A solution for any problem

Trained as an engineer, Nanyang Technological University president Su Guaning takes the approach that there's nothing that cannot be fixed

By Zulkarnain Abdul Rahim

AS a young boy, Dr Su Guaning, president of Nanyang Technological University, found his father's job interesting as it involved doing new things.

The younger Su had worked in an electrical plant in Taiwan before turning to teaching in Malaysia and Singapore and then becoming a school principal. But he returned to engineering when the Singapore Telephone Board was recruiting trainee engineers. He went for training in New Zealand and the United Kingdom.

Little did the young Su know then that this would influence him to study electrical engineering at the university - he was to become a familiar face in the local defence technology industry.

"I never thought of my father being the influence on me taking engineering until somebody asked me later," says Dr Su.

He adds that studying engineering was "a natural thing" to do at that time because "that was what the country needed."

Awarded a Singapore President's Scholarship and Diploma with Distinction, he read electrical engineering at the University of Alberta for his bachelor's degree and at the California Institute of Technology for his master's degree.

Working in defence since 1972, he joined a newly established research and development unit at the Ministry of Defence (Defence) in 1990, which at that time was half-empty, he says.

"This is the art of designing sensors like radars, communications, like jam things and you deceive enemy sensors and so on. It is so secretive that nobody tells you what to do. Basically, we started from scratch.

He led a team of engineers to develop a 'number of devices and tested some of them on ships and other places' before leaving in 1989 for Stanford University, where he completed an MSC in statistics and a PhD in electrical engineering.

"The reason I went to study for the PhD is because I felt that we were somewhat lacking in some of the knowledge areas. We really needed to do more research.

When he returned to Singapore, he was "hired to go" as his research was related to his work.

But because he was one of the senior staff in the Defence Science Organisation (DSO), he could not "go back to the bench" and had to assume a leadership position.

Dr Su explains that the career progression is typical for an engineer. "Basically you sit in the lab or the bench and you're doing things, and then you slowly start to lead a project, and team members and eventually you go further up the line and be in charge of more people."

Dr Su had different roles and responsibilities. In 1999, he transformed the DSO into a not-for-profit company limited by guarantee, DSO National Laboratories, and became its chief executive officer.

"We live by the contracts we gain from the SAF. Of course that puts a little more pressure on us, but on the other hand it gives us more freedom also."

He went back to Nitido as its deputy managing director (technology), after which his next task was to set up a new statutory board, the Defence Science and Technology Agency (DSTA), which brought together several defence-related organisations.

This presented new challenges. He ensured that there were systems to integrate the various organisations "into a whole with a cohesive identity with a common mission and vision."

Then he had to build the confidence of the SAF, which forms DSTA's customer base. Even though his job took him away from the engineering benches, Dr Su says he still thinks like an engineer.

He says it is risky for the leader of a high-tech organisation to not understand the work that his people are doing. "Because either somebody will pull wool over your eyes or you will mess up with some wrong decisions," he says.

But of course you cannot interfere all the time. That will be a disaster. So even at that stage, I still call myself an engineer."

In 2003, Dr Su took on his current appointment as NTU's president.

"It is also a lot more complex than ever expected to be," says Dr Su, who adds that being at the helm of the university has been a learning process for him.

"Most of the issues that I face today are very different from what you would learn as an engineer in school," says Dr Su.

One of the most useful traits of engineers is that they believe there is a solution to any problem, he adds.

"Of course when you're dealing with more complex things like human things, it's not always true that there is always a solution necessarily.

But I think that attitude that there is always a solution makes you a little more tenacious and willing to explore boundaries, willing to look for solutions. And in that way, it helps you, your company, your organisation and country as a whole."

"So, I think engineering training is very helpful for that."

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