

Title

Successive Product Innovation in Emerging Market

– A case of fastener business of YKK –

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[Abstract]

This paper describes product innovation produced by market needs in emerging country through globalization of manufacturing industry, in a case of fastener business by YKK.


It is generally said that product innovation is mainly produced in advanced enterprises in advanced countries, and after maturity of domestic market of such countries, the new product will be popularized also in emerging countries. Manufacturing enterprises in emerging countries should catch up the advanced technology and penetrate the market usually by reducing cost of production without producing new product innovation.

YKK was one of such late-comer-enterprises in Japan as an emerging country in early 20th century, and they should absorb the advanced technology from USA at the beginning. However they were successfully produced second product innovation and enlarged their business even for advanced countries over the world. They have been grown up so rapidly in these several decays, and still now they keep its high world-wide-market-share of over 45%.

The detailed analysis on their business clarified that their second product innovation was led by specific market needs in Japan as an emerging country. The analysis implies on how manufacturing enterprises produce a successive product innovation to overcome stagnation in the globalized market.

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● Agenda 

- I . Introduction
- II . Literature Review
- III . Research Design & Framework
- IV . Case Study
- V . Analysis & Discussion
- VI . Conclusion

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● I . Introduction 

Background

Since late 20th century, international competition of enterprises has become harder and harder, and many enterprises are now facing severe survival game in global world.

“Product Innovation” is one of the most important clues for manufacturing enterprises to keep their competitive competence in such situation.

However, it is very difficult for many enterprises to produce product innovation successively. Producing successive product innovation is a significant issue for contemporary enterprises.

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I . Introduction



Focus of this research

Conventionally, it has been thought that product innovation be produced in advanced enterprises in developed countries and many enterprises in developing countries have disadvantages.

However, detailed observation shows us that there are many opportunities to produce product innovation even for late-comer enterprises in developing countries.

This research is focusing on how late-comer enterprise can produce product innovation, and the key to produce successive innovation will be also discussed through analyzing the case.

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II . Literature Review



Product Cycle Theory by Raymond Vernon(1971)[1]

There are three stages in lifetime of products:

1)The first stage

- The products are developed by many advanced manufacturing enterprises in USA, and also produced in USA.
- The products have not yet been standardized.
- After proliferation of the products in the domestic market, the enterprises become to penetrate foreign market in emerging countries.

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● II . Literature Review



2)The second stage

- The product design/specification are almost standardized by dominant design.
- Thus the competitive enterprises are focusing on advancing process technology of manufacturing.
- Because of market expansion and appearance of competitors, production base of advanced enterprise is moved onto emerging countries for cost reduction.

3)The third stage

- The technological gap of USA and the emerging countries is getting smaller by technology-spill-over.
- The products are imported from emerging countries to USA, because of low cost of fabrication. However, the late-comer-enterprises in emerging countries are hard to produce product innovation.

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● II . Literature Review



Reverse Innovation

by Vijay Govindarajan and Chris Trimble(2012)[2]

Usually, product innovation is produced in advanced countries, however there are some opportunities to produce product innovation in emerging countries:

In emerging countries, there are many demands for new products which are quite different from those in advanced countries.

If a new product is produced to fit those demands in emerging countries, sometimes the product is also fit to the potential demands in advanced countries, and it can be popularized also in advanced countries.

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II . Literature Review



The following five gaps between advanced countries and emerging countries are giving an opportunity of reverse innovation.

1)Performance

The real demand on performance balancing with price is different in each country.

2)Infrastructure

In emerging country, some infrastructures may be not established.

3)Sustainability

There would be trade-off relation between economic growth and environment protection.

4)Regulation

Political regulation are different in each country.

5)Preference

Preference for product is absolutely different in each country.

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III . Research Design & Framework



Research Question

- Are the manufacturing enterprises in emerging countries really difficult to produce product innovation?
- If some successful enterprises in emerging countries could have produced product innovation, how could they achieve it?
(It would be a clue for manufacturing enterprises to overcome stagnation in the global market.)

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III. Research Design & Framework 

Research Object: YKK as a successful enterprise

- YKK was one of the late-comer-enterprises in Japan as an emerging country in early 20th century, and they should absorb the advanced technology from TALON in USA at the beginning.
- However they were successfully enlarged their market share in global market.
- They have been grown up so rapidly in these several decays, and still now they keep its high world-wide market share of over 45%[3]. YKK is now one of the most successful Japanese manufacturing enterprises.

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III. Research Design & Framework 

Framework of study

- To observe the historical change of sales of YKK (Japan)for describing their business success in global market.
 - *1st stage: 1934–1944
 - *2nd stage: 1945–
- For analyzing the reason of their success, to compare the product contents of YKK and TALON. And to research the motivation of YKK' s changing their production style for understanding product innovation produced in emerging country.

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IV. Case study

Launching fastener business in TALON(USA) and YKK(Japan)[4]

TALON	1891 First fastener patent 1914 Success in production of fastener 1920~ Market expansion. Utilization for boots →Mechanization in production
YKK	1934 Wholesale of fastener 1935 Production of fastener →Production by manual labor Huge technological gap for TALON

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IV. Case study

History of YKK business[4]

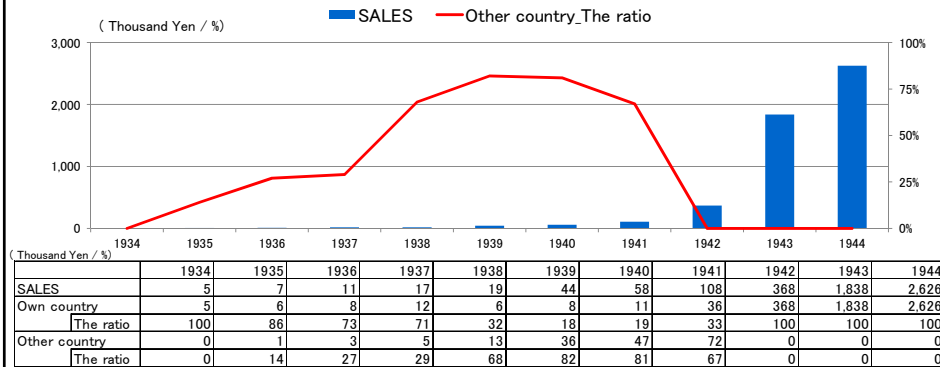
1st stage	1934 Wholesale of fastener 1935 Production of fastener →Sales for export were grown up 1941 Prohibition of export by the government
2nd stage	1947 Resume of export 1950 Introduction of TALON's technology (Purchasing production machine) 1953 Original development of production machine for supplying new product (fastener unit) to Japanese customers (small apparel sewing factories)

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IV. Case study

Sale of YKK[5] -1st stage (1934-1944) -

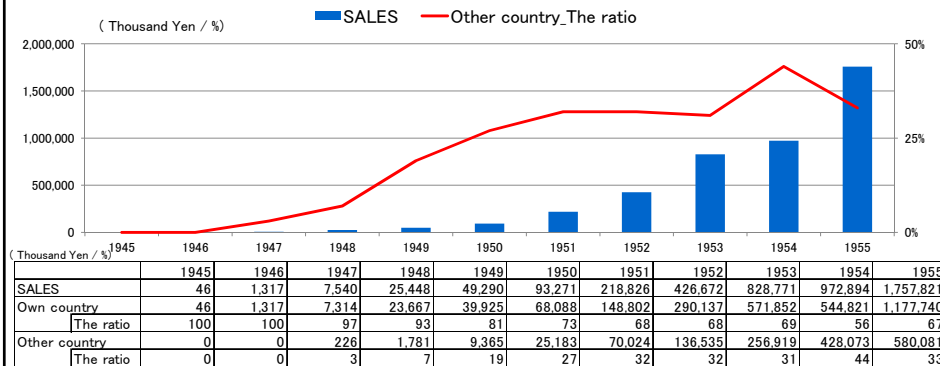


- Sales have been increasing.
 - However, whole production depended on manual labor.
 - Export was prohibited in 1941.
- The military industries were enhanced.

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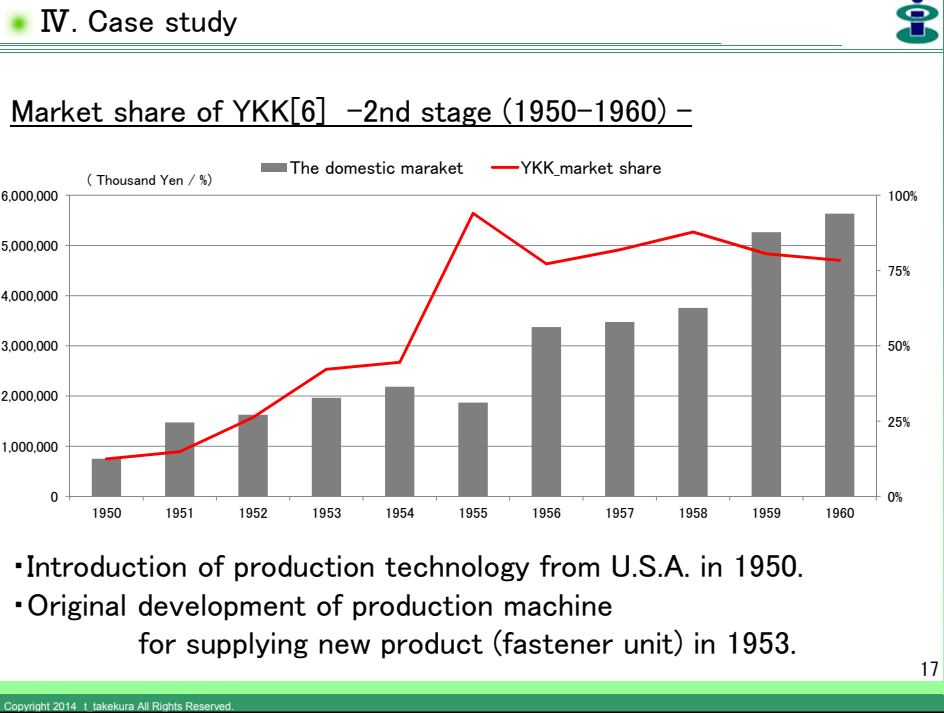
IV. Case study

Sale of YKK[5] -2nd stage (1945-1955) -

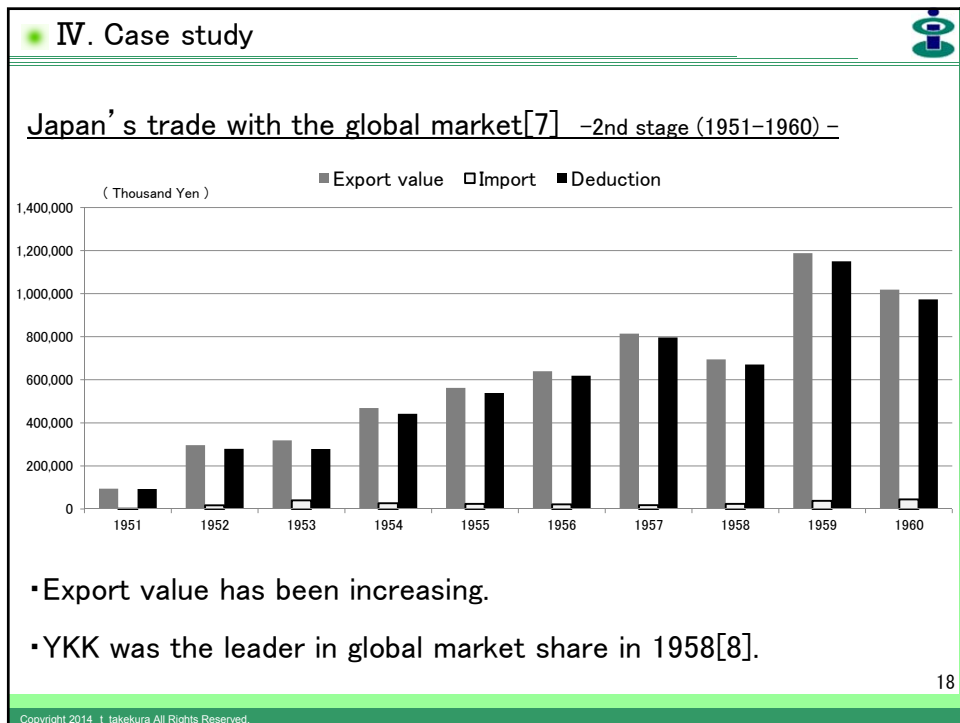


- Export was resumed in 1947.
- Introduction of production technology from U.S.A. in 1950.
- Production level was dramatically advanced from the 1st stage.


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● V. Analysis & Discussion 

Why could YKK succeed in their fastener business?
How could YKK carry out product innovation?

- YKK launched their fastener business as a late-comer enterprise in emerging country in 1934. Initially, they were lack of production technology as well as new concept of products.
- Their business was advanced right after technology transfer from TALON on purchasing production machines of fastener.
- However, the key factor for YKK's success was not low labor cost of emerging country, nor imitating product/technology.

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● V. Analysis & Discussion 

Compare business scale of fastener's customer
in the U.S.A and Japan.

- Employees of the plant in 1954[9]
 - Less than 10 persons ... U.S.A. : 4.5% , Japan : 30.5%
 - Less than 50 persons ... U.S.A. : 30.6% , Japan : 73.3%
 - More than 100 persons ... U.S.A. : 46.1% , Japan : 13.9%
- U.S.A.
Production was done in large scale plant by division of labor and the introduction of equipment had been carried out in the 1910s[10].
- Japan
Whole operation was carried out in the home, and division of labor was incomplete[11].

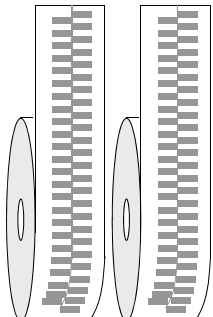
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V. Analysis & Discussion

Product requirements form fastener's customer were different in the U.S.A and Japan

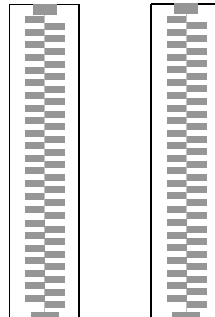
U.S.A.[Role]



(Large-scale customer)

➔

Japan[Unit]



(Small scale customer)

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V. Analysis & Discussion

Production Technology and Change of Products

TALON

1920~
[Roll]
Machine

Technology transfer

YKK

1934~
manual labor


1950
[Roll]
Machine

1953
[Unit]
New
Machine

Original development

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● V. Analysis & Discussion 

Why could YKK succeed in their fastener business? Cont.
How could YKK carry out product innovation?

- They were facing the gap between the conventional product, roll style fastener material, and the reality of Japanese customers' demand, who were the small apparel sewing factories and didn't have a power to process roll material of fastener onto the final apparel products.
- YKK then developed their original process technology of producing unit style fastener and initiated to sell a new product of fastener.

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● V. Analysis & Discussion 

Why could YKK succeed in their fastener business? Cont.
How could YKK carry out product innovation?

- Instead of customers' operation of processing fastener roll to useful unit type fastener, YKK produced an unit style fastener for customer's convenience.
- This means a kind of "business model changing" from selling roll to selling unit of fastener by changing customer's operation to manufacturing service.
- This can be called as a kind of product innovation produced by late-comer enterprise in emerging country.

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● V. Analysis & Discussion 

Implications from the story

- The new product produced by YKK became popular not only in Japanese domestic market but also in overseas market, because there were many weak customers in Asia similar to Japan.
- In addition, finally they also found potential customers for new product even in the USA. And thus, YKK got a large share of fastener in global market overtaking TALON.

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● V. Analysis & Discussion 

Implications from the story, Cont.

- For TALON side in advanced country, this is an unexpected “Reverse Innovation” from emerging country.
- The story infers that if manufacturing enterprises watch their market very carefully through globalization, there should be some opportunities for product innovation even for late-comer enterprises in emerging country.

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● VI. Conclusion



- This paper describes product innovation produced by market needs in emerging country through globalization of manufacturing industry, in a case of fastener business by YKK.
- Even though YKK was initially a late-comer enterprise in emerging country without advanced technology, they were successfully developed their own process technology to produce a new product fitting to the customer's demand.
- The story tells us one manner of successive product innovation in globalization of manufacturing industry. It can be a precious clue to overcome stagnation of manufacturing industry.

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● VI. Conclusion



Answer to Research Question

- Q: Are the manufacturing enterprises in emerging countries really difficult to produce product innovation?
A: If they are carefully watching market needs, even late-comer enterprise in emerging country can produce product innovation.
- Q: If some successful enterprises in emerging countries could have produced product innovation, how could they achieve it?
A: Not only by adapting the advanced technology produced in advanced enterprise in advanced country, but also by developing their own technology to fit to the customers' demand.

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