

INDUSTRIAL TALK 3

Tech-Driven Innovation :
Unleashing the Power of Emerging Technologies for
Business Growth in Urban Farming Solution (I-FARM)

Summary

Your Farm Next Door...

I-Farm is an idea to offer a variety of fresh vegetables to residents within their doorsteps via e-commerce marketplace with collaboration of CREST and Pasaran KH. This idea emerged due to raising of Covid-19 cases which causes shortage of fresh vegetables during Movement Control Order. In response to this pandemic, they have proposed a solution which is to position plant workshop and urban farm in the residential area in order to allow short distance delivery to maintain vegetables freshness.

How do I-farm work? It is divided into two main categories which are the backend work and frontend work. The backend work is comprised of diversify team whose work is to solve the issue such as monitoring plant growth. On the other side, the frontend work is a online platform to place order as well as micro farmer join as a seller which will be supply to local retailer and delivery within neighborhood.



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farm

Integrated urban farm in the
residential area

Technologies

Vertical Farming technology with Controlled Environment Agriculture (CEA)

Indoor farming with control system to manage environmental factors precisely such as water, temperature, humidity, light intensity and nutrients ensuring ideal environment for plant growth.

IoT system

Monitoring plants growth at a distance

Big Data Analysis

Study customers' preference

Machine Learning by Alibaba Cloud

Store info of every species of plant and analyze process of plant cycle to forecast optimal conditions for accelerated growth.

Hydroponics Farming

Modern farming tech where growing fresh vegetables in 'water' instead of soil. The 'water' is basically a water-based nutrient-rich solution

Reflection

Dr. Seah Choon Sen offered insightful information about the creative application of technology in urban farming, particularly as it relates to the I-Farm model. The discussion focused on how new technologies, such as the IoT can be used to improve farming conditions and boost output. It is also crucial to manage such operations with a diverse staff and readily implementable technology. Their programme to help small-scale farmers and provide fresh vegetables to nearby retailers was encouraging. The idea of an online store for a simple ordering and local delivery enhances the model's effectiveness and convenience even more.

I-Farm optimizes land use, uses less energy, and reduce waste to minimize environmental effect. By supplying fresh, pesticide-free veggies, it improves food security and lowers food waste by producing in response to the market need. In terms of the economy, it encourages sustainable consumption habits, makes use of underutilised urban space, and boosts output through vertical farming.

Issues

In 2020, the Covid-19 pandemic posed a serious and widespread threat worldwide. This issue caused I-Farm to face a shortage of fresh vegetables due to Movement Control Orders (MCO) and led to an increase in vegetable prices due to limited supply, as transportation across states was restricted. During the MCO, customers found it challenging to buy high-quality vegetables as they had limited options.

Additionally, consumers were required to follow social distancing guidelines and patiently wait in long queues to purchase groceries at supermarkets. This process was quite time-intensive. Ultimately, I-Farm successfully resolved all these issues.



Source : <http://surl.li/pkftf>