UTM

UNIVERSITI TEKNOLOGI MALAYSIA

SUBJECT : SECP1513 TECHNOLOGY AND INFORMATION SYSTEM

SESSION/SEM : SEM 1 2023/2024

LECTURER : DR AZURAH A SAMAH

ASSIGNMENT : ASSIGNMENT 4 - NEWSLETTER

DATE : 17/1/2024

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14 JANUARY 2024

TECH - DRIVEN INNOVATION

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

PROBLEM STATEMENT

During the COVID-19 pandemic in 2020, many people could not travel across states, causing a shortage of fresh vegetables due to the Movement Control Order (MCO). The low supply of vegetables also led to an increase in vegetable prices, and farms in certain areas initially had an oversupply.

ISSUES

Value Proposition

The service focuses on offering customers the freshest and most convenient vegetable experience. Vegetables are carefully sourced and harvested when orders are placed for maximum freshness. The platform ensures a straightforward and hassle-free process for both buyers and sellers. Real-time updates are provided through innovative technology and Alibaba Cloud integration. Additionally, a diverse range of fresh vegetables is available, giving customers various high-quality choices.

Market Segmentation

The target customers span diverse segments, aligning with various preferences and lifestyles. In the behavioral realm, it appeals to those with a penchant for quality products and a willingness to invest in excellence. Demographically, the focus extends to single or family households aged 25 and above, boasting a stable income. Psychographic, the ideal customers are health-conscious individuals with an interest in cooking, reflecting a necessary behavioral inclination. Lastly, geographic focus centers on city or urban areas to ensure the accessibility and relevance to the urban lifestyle.

PROPOSED SOLUTION

The system facilitates easy ordering for customers, allowing them to order directly from their community area instead of dealing with distant markets. Transparency is maintained by providing insight into the growing process, enabling people to visit and observe the plants at any time. Moreover, the direct harvesting feature from the rack empowers individuals to pick vegetables themselves, ensuring the freshness of the produce.

SUMMARY

At our latest event, Dr. Seah Choon Sen, expert in remission technology, highlighted the transformative potential of precision farming. Titled “Your Farm Next Door,” the initiative aims to provide a sustainable and transparent source of fresh vegetables to local communities.

Dr.Seah emphasized the implementation of the project in difficult 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 heart of this initiative, helping to optimize crop growth and reduce environmental impact. This business model not only contributes to environmental sustainability by minimizing carbon emissions, but also improves food quality and safety and reduces food waste.

Dr.Seah discussed market testing, targeting individuals seeking a quality lifestyle, as well as future plans for an online platform and collaboration with local farmers.
The event also addressed challenges faced, including limitations in data collection and the decision to decline venture capital offers due to insufficient data and less favorable terms.

Speaker:

Dr Seah Choon Sean

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.

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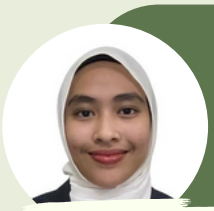

ALDANISHA

"Attending Dr. Seah's discussion has provided me extensive insights into cultivating plants using enhanced technologies, ensuring quality and efficiency. This method promotes sustainability, minimizing food waste. In essence, it offers a groundbreaking and inventive model for local sustainability through precision farming."

"I like the concept of "Your Farm Next Door" which bring an integrated urban farm in the residential area. It gave me the idea to make good use of technology in agriculture so that it can be more convenient for human. It can help to support the next generation of agriculture, increase the diversity and help to overcome a lot of common challenges in agriculture."

PEI WEN

SYSYAWAFA

"I am inspired to cultivate a collaborative mindset, mirroring Dr. Seah Choon Sen's teachings. I aim to engage with diverse perspectives within I-farm, recognizing that collective intelligence is key to addressing complex agricultural challenges and fostering innovative solutions."

"Dr. Seah's talk focused on the integration of technology and agriculture, informing me about the real-life impacts of innovation on social issues."Your Next Farm" highlights the complex nature of entrepreneurship and the value of sustainability.As a university student, I am motivated to pursue innovative approaches in my studies, understanding the cutting-edge potential of technology to drive beneficial social change."

WELSON

RAVINESH

"The speaker's honesty about challenges, such as data limitations and rejection of venture capital offers, highlighted the complexity of 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 passion for positive changes in agriculture."

Technology Used

Hydroponic Farming:
Revolutionizing traditional soil-based cultivation, hydroponic farming immerses plant roots in a nutrient-rich water solution, optimizing growth in a controlled environment. However, its heightened electricity consumption necessitates a balanced and sustainable approach.

IoT Devices:
In agriculture, IoT devices provide real-time monitoring of variables such as temperature and nutrient levels, facilitating informed decision-making. Nevertheless, concerns arise about the resilience of farming systems in the face of potential technical glitches or cyber threats.

Online Platforms:
The digitalization of farm-to-table processes connects farmers with consumers, offering convenient access to locally sourced, fresh produce. As we prioritize convenience, it is crucial to address the issue of digital inclusivity in rural areas.

Machine Learning:
Integrating 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 practices.

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