

**Front End Loading in new product development**  
**"Interlocking between new product development and manufacturing"**

- Visualisation and Quantitative risk assessment -

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**New product development and Vision**

It is no exaggeration to say that the interlocking dynamics between new product development and manufacturing represents a shown cycle on the following. In which: the level of strategic integration influences the level of field practice (the phase of full-scale production), the level of field practice in turn influences business performance, the business performance is then affecting to corporate morale, and that morale, in turn, affect the next strategic integration phase's level. Based on my past research and analysis, if the strategic integration aspect functions at a high level, it is highly likely that we will practice it at a high level, even in the actual field. Also, the higher the average level of practice at the development site, the more likely it will improve business performance. However, I can say that even if the business performance is high, the company's morale is often not elevated in many cases as well. It means that a company's performance may not positively affect its future activities. This is the occurrence of the so-called organisational anti-climax. It can be called the Organizational burnout syndrome, can say that it has been especially coming out in the impact of the new coronavirus.

Although we face why it happens, we can think that it has to do with the so-called lack of a business vision that companies pursue in the long term. In other words, even if a company has made an outstanding achievement, it ends there and chills down. Suppose employees could see that there is a vision and that they are in the process of realising it, in that case, they will see their performance as a midway point in achieving their vision, and morale would be continuing uninterrupted. However, the problem caused by a weakness of the vision is that morale does not turn to the next task and falls into a "Morale vacuity" is created. If the vision is clear, then the achieved results will trigger the next start toward achieving the vision. In other words, it is because organizationally or even people would be clear about what to do next and can take on new challenges.

**Interlocking between new product development and manufacturing**

It can be said that the better the development environment, the higher the likelihood that the subsequent strategic integration will be. However, this possibility is much weaker than the relationship of "high strategic integration will lead to high manufacturing practices" or "high manufacturing practices to high-performance achievement". As companies become more Digital Transformed (DX),

they will probably become checking in stock charts for the correlation coefficients between the product's weakness depicted by numbers and performance. In such a

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situation, putting vision aside, the only thing that matters is whether the product has sold or not. This could be the situation that companies are falling in. This means: We fall into the trap of forgetting that two things, such as forming a vision that the company will pursue over the long term and the realisation of practical strategic integrity as a company, are the Achilles' heel of a company's interlocking structure.

Given this, designing a working system geared toward clear goals and striving to achieve those goals through good practices will allow for a reasonable achievement level, depending on the level of effort. In other words, every company can expect good results as long as it makes an effort. However, there would be such two things as the spur of the organisational motivation for the next challenge after achieving and creating a better collaborative system that pursues optimality as an organisation respond to the stimulus. these can't be so easy from the management perspective

The current situation can be thought of as the result of the Japanese economy losing the inability to draw up the next goal (vision of the country) due to the new coronavirus's impact because the Japanese economy has achieved a certain level of economic efficiency. The threaten idea of having to increase profits without a vision went to an illusionary goal. That was the bubble economy. Such nation dynamics can be thought of as occurring as a reflection of organisational burnout in individual companies.

We can say that restoring the interlocking between new product development and manufacturing will be depending on strengthening vision formation and collaborative processes.