Title: The cause of losing innovativeness
Subtitle: Why had Japanese consumer electronics companies lost their innovativeness?

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Scope
Ergonomic factors of organization, such as in incentive system, the allocation of power and the culture of firms, combined so as to influence their capability of innovations. Because of these factors configuration change of Japanese consumer electronics manufacturers cause the change of bounded rationality for the member of the firm. The sub-game perfect Nash equilibrium of its business development process sifted from the disruptive innovation by heavyweight team until early 1990’s to the sustaining innovation by a lightweight team after 2000’s. By examining deeply into this mechanism, we will unveil the reason why they head for sustaining innovation when they need disrupting innovation. And we will explore the way to reestablishing their innovativeness.

Project Organization:
We issue the decision making system of the product development project.
We assume tree step decision making system of both top-down decision making system and middle-up-down one.

Project phases:
Organizational structure and incentive system design
Conclusion:

The configuration changes of Sony cause the players' behavior by varying the bounded rationality of each player, such as CEO, the business division directors and leaders of each product development project.

The configuration in early 1990’s encourage Sony to execute disruptive innovation by heavyweight team, because choosing disruptive theme is more rational than choosing sustaining one of project leaders, and because setting up heavyweight team is more rational than setting up a lightweight team for the CEO, and because accepting the CEO to set up a heavyweight team is more rational than denying that for business unit managers.

But there are some changes in configuration in late 1990’s. The configuration in present Sony tends to execute sustaining innovation by lightweight team based incubation system, because setting up lightweight team based incubation system is more rational than setting up lightweight one for the CEO, and because accepting the CEO to choose lightweight team is more rational than accepting the CEO to choose lightweight one for business unit managers, and because choosing sustaining innovation as project theme is more rational than choosing disruptive one for project leaders.

These kinds of changes are not only for Sony. The formal incentive changes are seen widely in recent Japanese great firm. Thus, we could suppose that many Japanese companies are facing the declining the disruptive innovativeness. The whole incentive system, both formal and informal, is changed. How can they regain the disruptive innovativeness? Because each configuration factor combined to lead certain behavior, repairing just one element would not work.

For instance, if we readopt seniority based wage system, because of both power and culture conditions, project leader would not choose disruptive innovation. And because of the population structure Japanese firms can't afford seniority-oriented wage system now. But the present combination between generalist employment system and result-based wage system does not work also. Thus we have to change the employment system or organizational structure, from generalist to specialist or from a loosely linked functional structure to the mission base project.

Changing every individual’s skill and behavior is more difficult than changing organizational structure. Thus we should hire the Kyocera like organizations, the mission based small teams, of which interaction protocol is designed clearly. Kyocera tend to acquire relatively small business, and by using a small team process, they could operate the business in a profitable way.

Regarding to the disruptive innovation, heavyweight team is an indispensable condition. Thus,
the elimination tournament system under which the firm could train and select the leader with overwhelming power. GE style tournament system could be a kind of reference of this kind of promotion system. To carry out this system successfully, we have to build the firm structure in a careful way. As we can see not only in the case of GE [17], but also in the case of Sony [16], dividing business into the too small unit cause the managers to focus on short sighted business operations. And decentralized power also causes the bureaucracy to become complicated and the coordination process to become longer. We shouldn’t divide the organization which is targeting same customer function or the organization which is sharing core part of the value chain.

About the last element of configuration, culture, it is difficult to firm culture. We have to develop the policy network to sustaining the culture cross generation. As we referred in section II, 3M has multilayered policies to maintain that [10]. This kind of complicated policy network needs strong leadership. Thus, we can’t start from this area.

From the argument of this part, both leadership and the mission based organizational structure in the appropriate functional package are important to reestablish the innovativeness. Where we could start this reconstructing process? All radical changes need the promoters who have overwhelming power. We should start to train the leader. Because inter environment of an existing great firm reduce the manager’s power, we should tune the Japanese economic system in the way that could encourage the replacement of firms.