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TECH-DRIVEN INNOVATION

i-farm

UNLEASHING THE POWER OF EMERGING TECHNOLOGIES FOR BUSINESS GROWTH IN URBAN FARMING SOLUTION (I-FARM)

PROPOSED SOLUTION



With the IoT Technology, it can monitor plants growth with the help of a diversity team that are capable to solve the issues and ready to be implemented to online store. The farmer can join as a seller on an online store platform and use a courier service that can deliver to the local retailer and within the neighborhood.

Summary

Precision Farming for Local Sustainability

In our latest event, Dr. Seah Choon Sen, an expert in remission technology, shed light on the transformative potential of precision farming. Titled "Your Farm Next Door," the initiative focuses on providing a sustainable and transparent source of fresh vegetables to local communities.

Dr. Seah highlighted the project's inception during challenging times, aiming to address food shortages through a local and sustainable approach. Precision farming techniques, including hydroponics, IoT devices, and machine learning, are at the core of the initiative, optimizing plant growth and reducing environmental impact. The business model not only contributes to environmental sustainability by minimizing carbon footprint but also enhances food security, quality, and reduces food waste.

Dr. Seah discussed market experimentation, targeting individuals seeking a quality lifestyle, and future plans for an online platform and collaboration with local farmers. The event also covered challenges faced, including data collection limitations and the decision to reject a VC offer due to insufficient data and less favorable terms.

ISSUES



Value Proposition:

The core of this venture lies in its promise of freshness. Unlike conventional models, all vegetables are harvested upon order, ensuring that customers receive produce at the peak of its nutritional value. This commitment is coupled with a user-friendly platform, simplifying the ordering and selling processes. Real-time information, powered by IoT solutions and Alibaba Cloud services, provides customers with transparency and cultivates trust. The platform not only offers a wide variety of fresh vegetables but also covers a broad geographic area.

Market Segmentation:

Understanding the diversity of customer needs is paramount. The venture strategically segments its market to target those who prioritize quality products and are willing to invest in a healthy lifestyle. Demographically, the focus is on single or family households aged 25 and above with stable incomes. Psychographically, the customer base includes health enthusiasts, avid cooks, and those who view vegetable purchases as a necessity. Geographically, the platform is tailored for urban and city dwellers.

Market Performance:

A quantitative snapshot of the business's performance is presented through vegetables consumption per capita in 2017. While specific units are not disclosed, the trend indicates there is a huge amount of vegetable consumption per capita. This quantitative insight positions the venture within the global market context.

Market Validation:

The venture conducted a comprehensive survey involving 290 respondents, revealing critical insights into customer preferences. The majority of respondents, particularly those residing in residential areas, expressed a keen interest in purchasing vegetables from neighborhood micro-farms. Notably, a substantial portion of respondents prioritizes a healthy lifestyle and values the quality of vegetables over price considerations.

Go-to-Market Strategy:

The venture's strategy involves a phased approach, with residents in residential areas and condominiums identified as the initial target customer base. The promise of same-day delivery, combined with flexible delivery hours, aims to enhance customer convenience. Big data analysis forms a crucial component of the strategy, enabling the business to understand and respond to customer preferences effectively.

Business Performance:

Collaborative efforts with industry players, such as CREST and Pasaran KH, have been instrumental in shaping the business's trajectory. Notably, securing three farming racks from CREST as a sponsorship underscores successful partnerships. During challenging periods like the Movement Control Order (MCO), the venture pivoted by launching "ONLINE PASAR," an e-commerce platform that facilitated online vegetable sales. This endeavor, particularly the I-Farm in Kulim, generated significant revenue, providing tangible evidence of adaptability and resilience.



Speaker:

Dr Seah Choon Sen

Dr Seah Choon Sean holds a Doctorate in information technology from UTM and has a passion for technology. He used to run his own tech company before joining UTM. He is currently an Assistant Professor at UTM and his research/technical interests and experience include Data Science and Digital Entrepreneurship. He also has experience in Financial Technology, Precision farming & Information System. As a principal investigator, he has secured approximately RM550 thousand in research grants and consultation projects. In his free time, he mentors the startup community on campus and off. He has published over 20 indexed articles & books, won several awards, and supervised over 10 teams to win awards in International Innovation Competitions. He is an Accredited Trainer with HRD Corp; an Ecosystem Builder with MaGIC; Meta Certified Community Manager; an Alumni of Microsoft Learn Student ambassador; and Vice President of the Huawei Malaysia Seeds for The Future Alumni.





REFLECTION

ANG CHUN WEI

As a university student, this talk motivated me beyond academics, sparking a determination to approach challenges creatively. The impact of innovation on human life, focusing on sustainability and food security, aligns with my commitment to meaningful contributions. In essence, this reflective journey unveils a tapestry of inspiration, weaving together technological ingenuity, resilience, and societal responsibility. It nudges me towards purposeful engagement with the challenges of our times.



JAYADHANYA

Dr. Seah's talk highlighted the integration of tech and agriculture, educating me about innovation's practical impacts on social issues. "Your Farm Next Door" underscored the complex nature of entrepreneurship and the value of sustainability. As a university student, I am motivated to seek out innovative approaches in the course of my studies, understanding technology's cutting-edge potential for bringing out beneficial societal change.



MUHAMMAD HAZIQ

The talk on "Your Farm Next Door" highlighted the potential of precision farming, including technologies like hydroponics and IoT. The speaker's honesty about challenges, such as data limitations and rejecting a VC offer, underscored the complexities in implementing innovative solutions. This approach not only promotes sustainability and reduces food waste but also strengthens the connection between people and their food sources, sparking my enthusiasm for positive change in agriculture.



NAZATUL NADHIRAH

The talk is informative as it talks about "Your Farm Next Door," led by Dr. Seah Choon Sen, pioneers precision farming with hydroponics, IoT and machine learning for sustainable vegetable production. The future plans include online platforms and collaboration with local farmers is very wonderful idea as it make it convenient. In overall, it's a transformative and innovative model for local sustainability through precision farming.



WAN NUR RAUDHAH

The presentation emphasised the company's commitment to freshness through on-demand harvesting and a user-friendly platform enabled by IoT. Targeting quality-conscious urban consumers, the market approach uses big data analysis to prioritise flexibility and same-day delivery. It is supported by worldwide vegetable consumption data and a detailed poll. By successfully launching "ONLINE PASAR" during the Movement Control Order, the company demonstrated its tenacity and established itself as a prospective participant in the fast-paced fresh produce and internet industries.



TECHNOLOGIES USED :

Hydroponic Farming : Revolutionizing Agriculture

Hydroponic farming challenges traditional soil-based cultivation by immersing plant roots in a nutrient-rich water solution. This method optimizes growth in a controlled environment, but its higher electricity consumption warrants a balanced, sustainable approach.

IoT Devices : Precision Monitoring in Agriculture

IoT devices in agriculture offer real-time monitoring of variables like temperature and nutrient levels, aiding informed decision-making. However, questions arise about the resilience of farming systems in the face of potential technical glitches or cyber threats.

Machine Learning: Intelligent Farming Practices

Machine learning enhances agriculture by monitoring and optimizing variables for plant growth. Despite contributing to crop yield optimization, continuous refinement is crucial for accurate predictions and sustainable farming.

Online Platforms: Digitizing Farm-to-Table

Digital platforms bridge the gap between farmers and consumers, providing easy access to fresh, locally sourced produce. While enhancing convenience, considerations about digital inclusivity in rural areas become essential.

