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**B**UILT on the back of Singapore's little-known horticulture industry, landscaping companies have been carefully cultivating Singapore's reputation as a "city in a garden" over the years. With mega projects such as Changi Airport's indoor gardens and the Istana to its name, Mao Sheng Quanji Construction has made its mark in the industry over three decades of operations, helping shape Singapore's urban environment.

Mao Sheng's accumulated experience is reflected in the many awards the company has garnered. In 2015, Mao Sheng was recognised with an excellence award for its work on The Sandcrawler building at Fusionopolis, the regional headquarters of American film and television production company, Lucasfilm. More recently, the firm received the Gold award, Best of Show, Horticulture Excellence, and People's Choice Awards in the 2016 Singapore Garden Festival. In 2017, it also won the Enterprise 50 Awards.

Mao Sheng began as a one-man operation founded by Choo Kim Chuan in 1983. Today, it has over 500 employees and offers a broad range of landscaping services such as landscape maintenance, landscape construction, and greenery design. While Mr Choo remains involved in operations, his son, Choo Jun Wei, has stepped up as project director and spearheads many innovative projects.

Despite having navigated the industry for decades with a well-established portfolio, a constantly shifting business environment has meant that a new set of challenges faces Mao Sheng today. The younger Mr Choo, an firm advocate of change, is eager to adopt new methodologies and navigate risks in order to stay relevant.

#### Tough market conditions

"This industry is usually perceived by the public as a tough and low-paying gardening job, due to the need to work outdoors under the sweltering weather," says Mr Choo. "Singapore's tropical climate with year-round high temperatures and humidity makes it even more unappealing for workers."

In addition to the negative public impressions of horticulture as a tough and laborious job, increasingly restrictive regulations have made labour even more scarce.

Even more critical, he says, is how this perception of the industry has affected the supply of young talent in the industry. With every new generation entering the workforce being increasingly aspirational, pursuing greater material success and social prestige than their predecessors,



Mao Sheng's project director Choo Jun Wei (left). The landscaping firm has, over three decades, won several awards including an excellence award for its work on The Sandcrawler building at Fusionopolis for Lucasfilm; and its work for Changi Airport. In 2017, it also won the Enterprise 50 Award.  
PHOTO: MAO SHENG

# Leveraging technology in greening the future

Mao Sheng Quanji Construction keeps its landscaping services up to speed with new methodologies

such perceptions of the industry have proven to be a massive obstacle for companies like Mao Sheng.

The landscape industry in Singapore has also become increasingly competitive over the years. From just a handful of competitors when Mao Sheng began, there are now dozens of companies fighting for a share of the growing Singapore market.

Traditionally, better service delivery, a commitment to the high quality of its projects, as well as a strong and stable relationship with its clients have aided Mao Sheng in grooming a competitive advantage over its rivals. However, Mr Choo is aware that this strength is no longer sufficient for Mao Sheng to remain competitive.

Eager to break free of traditions that have long bound the industry, Mr Choo's commitment to embrace change has allowed him to seek creative methods to solve many of the problems that have plagued the firm.

"The world is changing and so must we. We want to change the public's perception of the landscape industry in the hopes of inspiring and growing the next generation of urban-greening professionals," says Mr Choo. "As the younger generation is becoming more tech-savvy, the digital economy could be the magic pill for Mao Sheng."

#### High-tech solutions

In an industry which remains largely traditional and tends to rely on conventional laborious methods, Mao Sheng's heavy investment in technology is far from the norm.

From spider lifts that carry workers to the treetops, to drones that can examine the canopy for unhealthy trees, this willingness to embrace new technologies has allowed Mao Sheng to significantly increase productivity and reduce the necessary

man-hours required for each project.

"In the past, each worker could only work on about eight palm trees a day, but today, with the help of a spider lift, each worker can complete up to 30 palm trees a day," says Mr Choo.

Mao Sheng's commitment to research and development does not stop there. It is always on the lookout for new technologies to further improve its efficiency and competitiveness. "We often attend international industry exhibitions that showcase new technologies and innovations so as to inspire us and keep ourselves updated on new industry trends", says Mr Choo.

#### Embracing experimentation

In his drive to modernise, Mr Choo has also been eager to experiment with new methods of training and development.

"One day, I was visiting the workers' dormitory and I noticed that many of them watched short clips on Facebook on their mobile phones," he says. "Since my project managers are often busy with ongoing projects to train our workers, why not use short videos as a form of independent learning? They can watch the training videos during gaps in their schedule at work."

Microlearning, which is as yet to be widely adopted, is a holistic approach to learning that breaks down learning materials into smaller units, resulting in more digestible content and improving user-time efficiency. By employing such an approach to training, Mr Choo hopes to not only improve the productivity of Mao Sheng's current workforce, but also improve the quality of their training.

#### From seed to bloom

In every company, fresh talent is im-

portant as they represent the future of the industry. However, with none of the local universities offering a degree in Horticulture Sciences, trained talent has been hard to come by.

As a result, Mao Sheng has taken to offering overseas university scholarships to young talent despite the heavy investment required as an SME.

Carissa Kwa is one such young beneficiary Mao Sheng is hoping to nurture. Assigned to the firm on an Industrial Attachment programme, part of her course at Ngee Ann Polytechnic, she had some initial apprehensions about joining the company but has now only good things to say: "The older colleagues were actually very friendly and Mao Sheng feels like a closely knit family. I thoroughly enjoyed the process and found it to be a meaningful job," says Ms Kwa.

"Seeing the tourists and the public enjoying our landscaping work in Changi Airport gives me a sense of achievement for being able to create an impact."

Three years on, Ms Kwa is now a full-time student at the University of Queensland studying horticulture sciences under its Sustainable Agriculture course, fully sponsored by Mao Sheng. Upon her return, Ms Kwa will return to work in Mao Sheng.

#### Sowing seeds of interest

To ensure that Singapore remains a green city, both Mr Choo and Ms Kwa believe that more resources have to be directed to cultivate new talent and interest in horticulture.

For Mr Choo, a priority has been to look into rebranding the image of the landscape industry and Mao Sheng is looking at increased community engagement in the future.

"As Singapore strives to be a greener and more sustainable city, we will need more young people trained in horticulture sciences to transform the landscape industry", he says.

Mr Choo hopes that Mao Sheng's efforts can create a more favourable perception of horticulture and inspire people to pursue a meaningful career working with plants.

The writers are students at NUS Business School.