

A photograph of a woman with short dark hair, wearing a dark blue cardigan, smiling and supporting a young girl with long brown hair. The girl is climbing a white play structure with orange and blue accents. In the background, other children are visible on similar equipment. The image is overlaid with a semi-transparent blue and yellow geometric pattern on the left side.

Production Management of Fun Sports

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1.1 Enterprise Analysis Based On SWOT

S

- Possessing **innovative products**, which is approved by authority and customer. Thus, FS gains more high-end users favor.
- Basically it can achieve a **high gross profit** above 50%.
- The average sales growth rate is nearly 30% per year.

W

- Being in early stage of development, it **lacks sufficient capital** to run large scale of production by its own.
- Market of sense training equipment is still constrained in **small scale**.

O

- **Releasing childbirth policy** leads to growing demand for toy market.
- Company has prepared to launch **online live-streamed sales**.
- FS **lays off-line channels**, including cooperating with featured homestays, expanding its scale of sales.

T

- The **capacity** of outsourcing manufacturer is **in a bottleneck**, restricted firm's subsequent development.
- The **quality of manufacturing cannot be promised**, causing quantities of orders returned.

Fun Sports

Advantages:

Low substitutability

High profitability

Large growing potential

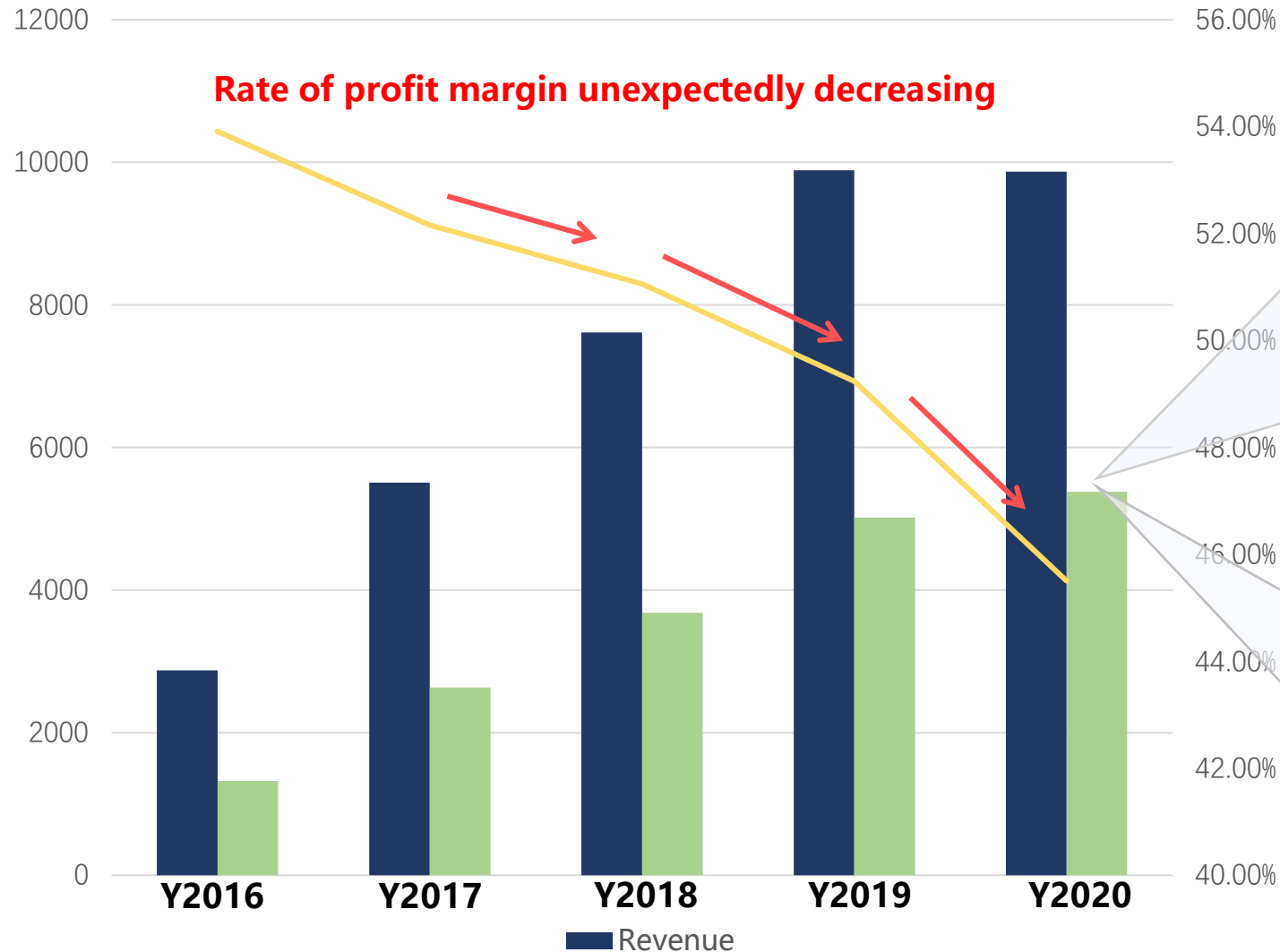
Disadvantage:

Low ability to bargain

Low production independence

1.2 The problem of decreasing rate of profit margin

CHANGES IN FS CORP. REVENUE FOR YEARS

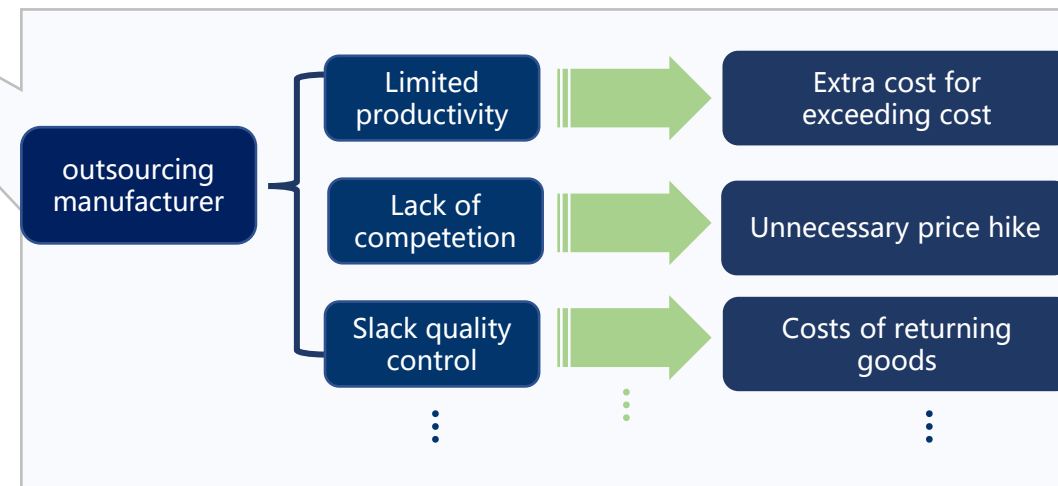


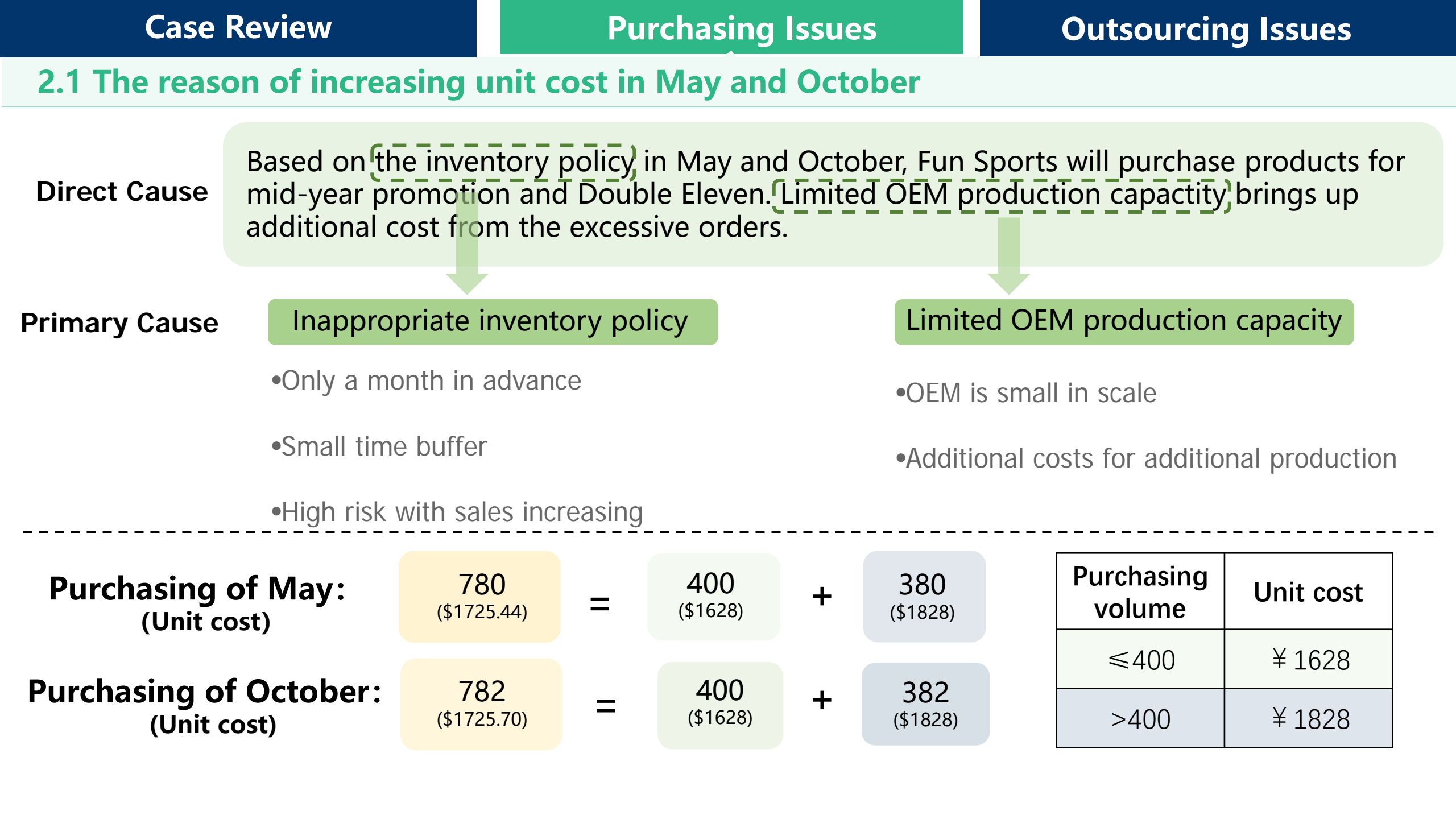
Cost in each month of 2020



month	1	...	5	6	...	10	11
unit cost	1628	1628	1725.44	1628	1628	1725.44	1628

Purchasing amount in **May** and **October** increases significantly, thus **reduces profit margin** in mid-year promotion and Double Eleven.





2.2 Orders produced in advance will be more beneficial

Description:

We calculate the **discounted unit cost** under the condition of **production exceeding normal capacity** and **production in advance**. Difference between the two is the **NFV (net future value)** of unit cost as well as the **incremental revenue per unit**. By determining its positive or negative value, we can **explain whether it will be more beneficial** to produce in advance and to reduce the procurement cost, the production can be advanced any months at most.

Cash Flow of Cost per unit:

produce in advance: 1628 30 30 30

not produce in advance: 1828

t

$$\text{NFV} = -1628 \times (1 + 10\% \div 12)^t - \sum_{i=1}^t 30 \times (1 + 10\% \div 12)^i + 1828$$

Month in advance (t)	NFV (yuan/unit)
1	156.18
2	112
3	67.45
4	22.53
5	-22.77

Month in advance ↓



NFV ↑

(Δ cost savings) ↑



Revenue increase

Conclusion

Through our calculation, we found that **production in advance can bring extra benefits** when the period in advance is **less than 4 months**. Beyond 5 months in advance, there' s no extra benefit while considering storage costs and capital costs.

2.3 The re-compiled procurement budget

According to the conclusion above, FS should produce orders exceeding the normal purchase volume in advance, and the **number of months in advance** production should be **as few as possible**.

January to May

Taking the order in May as an example, the 380 pieces that exceed the normal production capacity in the original plan should be advanced to April. If the capacity is still insufficient in April, it should be advanced to March, and so on, the production can be advanced to January at most.

Month	1	2	3	4	5
Purchase volume before adjusting	220	300	318	304	780
Purchase volume adjusted	322	400	400	400	400
Incremental purchase volume	102	100	82	96	-380

June to October

Similarly, 326 pieces exceeding the normal capacity in October will be produced in advance in the same way. If the capacity from June to September still cannot be met, production will be carried out in October.

Month	6	7	8	9	10
Purchase volume before adjusting	256	352	368	298	782
Purchase volume adjusted	400	400	400	400	456
Incremental purchase volume	144	48	32	102	-326

2.3 The re-compiled procurement budget

2020 Procurement Budget of DK-008 Detachable Large Slide (Adjusted)

	1	2	3	4	5	6	7	8	9	10	11	12	Sum
Forecast sales	220	260	310	320	300	720	320	360	370	280	726	270	4456
Beginning inventory	208	310	450	540	620	720	400	480	520	550	726	216	5740
Ending inventory	310	450	540	620	720	400	480	520	550	726	216	216	5748
Current purchase volume	322	400	400	400	400	400	400	400	400	456	216	270	4464
Unit cost (yuan)	1628	1628	1628	1628	1628	1628	1628	1628	1628	1652.56	1628	1628	1630.05
Purchase amount (x 10,000RMB)	52.42	65.12	65.12	65.12	65.12	65.12	65.12	65.12	65.12	75.36	35.16	43.96	727.86

After adjusting the procurement strategy, the book procurement budget will be reduced by

$$741.98 - 727.86 = 14.12 \text{ (x 10,000RMB)}$$

2.4 Incremental revenue of the re-compiled procurement budget

January to May							June to October						
Month	1	2	3	4	5	Sum	Month	6	7	8	9	10	Sum
Purchase volume before adjusting	220	300	318	304	780	1922	Purchase volume before adjusting	256	352	368	298	782	2056
Purchase volume adjusted	322	400	400	400	400	1922	Purchase volume adjusted	400	400	400	400	456	2056
Incremental purchase volume	102	100	82	96	-380	0	Incremental purchase volume	144	48	32	102	-326	0
Month in advance	4	3	2	1	-	-	Month in advance	4	3	2	1	-	-
NFV (cost savings per unit)	22.53	67.45	112	156.18	-	-	NFV (cost savings per unit)	22.53	67.45	112	156.18	-	-
Incremental revenue	2298.06	6745	9184	14993.28	-	33220.34	Incremental revenue	3244.32	3237.8	3584	15930.36	-	25996.48

Total incremental revenue= 33220.34+ 25996.28= 59216.82 yuan

3.1 Advantages and disadvantages of production outsourcing



Advantages

○ Reduce Production Cost

·Save the costs arising from building and managing production line, which is good for small business in an early stage.

○ Improve the Management Flexibility

·Firm can quickly respond to the change from complex environment for the horizontal structure.

○ Focus on Core Competencies

·Firm can save unnecessary efforts paid for the non-core business then focus more on core business to strengthen firm's competencies.

○ Better Access to Advanced Technology

·Firm has chance to reach the most advanced technology based on selection, which may raise production efficiency and quality.

○ Integrate and Utilize Resources

·Make better use of internal and external resources based on accurate analysis of strengths of all parties involved in production.



Disadvantages

○ Limited to the capacity

·If the manufacturer cannot meet company's need, it will result in loss of profit and increase shortage costs.

○ Loss of production flexibility

·Firm can't quickly change its production plan according to the demand for the long-term signed contract.

○ Increasing unavoidable cost

·Firm will get fine from platforms, costs used to maintain outsourcing agreements, warehouse costs and etc.

○ Loss of quality control

·It is hard to promise high quality for difficult execution of quality testing when production activity is outsourced

○ Technology information leakage

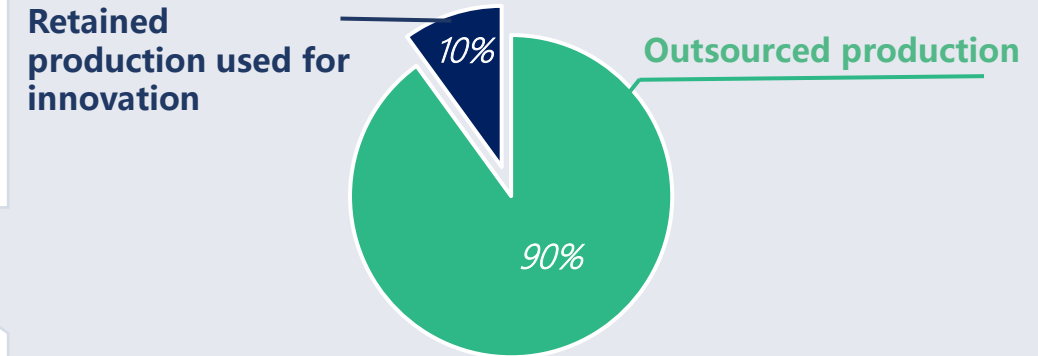
·It is probable for manufacturers to master the technology information in production, which will do harm to firm's core competency.

3.2 Case study on CL China

Case Study: *CL China*

- CL China, a **tech-based** sportswear company that aims to provide **high quality** products for customers.
- **Design and innovation** is the **core business** of CL China which matters to its main competency.
- While most of its **production business is outsourced**.

➔ Overall situation of CL China is similar to Fun Sports



(figure 1: proportion of CL China's business)



Introduction of trailing out period

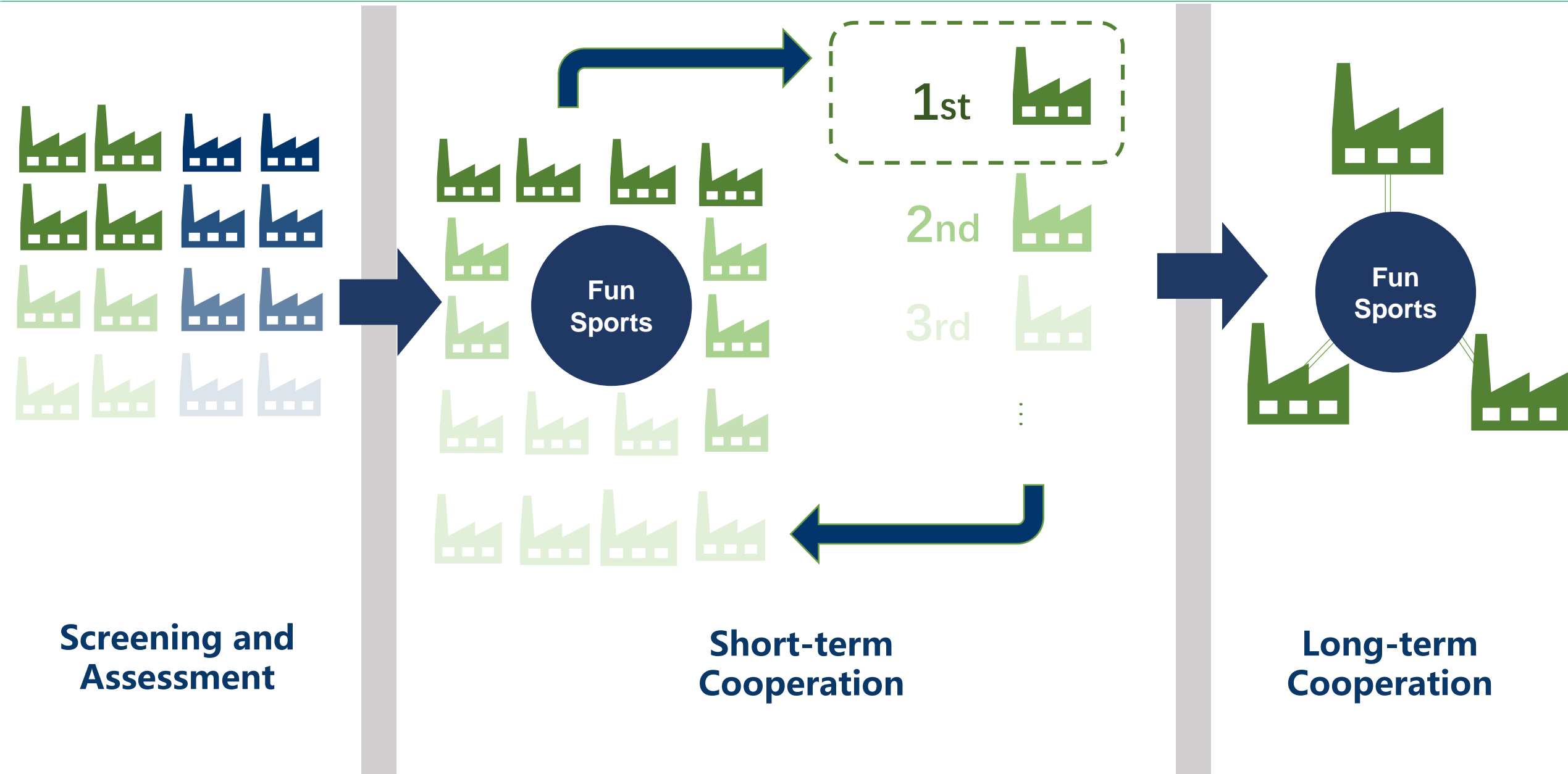
Equivalently, CL China introduces **competition mechanism** into firm. CL China offers potential suppliers small quantities of short-term orders, and evaluates their performance in the process, then selects high-performance suppliers to start larger-scale production, which can **lower costs and promise high quality**.



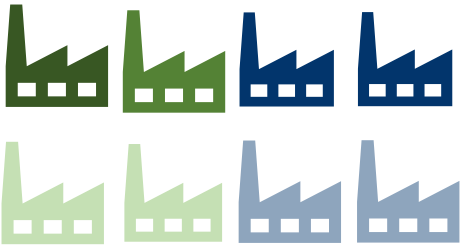
Set reward and punishment mechanism

As for the behaviors that are detrimental to firm's interest like producing substandard products, delaying the date of delivery and etc. CL China tends to **ask for supplier's compensation** on it. Thus, reward and punishment mechanism can **form a norm to regulate suppliers**, and it can **offset part of loss** to some degree.

3.3.1 Overview of improved outsourcing plan



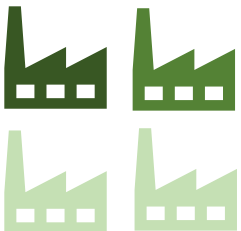
3.3.2 Screening and assessment



Core Problems

Core Needs

Preliminary Screening and Evaluation



Limited production capacity of OEM partners affecting FS' s development

Enough Production Capacity

Scale of OEM
Numbers of product lines
.....

Preliminary screening of enterprises with
Relatively High Capacity

Lax quality control by OEM from return data

High Quality

Quality Standards
Reputation of OEM
.....

Preliminary screening of enterprises with
Good Product Quality

Scattered locations and difficult communication by too many OEM partners

Concentrated Production Process

Manufacturing technique
.....

Preliminary screening of enterprises with
Huge Business Volume

3.3.3 Short-term Cooperation

Definition

Short-term cooperation is a process of utilizing capacity of **quantities of screened manufacturers** ^① under **market standard** ^②, combined with FS **continuous independent evaluation** ^③ on manufacturers' performance. It is ready for establishing long-term cooperation with 2 or 3 manufacturers through **incentives** ^④ in short-term cooperation.

How to carry out short-term cooperation

➤ Serial number of the keywords in the definition match the corresponding measurement

① Competition Mechanism

Quantities of manufacturers will be retained

② Compensation

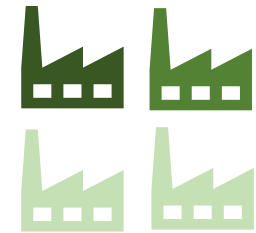
Manufacturers needs to compensate for loss of company.

③ Continuous Evaluation

Collect data from random quality testing and customer feedback

④ Screen Through Incentive

Form long-term cooperation partner by order incentives



3.3.3 Short-term Cooperation -- supplier evaluation model designation

STEP 1

After a short contract period, assign weights to different KPIs according to the needs of FS, and **calculate the scores** of each manufacturer

Assessment dimensions	KPIs	Measurement method
Product quality assurance	Production equipment iteration cycle	Statistical average
	Pass-yield	Qualified products/Total products(%)
Production capacity	Sales	Sales
	OTD	Times of on-time delivery/Total number of deliveries (%)
Cost	Procurement cost	Procurement cost
	Storage cost	Storage cost

STEP 2

Rank manufacturers according to their scores

1st 

2nd 

3rd 

STEP 3

Discontinue cooperation with manufacturers whose scores are not up to standard. **Continue cooperation** with manufacturers whose scores are up to standard.

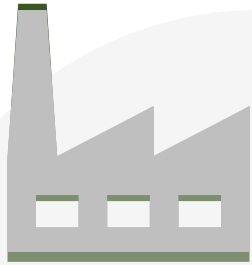
STEP 4

Incentivize manufacturers, tilt order volumes based on rankings

Fun Sport' s GOAL

Back to step 1, repeat steps above. Finally find several top manufacturers **to have long-term cooperation**

3.3.4 Long-term Cooperation



Quality Management

- **SPC(Statistics Process Control)**: Analysis with statistical method
- **SOP(Standard Operating Procedure)**: Standardize detailed produce process

Establish a Strategic Alliance

Information Communication

- **Building information system to exchange information** regularly
- **Searching opportunities** to expand production and further cooperation

Product Inventory

- **Tracking the repair status** of returned goods to reduce loss
- **Making regular product inventory** to maintain accurate and timely record

Build a long-term relationship of
Mutual Trust



Trust can facilitate coordination, increase the faith in each other's behavior and **achieve long-term benefit**



THANKS!

