

# Tech-Driven Innovation



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**Dr. Seah Choon Sen**  
Technobizz Webinar Speaker



## SUMMARY

One of the most pressing global issues is the limited supply of fresh produce in urban areas, and this problem was further exacerbated during the movement control order. However, through the use of technological innovations such as Internet of Things (IoT) and by leveraging the use of machine learning techniques combined with precision farming and vertical farming, i-Farm promises to provide a variety of fresh vegetables directly to residents' doorsteps.

Through the use of IoT and ML, plants can be grown healthily, and harvested vegetables can be sold fresh through an integrated e-commerce platform. Thus, emerging technologies can be used to revolutionize urban farming for business growth.



## ISSUES

### 1. Value Proposition

The proposed solution provides consumers various choices of fresh vegetables which are freshly harvested upon their order on the e-commerce platform. To ensure smooth operations, real time information using IoT solutions and Alibaba Cloud services are used. In the future, collaboration with local farmers and sellers would further enhance the e-commerce platform experience.

### 2. Market Segmentation

To make sure that i-Farm becomes a successful venture in the market, their target customers are segmented into four types. The market segmentation includes behavioral, demographic, psychographic and geographic. i-Farm plans to target consumers living in the city or urban area who are willing to spend on quality products and are interested in healthy lifestyles and cooking, as well as those who find vegetables a necessary part of their diet. They are also targeting family households or those living alone aged 25 and above who have a steady income stream.

### 3. Market Validation

To get critical insights from the market, the startup conducted a comprehensive survey. This survey involved 290 respondents, collecting data such as the respondents' type of residence and their lifestyle choices. Out of 290 respondents, 160 of them are interested in purchasing vegetables from neighbourhood micro-farms. 220 of the 290 respondents also expressed their interest in purchasing vegetables at a higher price as long as it is of better quality.

### 4. Go-to Market Strategy

The customer base is huge and diverse, prompting the need for big data analysis in understanding customer preferences and responding to them. Initially, the venture aims to first target residents living in residential areas or condominiums before they roll the service out to other types of consumers. i-Farm provides same-day delivery with flexible delivery hours and also self-pickup, which is bound to enhance customer experiences and attract a huge customer base.

### 5. Business Performance

At the beginning of the venture, a fruitful meeting with CREST proposing industry collaboration resulted in the success of obtaining 3 racks from CREST as sponsorship. Furthermore, Pasaran KH implemented their own i-Farm in Kulim, Kedah, resulting in a profit of RM2,941 during the Conditional Movement Control Order (CMCO) through online sales of vegetables.



## TECHNOLOGY USED

The main technology used in this i-Farm project is the IoT technology. The Internet of Things (IoT) technology is applied to monitor the plant growth. Basically, after i-Farm uses this IoT technology to monitor the growth of vegetables planted. The IoT technology with Alibaba Cloud can also enable the user to have a clearer picture of the growing process of the vegetables. This IoT technology provides a radical transparency to the customers. Apart from that, i-Farm also applies Machine Learning. Machine Learning is applied to identify the suitable environment for the plants to grow well. As we know that different plants have their different optimum temperature to survive. After identifying the suitable environment of specific species of vegetables by machine learning, i-Farm can monitor and limit the life cycle of the vegetables plant. This managed to reduce the duration taken to grow the vegetables from seed until it can be harvested. Thus, these IoT technology and machine learning are two of the main technologies applied in the i-Farm project.

# REFLECTIONS

After attending the Technobizz Webinar by Dr. Seah, my perspective on innovation and its potential impact on society has undergone a transformative shift. Dr. Seah's insightful discussion highlighted the importance of not only generating inventive ideas but also proactively implementing them to address real-world issues. The talk's emphasis on the versatility of innovation across various sectors, including agriculture, challenged my preconceptions about the exclusive association of technology with advanced computing. I am now inspired to think outside the conventional boundaries and apply creative solutions to benefit society. Dr. Seah's presentation serves as a catalyst for my determination to explore opportunities and contribute to making a positive difference in both local and global contexts.



• BERNICE LOU MIN YUN (A23CS0056)  
<https://github.com/bernicelou>

Dr. Seah's Technobizz webinar became the catalyst for my profound re-evaluation of innovation and its potential applications. The presentation highlighted the transformative power of turning creative ideas into workable solutions, emphasizing the need for proactive implementation to address society's real challenges. Dr. Seah's insights into the diverse applicability of innovations beyond the technical realm, impacting areas such as agriculture, broadened my horizons. I am now motivated to think creatively and explore unconventional avenues to make a meaningful contribution to the welfare of the community. This webinar not only reshaped my perspective on innovation but also instilled a sense of responsibility to actively participate in and improve the world around me.



• LIANA DARWISYAH BINTI AZMAN (A23CS0102)  
<https://github.com/lianadarwisyah>

After attending Dr. Seah's Technobizz webinar on technology-driven technology industry, my understanding of the symbiotic relationship between technology and agriculture has significantly deepened. Dr. Seah's ability to seamlessly connect technical concepts learned in the classroom to their real-world application in agriculture was eye-opening. This talk debunks the stereotype that technology is only associated with complex advanced computing, prompting a reassessment of its potential impact on an important aspect of our daily lives: the source of our food. I was impressed by the realization that technology can be a powerful tool for social good. I am now motivated to explore how technology can be creatively integrated to enhance the way we live our daily lives and make a positive contribution to improving our communities.



• NUR IMAN BINTI MOHAMAD ZAHARI (A23CS0158)  
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After listening to the Technobizz Webinar by Dr. Seah, I realized that innovation plays a key role in improving human life by continuously identifying problems in the community and addressing them. This talk has motivated me to hone my entrepreneurial and innovative skills in order to be a pioneer in addressing the issues faced by society in the here and now using my knowledge in technology and information systems. Innovation is not limited to the technology sector. It can be applied to any field, including healthcare, education, and agriculture. Dr. Seah's talk has reminded me that being innovative is not just about having brilliant ideas, but also about being proactive in implementing them. With this in mind, I am committed to exploring opportunities to make a difference in my community and beyond. I believe that by working together and sharing our knowledge and expertise, we can make the world a better place for everyone.



• PHAVANEE KATRIYA PHON-AMNUAISUK (A23CS0170)  
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After attending this Tech Driven Technology Industrial Talk by Dr Seah, I am inspired by the speaker. I was quite surprise to know that how the technology that we learned in class can be applied in such a field of agriculture. Before attending this talk, I believe that when the word technology is mentioned, what that really strikes into our mind is always something related to the advanced computing world. We rarely give our attention to the source of food that is essential to our daily lives. I realize that how important about always thinking out of the box and try to relate the things we learned to benefit our community. This is vital for us that always receives the benefits from the community to give back to the society and it could be better if we can use the technology to serve our society. I learned from this talk that technology is used to assist our lives in various ways and perspective. We should have the creativity on applying technology to enhance our daily lifestyle.



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