

## Some questions on American style MBA curriculum

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From my recent survey on semiconductor business history (1948—1993) in Japan and USA, I was conceived that the essential conditions of founding a new industrial business must be as follows.

- (1) Curiosity of the people.
- (2) Technology level of the nation.
- (3) Existence of the entrepreneur.
- (4) No despising climates about manufacturing business.

It had been a long term question for me that why only Japan except USA could build up a strong semiconductor business in these recent 20—30 years.

There are many nations, much more than 100, in the world. But a few nations can produce semiconductor goods; few nations but Japan and USA can manufacture advanced semiconductor goods. Why only Japan?

The reasons what I thought are the above four conditions. Only Japan except USA had above four conditions. Many nations had not these four essential conditions.

(1) Curiosity of the people

Even if there is a new technology seed, one can't see it if one has not curiosity on this new technology and doesn't pay any attention to what he sees.

Transistor was invented by Schockley group in Bell Laboratory in 1947. Next year, in 1948, Bell Laboratory announced this invention in the public. Japanese scientists knew it from the articles of the weekly magazines, Time and News Week. It was the time shortly after the end of WW II. Almost all Japanese scientists were living in huts because they lost their houses by American air bombardment.

Because of the World War II, there were four years scientific and technological blank in Japan.

Time and News Week were, at that time, for the Japanese engineers and scientists, the only news sources of advanced technological and scientific affairs in the world. They had been reading the technology and science column in these magazines with great eagerness.

Many Japanese scientists started making transistor as soon as they knew the news of transistor from weekly magazines Time and News Week in the summer of 1948.

Their knowledge of transistor was nothing but the articles of Time and News Week. There is little germanium, essential material for transistor, in Japan at that time. They neither knew the necessary purity of germanium nor transistor theory. Driving force of their activity was curiosity for new technology and the will to make new things by themselves.

Yasusi Watanabe, Professor of Tohoku University and one of

the fathers of Japanese transistor electronics, knew it from an officer of CCS (Civil Communication Section) of Occupying US Force shortly before the Time and News Week's articles. Returning to the University, he gathered the staff and ordered them "Make a Transistor at once. Transistors must be better amplifiers than vacuum tubes. This must be a substitute for a vacuum tube." Japan has been a frontier nation from the ancient times ; has been distant away from the culture center nations ( ancient times, China ; modern times, western Europe and USA.)

Japanese have been thinking that they are living in frontier, so they must learn from cultural center nations ; have introduced highest culture from the center of excellence with no hesitate or no question ; have been open-eyed, never thought they were in the center of the world or most highly cultured nation, as Chinese have been always thinking in these thought pattern. Thought process has been the sharp contrast between Japanese and Chinese. In the heart of Chinese, there has never been a behaviour of learning from the foreign nations. For them, from their five thousand years of long history, other nations have been the countries where wolf-like or wild dog-like barbarians with no culture were living. They think China is best ; the center of the world ; most wealthy ; most flowery ; teaching the Chinese culture for these barbarians is Manifest Destiny. For Chinese, learning from foreign countries has been an awful matter. They never showed the curiosity on foreign culture, technologies, inventions ; have been indiffernt to foreign matters.

## (2) Technology level of the nation

Even if he is curious about a new technology seed, the seed can't grow up in the desert, or in the field where there is no relative technology level. Technology level is the essential condition for new industrial business.

Japan introduced western educational system for science and technology in early Meiji era (1870s). Fundamental scientific bases had settled before 1900s ; technological bases before 1930s. Scientific electronics fields in Japan had grown up in 1930s. For example, followings were the first level scientific inventions at that time.

Yagi antenna (Hidetsugu Yagi ; Tohoku University)

Electron method Television (Kenjiro Takayanagi ; Hamamatsu Technical College)

Ferrite tecknology (Yogoro Kato ; Tokyo Institute of Technology)

Magnetron tecknology (Kinjiro Okabe ; Tohoku University)

Electronic photograh telecommunication system (Yasujiro Niwa ; NEC)

Magnetic recording system (Kenzo Nagai ; Tohoku University)

In 1543, a wrecked Portuguese ship reached to a beach of southern Japanese small island of Tanegashima. Inhabitants of the island saw a strange steel stick which was in the hands of Portuguese. This steel stick was a gun. The lord of Tanegashima had curiosity on this gun and bought it by Japanese gold coin of very expensive cost. The lord ordered to a swordcraftman, giving this sample, to make a gun ; to a retainer, giving gun powder, to make the same gunpowder.

At that time in Japan, swordcraftmen had high level steel mak-

ing and steel processing technology ; there were relative high level chemical knowledges. They needed little time to make a gun and gunpowder.

Shortly after this accident, in the late 16 and early 17 Centuries, Japan became a nation of most quantity of guns in the world.

In 1575, thirty two years later, Nobunaga Oda used three thousands of guns in a narrow battle field of Nagashino. Nobunaga used volley tactics of one thousands guns which was the first volley tactics in the world military history. In the 17 centuries, except western Europe, Japan was the only gun making country. If the Japanese of 1540s had great curiosity on gun, they had not been able to make guns without relative technologies such as steel making, steel processing and gun powder making chemical knowledge.

### (3) Existence of the entrepreneur

One of the most important key factors of business operation is risk taking factor.

The only one with risk taking will, a vision of new business, knowledge of new technology, ability to gather money, can develop a new business——, that is an entrepreneur.

New business can't grow up only by curiosity of people, or by relative necessary technology level. Entrepreneurship is essential.

If one has scientific or technological brain and research funds, one can easily develop some technologies, or test goods, or trial products. But industry can never grow without demand in the market.

Demand in the market is the essential factor for building a new industry.

Making trial product is easy ; goods difficult. Making high technological or scientific level is easy ; to develop market is difficult. If there is no entrepreneur, we can't expect an industry.

In Japan, there was a great deal of gun demand in the 16 centuries.

Many lords were fighting each other. Almost all countries were battle fields. The 16 centuries was the age of civil wars in Japan.

Merchants of Sakai became entrepreneurs of gun industry. They built and operated gun factories. They also built gun trading companies.

In 1853, Commodore Perry of US Navy cruised to Japan with his fleet of steam ships. Japanese had not seen steam ship before Perry's fleet. With their curiosity, with their desire to make steam ship by themselves and with their relative high level of ship building technologies, Japanese shipbuilders endeavored their energy for steam ship building. Soon after Perry's navigation to Japan, Japanese shipbuilders made steam ships and grasped steam ship building technologies.

At that time, in the world, except western Europe and northern America, Japan was the only nation who could build steam ships.

There were great demand for steam ships. Because Imperial Japanese Government was eager for it for its national defense.

Many entrepreneurs, such as Yataro Iwasaki ,Shozo Kawasaki, the founder of Mitsubishi Konzern and Kawasaki Konzern respectively, took risk to build ship building industry.

Mr.Ibuka, the first president of Sony Corp., decided to pay big money for the license of transistor from Western Electric to build

a new business—tiny transistor radio business. Ibuka borrowed money from bankers and built a factory for transistor. For Ibuka , it was a great risk because there were neither transistor manufacturing experience nor transistor radio market. In USA, transistor's market was almost for military use at that time in the 1960s. Ibuka developed transistor radio market which caused the demand for transistor itself, and which made Japan the biggest transistor manufacturing nation.

It was the same case of Sharp Corp.'s IC-use electro-calculator business . At that time, IC markets in USA was almost all for military use in the 1970s. Entrepreneur-ship was not necessary for military use government market .

But for entrepreneur, goods, not trial product, can not be produced for the market.

It is quite different between trial product in the experimental room and goods in the market.

In the business field, new trial products is easy ; new goods is hard.

Marketing is to develop a market for customers; to make demand for goods. Demand make industries. But for demand, new industry can not be established.

#### (4) No despising climates about manufacturing business

Generally speaking, in the nations where manufacturings, or machine-oil smelling climate jobs, are believed lower compared with academic research, financial activities, government officials administration etc., a strong new industrial business can't grow up.

In the nations where scientistis or research activities are believed higher than engineers or engineering and manufacturing, a new industrial business is difficult to be founded and to grow up.

Industrial business is not clean, beautiful, brain work, or world of idealism.

In the nations where there is an ideology such as "noble men don't take labour work", new healthy industrial business is difficult to be expced. There are many nations where such an ideology has great infulience.

For instance, Chinese have been looking down on labour works, craftsmen's work, manufacturing or agricultural works. Their ideal was the book reading class, from whom government officials were selected by difficult examination of Chinese classics, poem and article writing.

Because government officials had a great economical , political privileges and received social respects for their book reading scholarship, they were the ideal for Chinese people.

Chinese government officials were, in other words, scholars ; had a great deal of Chinese classics knowledge ; good poets and political essay writers. But they had no practical financial or civil, industrial engineering or agricultural knowledges. They despised practical affairs. They liked poetm writing, had no curiosity on industrial or economic or military affairs. Industrial or economic affairs should be operated by lower class people; military affairs by barbarians. They thought our book reading class should not touch with such practical affairs. Through thousands of years, such an ideology have affected the Chinese people. For them,



industrial entrepreneurs have been suspicious men, good men should never take such an occupation.

A contrast has been the Japanese. Ruling class, Samurai, were military men; practical men; not scholars. Their knowledge level were not more than primary level of reading, writing and calculating.

They ruled as civil engineers, financial officers, police officers, agricultural administrators. They were practical men, not men of idealism. In Japan, book reading men have been thought as a little stupid men. After Meiji revolution in 1868, many samurai entered the industrial world without hesitation. For them, manufacturing world was not the place on despising. In Japan, there has never been a thought such as "noble men don't take labour work."

To build up an industrial new business, many able factory managers, talented engineers, workers with eagerness for good products are necessary.

Each activity of research, development, engineering, producing, manufacturing and marketing is quite different activities. There is little space for upper or lower value concept. If there is a concept that academic research or scientific activity is higher or upstream and engineering or manufacturing is lower or down stream, and scientific career is much better than engineer career, one can't dream a strong industrial business base.

Thinking these above matters, such as (1) curiosity for new technology, (2) technology level, (3) existence of entrepreneur, (4)

climate about manufacturing business, I want to point out several following questions on American style MBA curriculum, especially for the students of industrial personnel.

(1) It makes too much of financial affairs.

To make manufacturing business effective, executives must be eager for the knowledge of technological and manufacturing affairs. Considerably many executives of manufacturing business must be selected from engineering field, not financial field.

Engineering should be main affairs ; not financial . Management by finance, strictly financially controlled management, has been making many top US R&D level companies , for example RCA , GE's semiconductor dept. etc., to little weak disappearing companies.

Financial men without technological knowledges are apt to manage the business by only short term financial eyes. They usally depend upon consultants because of their little technological , manufacturing knowledge ; even for the purpose of making a way of escape, for their self-defense. They will say that this was done by the famous consultants' advice ; the consultants are responsible, not me.

They neither invest for future business, for the future executives, nor hesitate to deal their own business divisions with raivals to appropriate the profit in his own term. How to manage the present equipments and properties under the financial concept is their only concern. How to mange the future business under the technology or business concept is out of their eyes.

To squeeze the profits from their business in their short term of

office, they are desperately searching for high dividend for their promotion or for their change to other companies with the reputation of go-getter or able man for much higher income post.

To grow up a new manufacturing business, the men with stubbornness of simple honesty for the new business and new technology in their careers is necessary. I can not help but consider that American MBA curriculum is producing the men or women who are eager for short term profits, but indiffernt to the long term manufacturing business or related technologies .

**(2) It makes too much of case method system.**

Haphazard responses in short time , on case by case, will make students only technically clever short sighted executives, cunning skillful tacticans ,not wise strategists.

In a short time, a student must read many cases speedily, and make his answers in an instant, present his answers with confidence in appearance, debates upon cases as if his answers were the best one even if he is not confident of it. To clear up the debates and to win ,one must narrow down the points, namely short sighted numerical affairs, not for long term satrategic problems. Strategic problems are not clear cutted ones. Its merits or demerits are not able to be concluded easily and simply. So, in the case of debates, especially in short time debates, students are apt to debate in the field where issue is clearly decidable, namely present problems not future ones, or fields of tactics not strategic fields.

In its golden age, the English ruling classes studied mainly the Greek and Roman classics, from which they learned the basic

bases of wisdoms, behaviours, and history of human beings. If the students have not these basic bases, case method system will make shortsighted, scattered knowledge personnel.

**(3) It makes too much of debates.**

Debates breeds no value. Defeating by argument is nothing but a time consuming play. If one can enforce to accept an opponent by debates skillfully that black thing to white thing, it is only coaxing.

An executive must be a good listener, a man of substance, not a good debater, nor a man of glib tongue.

In the manufacturing business fields, we don't need the men and women who are very shrewd, smart, clever, showy, anxious for being highlighted or be in the forefront, be eager to push themselves forward. If the schools where the men or women of proficient in debates are graded first level, these schools are making only showy clever glib tongue personnel.

In the industrial business world, men or women of silence, with enthusiasm not only for money but for their life-long career in manufacturing business are necessary. In this world, both propaganda and idealism must be strictly excluded.

Many executives in the manufacturing industries must be picked up from the bottom of the factory, or oil smelling climates and working clothes environments. Authorities of technologies and manufacturing, not financial fields, should lead the company under the philosophy of "slow but steady".

At present, there is no American style MBA course in Japan.

Almost all Japanese industrial business executives have little

expectation for MBA and they think that American style MBA graduates are making US manufacturing industries "fall and decline". This is the reason why there is no American style MBA course in Japan.

Examining above matters, I think followings are necessary for future MBA course in Japan.

Courses must be divided for several professional courses.

Courses must be divided as, for example, (1) financial course, (2) industrial course, (3) service course etc.. Every course has required subjects. For example, industrial course's required subjects are as follows.

(1) Every student must have a career more than five years in industrial fields.

On the job training or apprenticeship training are essential for the industrial business knowledges. So we need the men and women with the career much more than five years and with the will to work in this industrial world for his life long career.

They must be acquainted with the technologies and manufacturing affairs.

**(2) Subjects**

**(a) History matters.**

- (i) Industry and technology .
- (ii) Management thought.
- (iii) Business

We can learn long term thinking by learning human, industrial and business histories.

These histories make students the attitudes of learning long term thinking and deepening their business philosophy.

(b) Human matters, such as management of labour relations, behavioral dynamics.

In the manufacturing field, labour relations is important and vector of executives, managers, engineers, workers, must be harmonized.

There will be no future in such a factory where workers are regarded as changeable parts.

Entrepreneur, good marketing personnel, talented factory manager, experienced engineers, workers of high craftsmanship, are essential for manufacturing industries business.

(c) R&D matters

(i) Relations between R&D and manufacturing.

(ii) Problems of technology transfer

(d) Manufacturing management matters.

(i) Manufacturing management

(ii) Logistics matters

(iii) Marketing matters

In the industrial business, (1) R&D, (2) Marketing, (3) Manufacturing are basic triangle.

Financial matters, case method systems are necessary. But this must be much more than one third of the whole program.

(注)

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