platform is **inconsistent with the actual inventory** of the company, resulting in oversold return orders and fines on the platform.

- **Accountant**
  Zhang Ying:
  The company does not have a **real-time inventory system.**

- **Inventory Manager**
  Julie:
  The **obsolete inventory management system** makes the inventory information unable to be updated in time, the returned and repaired products are difficult to track and monitor, and the unsalable products are not cleaned up in time.

- **After-Sales Department**
  Chen Fang:
  Improper supervision of OEM factories resulting in **poor product quality**;
 The imperfection of the warehouse management system makes the **warehouse personnel operate the products improperly**.

VOYAGER

Solutions & Suggestions

Solutions & Suggestions >> Purchase New Information Management System Software

Purchasing new information management system software, synchronizing the quantity and actual inventory of each platform; Sharing the inventory information with the OEM.
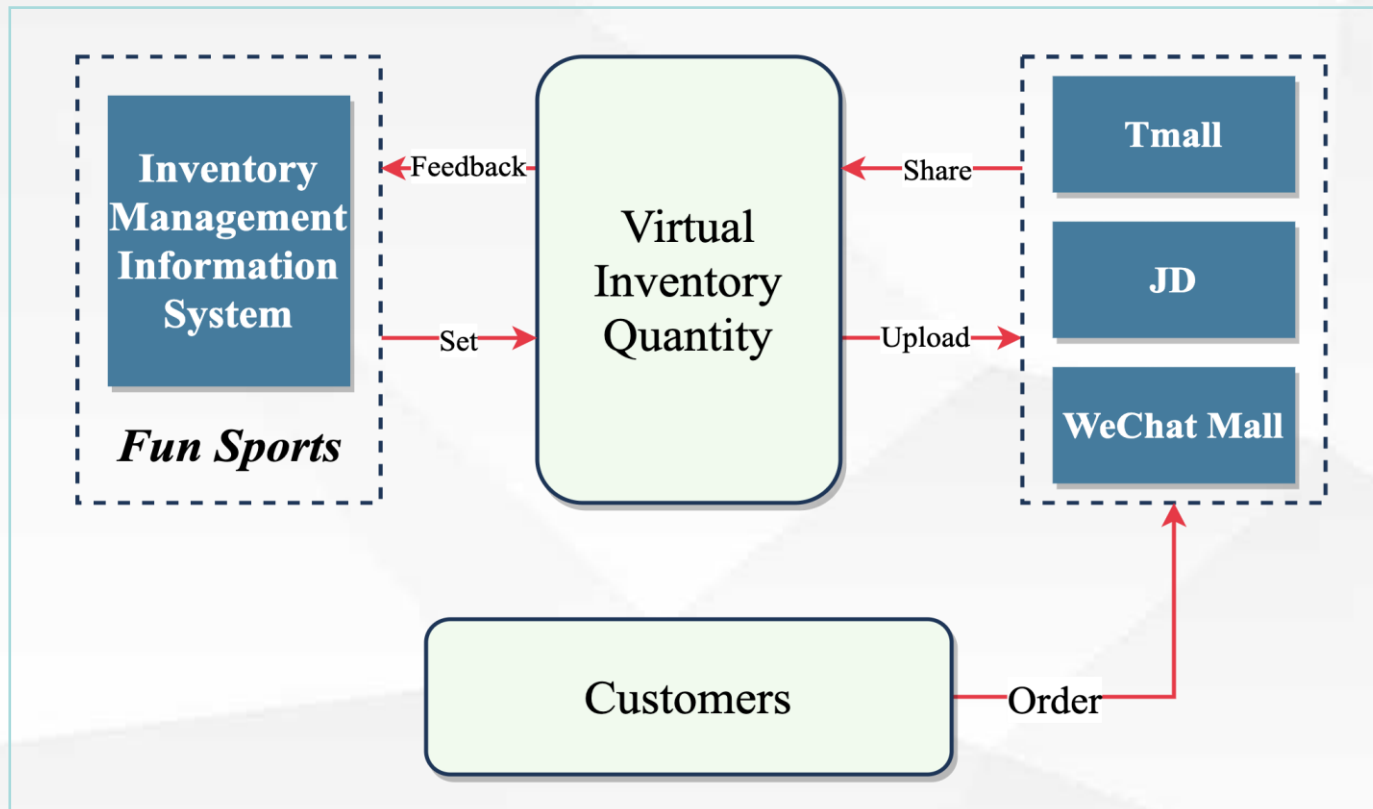
Synchronized Inventory Quantities

Update Shipping Return Logistics Information

Establish A Communication Platform Between Supply And Sales

Rolling Calculation of Standard Value of Virtual Inventory

Solutions & Suggestions >> Establish A Regular Inventory Stock-taking System

Objective

➢ To strengthen the management of the company's inventory assets.
➢ To ensure the safety, integrity and accuracy of the company's inventory assets.
➢ To timely and truthfully reflect the balance and utilization of the company's inventory assets.
➢ To provide a basis for sales, production planning and financial cost accounting.

Scope

➢ products stored in OEM warehouse.
➢ products in our own warehouse.

Time

➢ one small-scale inventory stock-taking at the end of each month.
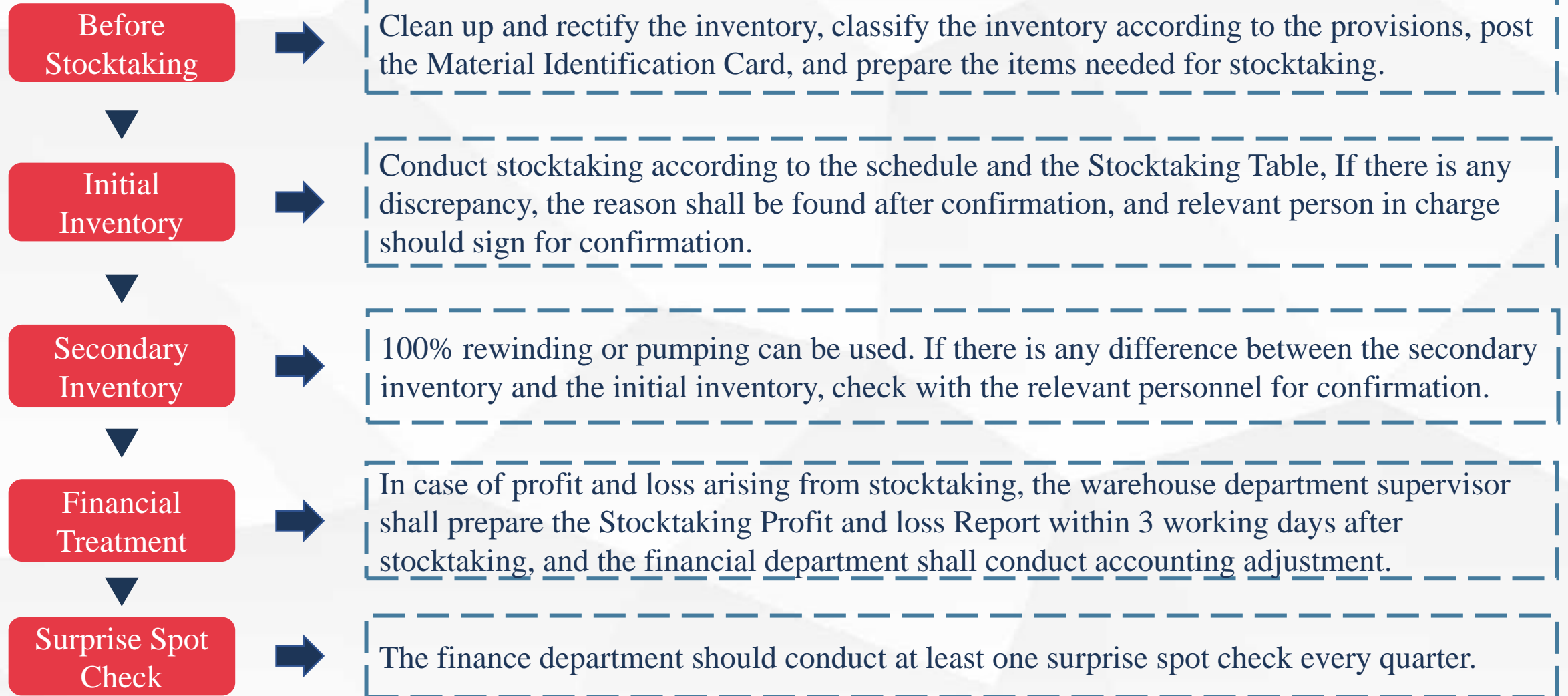➢ one large-scale inventory stock-taking at the end of each quarter.

Method

➢ Combination of dynamic and static inventory.
➢ Combination of periodic and irregular stocktaking.
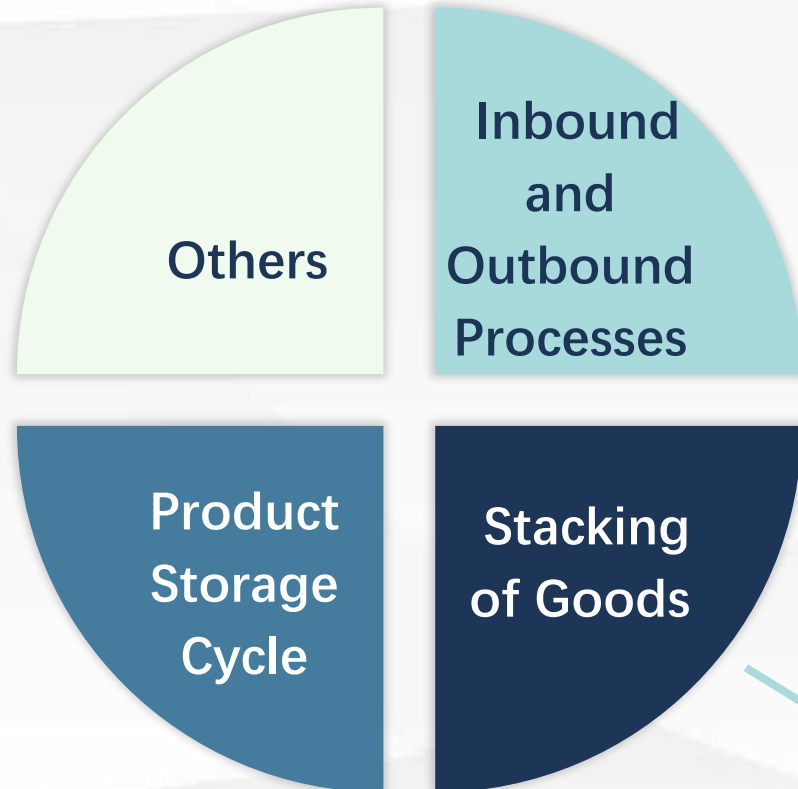➢ Combination of self-stocktaking, rewinding and pumping.

Attention issues

➢ Focus on the quantity and quality of inventory.
➢ Strengthen control during stocktaking.
➢ Keep the original inventory records.
➢ Solve problems in time.

Solutions & Suggestions >> Establish A Regular Inventory Stock-taking System

Process

Before Stocktaking	Clean up and rectify the inventory, classify the inventory according to the provisions, post the Material Identification Card, and prepare the items needed for stocktaking.
Initial Inventory	Conduct stocktaking according to the schedule and the Stocktaking Table, If there is any discrepancy, the reason shall be found after confirmation, and relevant person in charge should sign for confirmation.
Secondary Inventory	100% rewinding or pumping can be used. If there is any difference between the secondary inventory and the initial inventory, check with the relevant personnel for confirmation.
Financial Treatment	In case of profit and loss arising from stocktaking, the warehouse department supervisor shall prepare the Stocktaking Profit and loss Report within 3 working days after stocktaking, and the financial department shall conduct accounting adjustment.
Surprise Spot Check	The finance department should conduct at least one surprise spot check every quarter.

Solutions & Suggestions >> Establish Intelligent Storage Management System

Others

Inbound and Outbound Processes

Product Storage Cycle

Stacking of Goods

Read information through the **RFID tag** on the related goods to register inbound process and save in the warehouse management system.
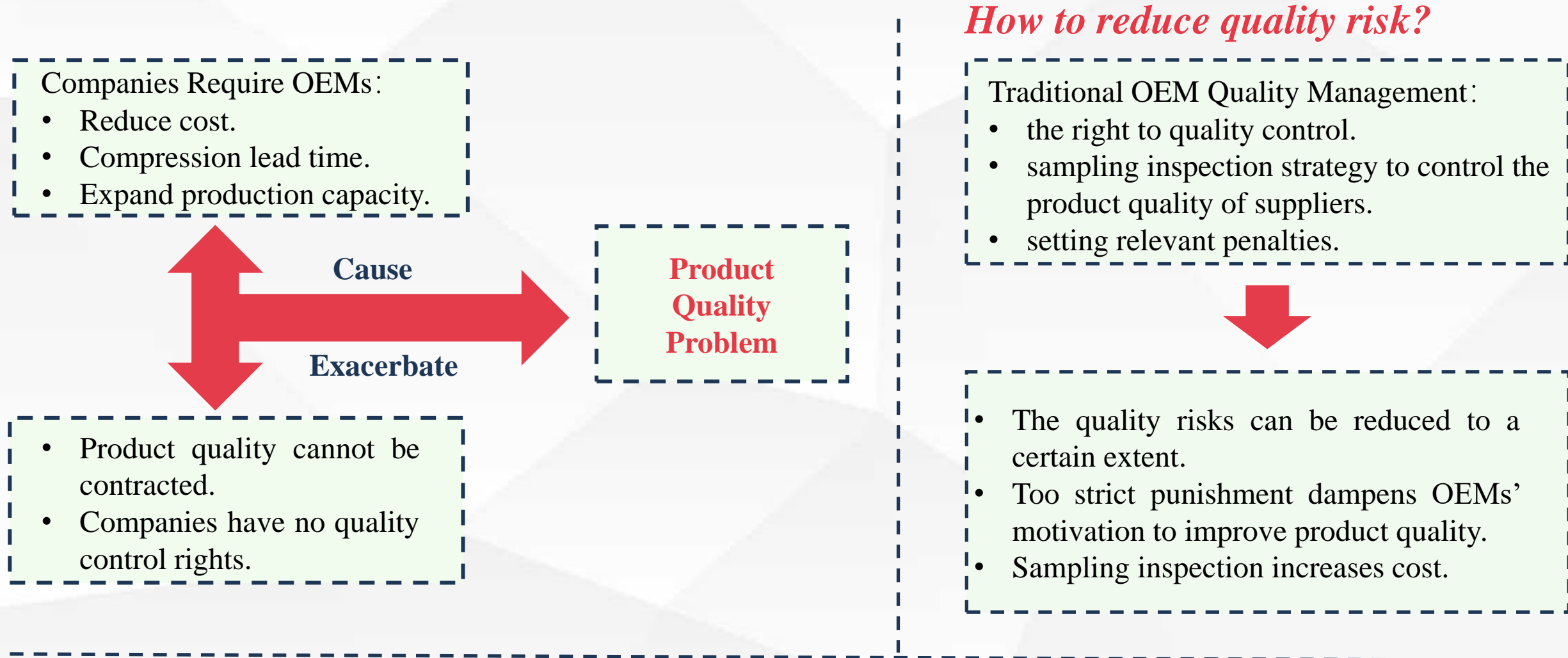
RFID mobile terminal:Check the goods outbound information, and send outbound information to the warehouse management system.

Intelligent Storage Management System

⬇

Unique Identification Function

⬇

More Clear Classification of The Warehouse

Solutions & Suggestions >> Establish OEM Product Quality Control Process

How to reduce quality risk?

Companies Require OEMs：
- Reduce cost.
- Compression lead time.
- Expand production capacity.

Cause

Exacerbate

- Product quality cannot be contracted.
- Companies have no quality control rights.

Product Quality Problem

Traditional OEM Quality Management：
- the right to quality control.
- sampling inspection strategy to control the product quality of suppliers.
- setting relevant penalties.

- The quality risks can be reduced to a certain extent.
- Too strict punishment dampens OEMs' motivation to improve product quality.
- Sampling inspection increases cost.

- For example, Apple's overly strict product quality standards led to a massive strike at Foxconn's Zhengzhou factory.

Solutions & Suggestions >> Establish OEM Product Quality Control Process

Principle
High Quality Products At Reasonable Cost And On Time

Beforehand

In The Middle

Afterwards

OEM Selection System

- Price.
- Quality.
- Overdue rate.
…

OEM Management System

- Hierarchical management.
- Review and Supervision System.
- Incentive System.

After-Sales System

- Repair status tracking.
- Responsibility Traceability System.

Solutions & Suggestions >> Establish OEM Product Quality Control Process

OEM Selection System

- Design the OEM scorecard.
- Conduct scoring and assessment based on certain standards such as price, quality and overdue rate.
- Choose OEMs with higher scores.

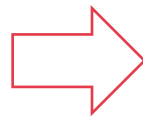| OEM Scorecard (10 points per factor)			
OEM \ Factor	Price	Quality	Overdue rate
A	7	8	8
B	8	9	7
C	6	7	8

Price ⬇
Quality ⬆ ➡ **Point** ⬆
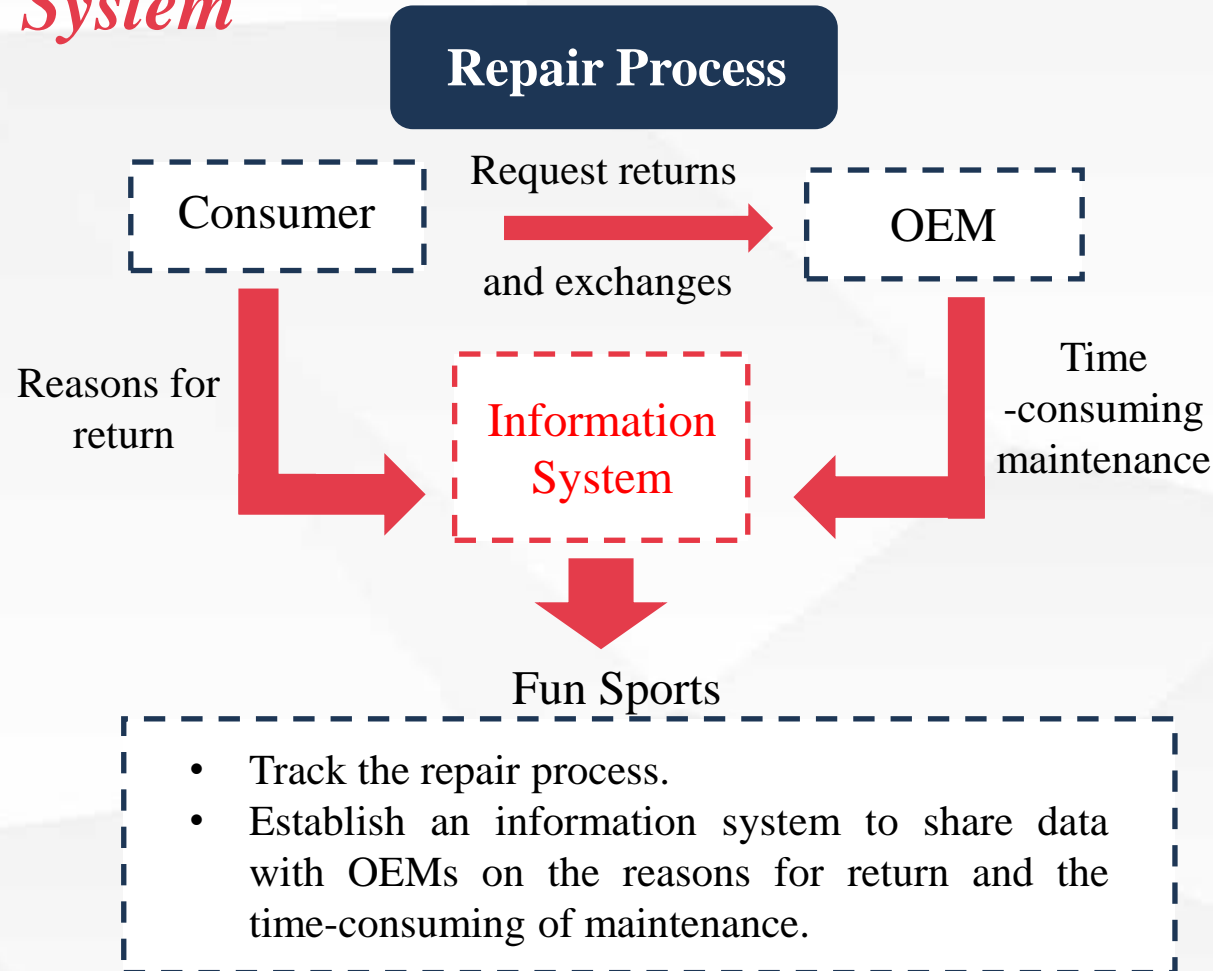**Overdue rate** ⬇

OEM Management System

- **Hierarchical management**
  - ➤ Divide OEMs into two levels:
  Primary OEMs : simple cooperation
  Strategic OEMs : league factory

- **Review and Supervision System**
  - ➤ Regularly inventory products on the spot.
  - ➤ Sample the quality of the products.

- **Incentive System**
  - ➤ Conduct regular and end-of-term assessment of OEMs.
  - ➤ The specific reward and punishment can be agreed with OEMs in the contract.

Solutions & Suggestions >> Establish OEM Product Quality Control Process

After-sales System

Repair Process

Consumer → Request returns and exchanges → OEM

Reasons for return

Time-consuming maintenance

Information System

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Fun Sports

- Track the repair process.
- Establish an information system to share data with OEMs on the reasons for return and the time-consuming of maintenance.

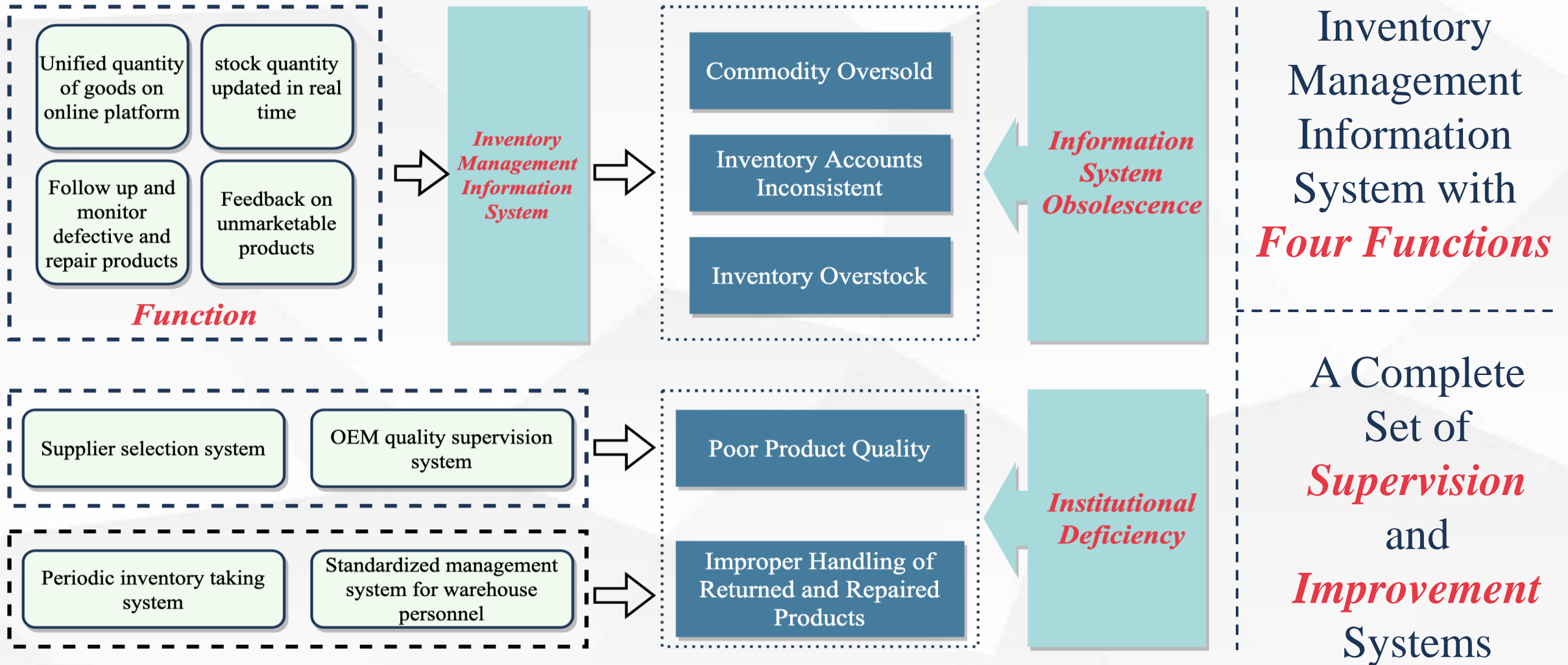### Responsibility Traceability System

- Strictly implement every system.
- Punish employees who do not perform well.

- The Return and Exchange procedures had not been well preformed by the Company's warehouse keeper with laxed inspection on returned products.
- Clarify who is responsible, and impose penalties.

Solutions & Suggestions >> Summary

Information System Obsolescence And Institutional Deficiency Solving Summary

Function

- Unified quantity of goods on online platform
- stock quantity updated in real time
- Follow up and monitor defective and repair products
- Feedback on unmarketable products

Inventory Management Information System

- Commodity Oversold
- Inventory Accounts Inconsistent
- Inventory Overstock

Information System Obsolescence

- Supplier selection system
- OEM quality supervision system
- Periodic inventory taking system
- Standardized management system for warehouse personnel

- Poor Product Quality
- Improper Handling of Returned and Repaired Products

Institutional Deficiency

Inventory Management Information System with *Four Functions*

A Complete Set of *Supervision* and *Improvement* Systems

Information System >> Common Software On The Market

Information System >> Common Software On The Market

Software	Introduction
Kingdee Guan Yi Yun	• Through the qimen/Cainiao universal interface, it can connect with the mainstream express delivery and logistics platforms to meet the integration needs of warehouse distribution and build a complete supply chain system. • Meet the large and medium-sized warehouse divisional picking business, operation task management to make the warehouse operations orderly. • To solve the problem of high error rate, multiple delivery, missing, wrong delivery, warehouse personnel's sense of responsibility is not strong.
Hui Ce Wang Dian Tong	• Intelligent warehouse selection, logistics matching, improve the efficiency of business delivery. • Support online and offline multi-store, multi-level warehouse management in different locations. • To solve the problems of rough storage operation management, low work efficiency, high error rate, commodity oversold, personnel management is not standardized.
Led Star ERP	• One-click generation of delivery plans to meet temporary product procurement needs, support the increase of products, modify the quantity of products, unit price and other procurement changes. • The industry's advanced FBA warehouse first-in, first-out scheme, procurement cost according to the shipment batch management.
SAP	• It is a mature large-scale system with complete functions • **Features and functions:** No code development mode is easy to use, whole-process tracking mode enables customers to experience the whole process from product discovery to unpacking.
Ufida ERP	• **Features:** Supply chain cloud services, with procurement, inventory, sales services as the core, deep integration with procurement cloud, marketing cloud, financial cloud, manufacturing cloud, to achieve agile supply, production, supply and marketing, industry, finance and tax integration and efficient coordination.

Information System >> For Whole-Channel Supply Chain Service Ecosystem

NOT JUST ONLINE STORES

Realize the Transformation of Fun Sports From Online Store to New Retail Business Model By Realizing the Whole-Channel Supply Chain Service Ecosystem

Internet Cloud Computing Artificial Intelligence Big Data

New Retail Era

AIM → Realizing the Whole-Channel Supply Chain Service Ecosystem

The integration of online and offline service objects and resources has become the top priority in the new retail era. Therefore, it is necessary to make use of the service ecosystem of whole-channel supply chain to better serve consumers and realize the effective allocation and integration of customer demands, marketing strategies, data resources, procurement strategies, retail terminals and logistics resources.

Information System >> Recommendation : Shop Housekeeper

"**Shop housekeeper**" is widely used in the e-commerce industry. Functions include order processing, production and processing, financial accounts, supply chain, warehousing, ePOS, cross-border, CRM, OA and others.
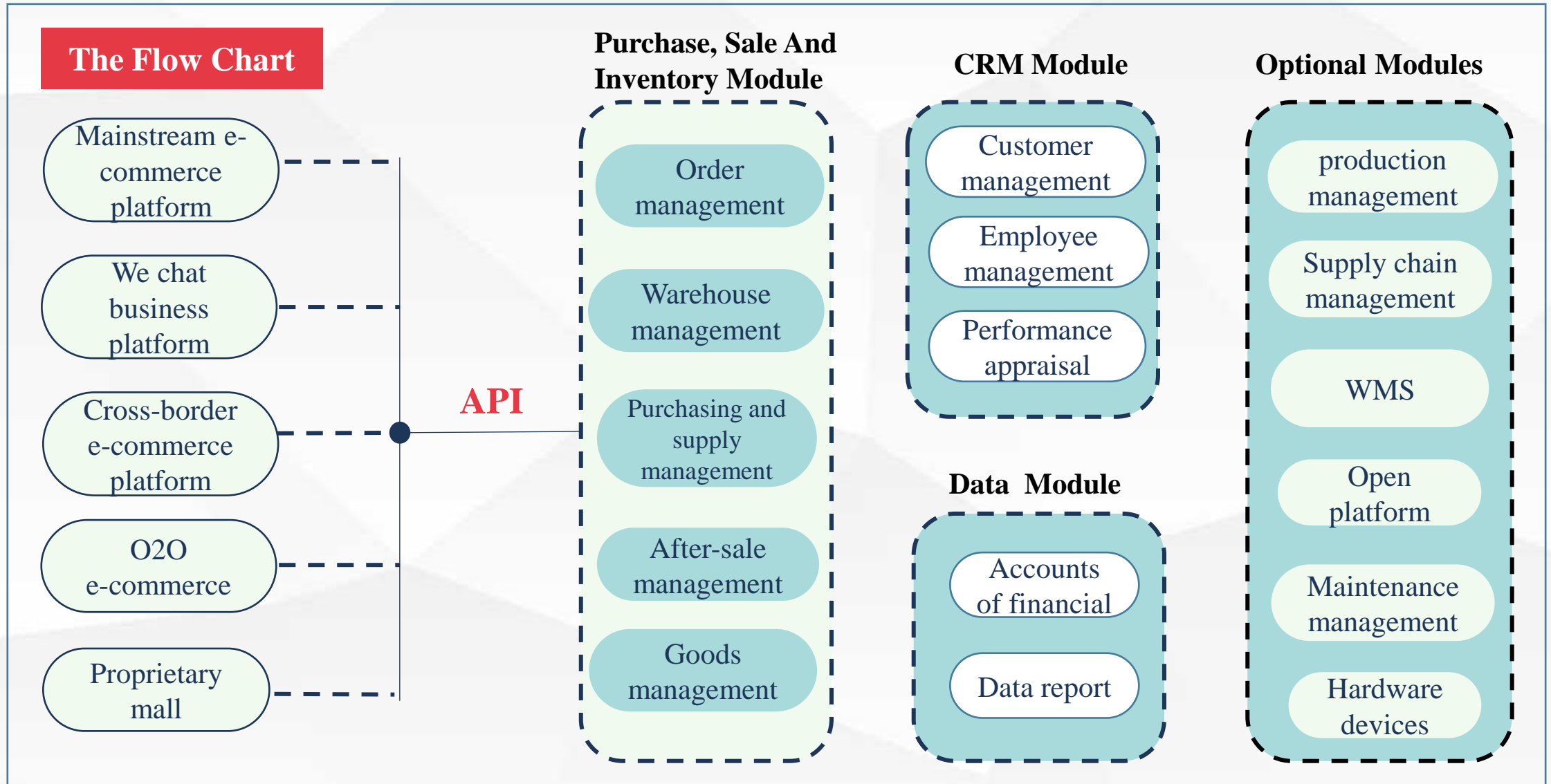
Business Pain Points

➢ It is difficult to automatically obtain orders for multi-platform shop opening.

➢ It is difficult to deal with the promotion activities, orders exploded.

➢ It is difficult to accumulate customer information and maintain customer relationship, the customer repurchase rate is low.

➢ It is difficult to view and analyze data reports.

➢ It is difficult to control inventory for multi-channel operation, unable to accurately synchronize each platform, overselling often occurs.

➢ Missing orders, wrong orders, reorders, oversold.

Solutions

• Mainstream e-commerce platform, processing up to 200000 orders.

• Realization of multiple platforms, multiple shops warehouse management.

• Through API to download all orders from multi-platform.

• Intelligent and efficient order processing.

• Standard warehouse operation process and reasonable inventory control.

• Effective guarantee to deliver goods quickly.

Information System >> Shop Housekeeper >>> The Flow Chart

The Flow Chart

Mainstream e-commerce platform

We chat business platform

Cross-border e-commerce platform

O2O e-commerce

Proprietary mall

API

Purchase, Sale And Inventory Module

- Order management
- Warehouse management
- Purchasing and supply management
- After-sale management
- Goods management

CRM Module

- Customer management
- Employee management
- Performance appraisal

Data Module

- Accounts of financial
- Data report

Optional Modules

- production management
- Supply chain management
- WMS
- Open platform
- Maintenance management
- Hardware devices

Information System >> Shop Housekeeper >>> Main Management Modules

Multi-Platform Management

- Automatic synchronization of orders from more than 50 e-commerce platforms such as Taobao, JD, Micro mall and self-operated mall, order capture is stable and efficient.
- Multi-channel and multi-store sales inventory automatically updated to prevent oversold.
- Automatic delivery, return logistics information to the platform, save time and effort.

Warehouse Management

- Standardize warehouse operation process, optimize warehouse location and manage bar code.
- Standardized management of warehouse operations such as product in-and-out, inventory, allocation.
- According to the warehouse and product storage planning, optimize the location and distribution route, provide a variety of goods picking and inspection programs.

Inventory Management

- Support multi-warehouse management, multi-platform inventory automatic synchronization.
- Support package combination, automatically and synchronously calculate the inventory of single product and package products to prevent oversold.
- Support stock update according to percentage, storage and other schemes, reasonable allocation of stock, to avoid oversold products.

After-Sale Management

- According to the actual after-sales business scene, scientific design of the return and replacement process, and track the audit of each link, easy management of after-sales refund, replacement, return, reissue business.
- Strictly control the progress of handling after-sales problems, record after-sales reasons and generate data reports.
- Automatically associate inventory and finance, ensure accurate inventory and accounts.

Information System >> Shop Housekeeper >>> Additional Features

Purchasing And Supply Management

- Automatic inventory **alert.**
- Intelligent **calculation** of products and quantity to purchase.
- Automatic **generation** of purchase order, to ensure a reasonable and timely purchase.

Store Manager

- Online store and **offline experience**, customer self-pick goods.
- The system supports matching of sales order information of cloud version to offline stores for **nearby delivery.**

Cross-Border Management

- Docking **import and export** cross-border e-commerce retail platform.
- As well as **cross-border** warehousing, **cross-border** logistics, free trade zone.
- Support **multiple currencies** and exchange rates.
- Support **multi-language** orders.

Customer Management

- Automatically obtain the **basic information** of the members.
- Classification management for members to fully **accurate analysis.**
- Precise marketing and activities analysis to improve members' **loyalty** to promote purchases.

Information System >> Shop Housekeeper >>> Price

We only need a three-port configuration now, and for other functional modules, we need ES API to connect sales platforms, WMS API to connect warehouses, PDA interface, Production module, SCM to manage the supply chain and Maintenance management, Invoice management.

Modules	Price	
ES API	1176yuan/year	√
WMS API	1200yuan/year	√
PDA	1000	√
Production module	2376yuan/year	√
SCM	3360yuan/year	√
Maintenance management	480yuan/year	√
Invoice management	2900yuan/year	√

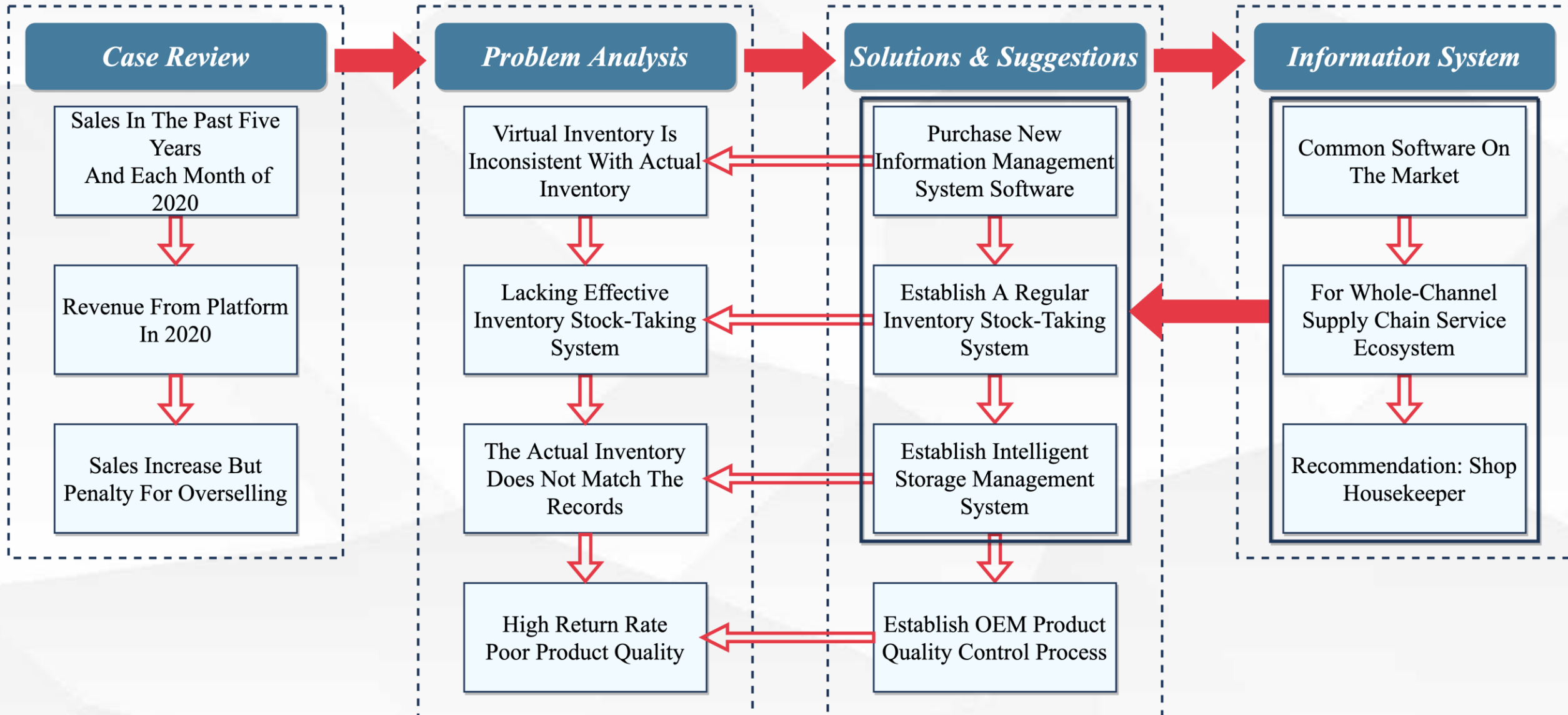| Specifications(Port Number)	Price(yuan/year)	
3	8200	√
4-10	980/port	
11-16	890/port	
No limit	19800	

Total Price(yuan/year):
8200+1176+1200+1000+2376+3360+480+2900=
20,692 !!!

VARIETY IS THE SPICY OF INNOVATION

Executive Summary

Case Review

Sales In The Past Five Years
And Each Month of 2020

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Revenue From Platform In 2020

↓

Sales Increase But Penalty For Overselling

Problem Analysis

Virtual Inventory Is Inconsistent With Actual Inventory

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Lacking Effective Inventory Stock-Taking System

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The Actual Inventory Does Not Match The Records

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High Return Rate Poor Product Quality

Solutions & Suggestions

Purchase New Information Management System Software

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Establish A Regular Inventory Stock-Taking System

↓

Establish Intelligent Storage Management System

↓

Establish OEM Product Quality Control Process

Information System

Common Software On The Market

↓

For Whole-Channel Supply Chain Service Ecosystem

↓

Recommendation: Shop Housekeeper