

## The venture spirit: A mindset and mechanism for permitting mistakes

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Scientists explore the unknown world and dare to do what has heretofore been considered impossible. Those who do what is already possible and copy others are still students, not scientists. Exploring the unknown world and daring to do the impossible always involve failure. Safe endeavors that have no possibility of failure do not require the engagement of scientists. Scientists are especially called upon to have the spirit of a venture entrepreneur. We study, work hard, conduct surveys, analyze, and iterate trial and error to reduce failure rates even slightly, yet we still fail. Rather than just failing two or three times, we might fail all the way through and end in failure, too. If scientists do not experience failure, they do not grow. In the venture business as well, it is said that only one company in a hundred can be expected to succeed. This is exactly the spirit that is required of a scientist.

However, recent national government research budgets and projects involve detailed interim evaluations and final evaluations of scientists, and failure is not tolerated. If the project does not proceed as planned, termination of the project will be sought based on the interim screening. They say it is a matter of accountability to taxpayers, but I suspect the funding parties do not want to take responsibility for scientists' failures. Both the national government and the universities make excessive demands about mid-term plans and quantitative targets. Normal education, such as internationalization of educational institutions, interaction with and contribution to society, and human resource development, is all subjected to competitive funding under the banner of COE, with education being conducted to meet targets. This method may reduce failure rates, but it is inflexible. At this rate, it is rather a concern that real education might die out.

In Japan, it feels like we only do what is already possible. Not even attempts to do what might result in failure are permitted. Grand themes are not trusted, while minor themes are considered safe.

After the earthquake, the government did not devise any decisive measures, and it is regarded as having responded very slowly. Daring measures entail failure. Failure results in criticism from the mass media and citizens. We Japanese have lost our backbones. A society that is extremely afraid of risk is not an enjoyable one to live in. Japan's admission test system has the philosophy of starting from a perfect score and deducting points from it, not seeking creativity or individuality. This point-deduction approach to entrance examinations only admits people who do not fail. The society created by the people who prevail in the entrance exams is one where there is almost no boldness and no sense of excitement. Popular Hollywood movies are intense and exciting, while popular Japanese movies are warm and fuzzy.

In Japan it is difficult to regain the trust of society once you have bankrupted a company, meaning that entrepreneurs cannot recover from failure, let alone venture businesses. In the world of science as well, once a scientist has erred (fabrication or fraud), that scientist is finished forever. They cannot be forgiven even if they make up for their sin. The safest way to get by is to get on board with the popular research themes, don't be reckless, copy the West and follow their lead. Such a policy could scarcely allow science in Japan to progress or contribute to society. Green and life-related themes are fine, but I want a scientific community that freely engages other themes that no one but those concerned takes notice of and research that is regarded as quite unlikely to be realized, and is evaluated on that. Surely it is coming time to stop having everyone research the same themes. I believe a mindset and mechanism for permitting failures is what will propel science and technology forward.

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