Front End Loading in new product development
"The relationship between development themes producing the product that is strong in sales and developer motivation"
- Visualisation and Quantitative risk assessment –

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I have been mentioning all the way: It was a fact that products that are strong in the sales battle had been created by extracting development themes that look ahead several years from a neutral perspective. Let's examine some more of the background that has given rise to this "Strong Product". One major factor was that from the perspective of front-end loading, applying "from R & D to the supply process" to the product development site enabled all developers involved in product development to experience success at the same time. To summarise a little more, it goes without saying that we have strategically prepared a set of support tools, or foundation processes, to support the product development process. However, it can be said that there was another essential element. We can say that was because it was able to build motivation and technology into the linked management. Specifically, we can say that we could incorporate those potential energies into the development site that keeps changing from moment to moment. We can note That this is because they could have rallied on the wisdom (technology, on-site wisdom, or as such) by themselves that had been dissipated in each development site and production site, not by the pressure from the management side.

Indeed, this energy was why we were able to create robust products in the sales battle, and it was the source of that Japan could produce world-class products as well.

Given this, I have already mentioned that it is possible to clarify the development theme associated with product value and technology looking ahead for several years and the functions and component configurations incorporated into the product from the development theme. However, no matter how wonderful new themes are extracted, the possibility of feasibility is naturally low if the difficulty of the technology is too great. The mapping of technologies that evaluate the possibility of realising a new theme is a key to actualising the developers' potential energy involved in the project. For example, let's say that the technology isn't in place to realise the theme that has been discovered. From a software point of view, this would be regarded as a high degree of difficulty and unestablished technology. However, would the technology evaluated as having a high degree of difficulty be left as it is? Developers should be deciding whether to take a passive measure or a proactive measure based on the tacit knowledge (experience, expertise, information ability, problem-solving ability, as such) in their brain. When taking passive measures, they do not select a new theme associated with technology with a high degree of difficulty but choose a development theme with a high degree of feasibility and a low degree of difficulty. In other words, it means that running away from the

most critical actions in product development, such as "challenge" and "ingenuity." On the other hand, if taking positive measures, even if the technology is complex, they must be devising measures to realise it and be aggressive. Specifically, it will voluntarily do such as checking the conditions for non-establishment in terms of the technology valid and making alarms by reviewing in case of failure. For example, those are requesting support and arranging the requirements for whether or not the technology can be replaced. That is because they try to build their tacit knowledge, which is the basis for deciding whether or not to challenge a complex technology. The level of tacit knowledge differs depending on whether it is the mainstream technology for becoming "The first one" or, in case of not able to become, then to search for a technology that only your company can develop within the current technology ("The only one"). Either way, It can be said that those are the evaluation criteria for judging whether a scientific discovery has become a SEED and whether empirical research has become a SEED for commercialisation.

In other words, except for pure-driven R&D, commercialisation can be achieved by selecting an objective created by repeating WHAT/WHY, but in this case, it would not be becoming "The First One". When "The First One" technology is not achieved, you, immediately, must execute that you would play the game with other core competencies. By actualising the potential energy, developers can aggressively challenge even those difficult decisions and brilliantly accomplish them. In other words, It means that by incorporating development motivation into the product development process, they actualise the potential energy, then self-creating the quantitative formalisation of tacit knowledge that strengthens the set of tools that support the product development process. Indeed, development motivation is the development theme itself that produces products that are strong in sales battles. Conversely, by setting a development theme, the product development process forms the basis of linked management, and it causes the wisdom of developers to be rallied.