

逢甲大學學生報告 *ePaper*

AgriLearn Exchange–An Improvement Platform
Responds to Climate Change

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Abstract

With climate change, various part of Taiwan is facing food problems caused by climate change. The oversupply situation has caused market prices to plummet. The low prices make the cost of harvesting no longer economical, farmers would rather process crops into fertilizer than sell it to the market. However, food is a gift given by nature, food should not be waste due to external factors.

Therefore, we hope to design a platform to serve as a bridge to purchase agricultural products from farmers and deliver them to rural schools to reduce the surplus of vegetables. At the same time, we hope to promote our philosophy through education and let children understand how precious food is.

What we want to do is setting up a platform to tackle surplus agricultural products. We'll buy unsold or sharply discounted products and send them to schools in remote areas. Also, we'll make videos of this process and show them to urban elementary students using VR technology. This lets students see how food is made and understand its value. This helps reduce waste and balances resources between urban and rural areas. It also educates students and achieves a triple-win effect.

Keyword : *Agriculture, Climate change, Education, Food, Platform, Virtual Reality (VR), Wastes*

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1. Platform Background



AgriLearn Exchange is an online platform designed to mitigating the economic and food impacts of climate change. The logo design is inspired by agricultural products-Broccoli.

1.1 Design purpose

Our goal is to establish a comprehensive platform to purchase agricultural products at average prices due to poor market sales or plummeting prices to solve the problem of surplus agricultural products. In addition, the purchased products are effectively distributed to schools in remote areas. This approach can not only reduces the waste of agricultural products but also improves the uneven distribution of resources between urban and rural areas.

1.2 Integration with technology

Except from solving practical problems, we also hope to educate from a conceptual perspective. By making videos of the process from crop planting to harvesting, combined with VR technology. We will present the results to ordinary urban primary school students so that they can know the food production process and understand the preciousness and hard-earned of food.

1.3 Target audience

- **Farmer**

AgriLearn Exchange's target customer may be farmers. That the agricultural products they produce may not be sold due to oversupply in the market, resulting in a surplus of fruits and vegetables or a sharp drop in sales prices and making ends meet. Through our platform they can find channels to sell excess

products and reduce waste.

- **Primary school**

We will distribute excess food to primary school in rural areas and use short videos to promote the value of food, so that children know how precious the food they are eating is. This can reduce food waste and help those in need.

- **Firm**

The company that focus on sustainable development and green energy are more willing to support us in order to fulfill their social responsibility.

2. Issues to be improved

The platform helps promote balanced development between regions by reducing agricultural waste and improving uneven resource distribution between urban and rural areas. At the same time, develop children's respect for food and the environment. Our improvements are also aligned with the Sustainable Development Goals of quality education, reducing inequalities, and responsible consumption and production in the SDGS.

- **SDGS10-Reduced Inequalities**

Provide surplus agricultural products to improve the uneven distribution of resources in rural primary schools.

- **SDGS4-Quality Education**

Primary school students experience virtual reality activities and experience the hard work of farmers. Which can promote the respect for food and increase awareness of the environment.

- **SDGS-Responsible Consumption and Production**

Agrilearn Exchange connects farmers and people in need to promote efficient use of resources.

3. Marketing analysis

3.1 Business model

Key Partners <ul style="list-style-type: none"> Local farmers Agricultural association National primary school Transporters Enterprise company 	Key Activities <ul style="list-style-type: none"> Marketing plan Platform design Transportation strategy Business matching 	Value Proposition <ul style="list-style-type: none"> Improving surplus agricultural products issue Eliminating unequal distribution Cross-disciplinary exchange Promoting social education 	Customer Relationships <ul style="list-style-type: none"> Agricultural product distribution plan Supply shortage Exquisite marketing design 	Customer Segments <ul style="list-style-type: none"> Local farmers National primary school Enterprise customers
Key Resources <ul style="list-style-type: none"> Surplus agricultural products Marketing team Logistics Corporate sponsorship High-tech equipment Campus collaboration 		Channels <ul style="list-style-type: none"> Internet platform Government agencies promotion Media advertising 		
Cost Structure <ul style="list-style-type: none"> Logistics costs Marketing costs Equipment cost Platform maintenance Marketing empenses Social promotion costs 			Revenue Streams <ul style="list-style-type: none"> Corporate sponsorship 	

Through business model analysis, understand the key resources, expenditure structure and goals of AgriLearn Exchange, and make subsequent execution plans based on this.

3.2 Pest analysis

P	The government announced the purchase price and provided price support for producers to stabilize food prices, but long-term subsidies caused overproduction.
E	Affected by the climate, the imbalance between production and sales leads to a large increase in the output of agricultural products, resulting in a price collapse.
S	The agricultural employment population is 509,000, accounting for 4.4% of the total employment population.
T	Establishing a "Primary Agricultural Product Processing Management System" can more efficiently handle substandard products and address the issue of surplus production from production to primary processing of agricultural products.
E	Due to global warming, the increasing frequency of extreme weather conditions is leading to more severe agricultural crop losses.

Use PEST analysis to evaluate the four most common overall environmental factors that affect AgriLearn Exchange: Political, Economic, Social, and Technological. Since agriculture is closely related to the environment, we added one more (E)-Environmental to the PEST analysis.

3.3 Short-term market analysis

Analyzing the short-term (less than one year) market development changes of the AgriLearn platform will help us understand market dynamics in a timely manner, observe the public's thoughts and expectations on this online platform, and then improve and increase the overall visibility and reach.

3.1.1 Attract target customers

The main goal of AgriLearn is to give priority to attracting potential customers, provide relatively differentiated plans for customers with different needs, and implement them efficiently through market research and analysis.

- **Local small farmers:** Promote the website during the residents' meeting, assist farmers' associations in joint promotion, and offer discounts for new members.
- **Elementary schools:** Go to elementary schools across Taiwan to advocate the issue of leftover food and conduct cross-field learning and exchange activities
- **Corporate customers:** Explain the concept of AgriLearn to the company and what kind of help we can bring to the company to meet their respective needs and achieve the interests of both parties.

3.1.2 Expand brand awareness

By organizing offline and online operating activities, we can interact and experience with the public to build brand awareness and attract more users to visit the website.

- **Online:** Promote our implementation philosophy through the web pages of partner companies. Just click to link to the AgriLearn web page for operation.
- **Physical offline:** Go to the Taiwan Farmers Association and conduct promotional activities with any agriculture-related units, such as posting information posters and holding experience activities.

3.1.3 Optimize system processes

Regular review meetings are held to correct errors during the implementation process to provide better online services. At the same

time, it is also necessary to evaluate human resources and logistics, whether the internal and external integration processes are smooth, and timely supervision by the team can provide customers with a better user experience.

- **Regular meetings:** at least 4 times a month. The content is not limited to review feedback, innovative ideas, etc. Any questions can be raised during the meeting.
- **Network system maintenance:** Relevant professionals are invited to check and monitor the system and solve network problems encountered.
- **Regular reports from various departments:** Various departments responsible for agricultural product integration, logistics companies, marketing planning, and finance report the current situation at regular times, and after integrating with each other, the expected progress and error corrections are confirmed.

3.4 Long-term market analysis

In the long-term operation and promotion of the innovative platform, cross-field education is not limited to campuses. We will hope to spread the concept of AgriLearn to the whole Taiwan and let more people know AgriLearn.

- **Cooperation with enterprises in various fields:** After expanding the platform's popularity in the early stage, we plan to expand our sponsorship coverage to companies in various categories, such as the cosmetics industry, 3C industry, etc. Such expansion will help attract more people to pay attention to AgriLearn and sponsor us, while also increasing the platform's influence and market position. By cooperating with enterprises in different industries, we can explore new business opportunities, expand market scope, and achieve long-term development of the platform.
- **Increased platform usage:** The reach rate is based on clicking into the platform to watch, but what we want is to increase the usage rate. Only by truly using the platform can the concept of AgriLearn be brought into play and effectively improve the issue of surplus crops. We can enhance the platform's advantages through differentiation strategies, such as innovative platform functions, industry expertise, customer service support, etc., so

that people in need can have a better platform experience.

- **Spread the "AgriLearn" concept to the whole Taiwan:** We will continue to penetrate the concepts of AgriLearn into the hearts of ordinary people. Not only primary school students need to know about the issue of leftover food, but the public currently does not pay enough attention to the issue of wasted food. Therefore, we will devote ourselves to education and publicity to increase public attention and awareness of the issue of food waste, so that everyone can understand the hard work and hard work of farmers. Growing fruits and vegetables are not easy.

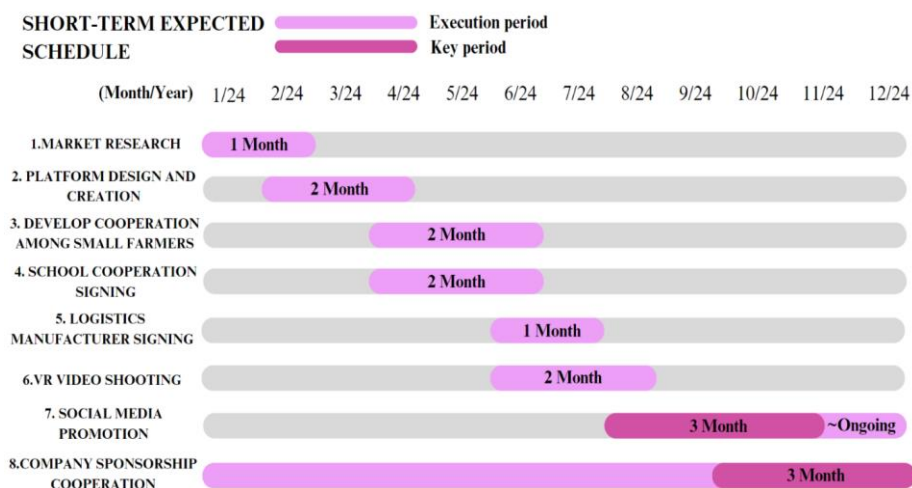
4. Social Impact of "AgriLearn"

4.1 Expected social impact

- **Waste of agricultural products:** Agricultural products become unsalable due to weather or human factors and become food waste; we hope that through our platform we can reduce the amount of waste from 40 percent to 20 percent. The beneficiary groups are mainly farmers, but also include the general public.
- **Uneven distribution of urban and rural resources:** Uneven distribution due to uneven regional development, people living in rural areas cannot get the same supplies as in cities. We hope that with our help we can increase the amount of supplies distributed in rural areas.
- **Lack the concept of cherishing food:** People don't pay enough attention to the preciousness of food. We hope to improve people's ability to distribute food reasonably, especially for young people.

4.2 Expected schedule

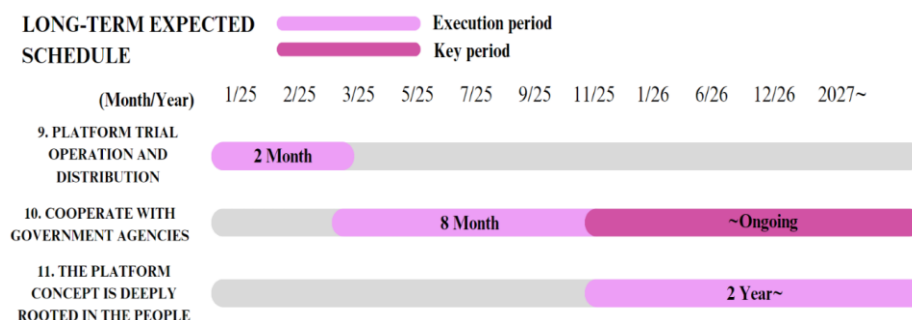
4.2.1 Short-term expected schedule



- **Market Research**
 - Timeline: January - February 2024
 - Explanation: During this phase, a thorough research is conducted to understand market needs, customer preferences, and competitive dynamics. This will help inform platform design and development and ensure AgriLearn Exchange meets market needs.
- **Platform Design and Creation**
 - Timeline: February - April 2024
 - Explanation: This phase involves designing and developing the platform, including its user interface, functionality and features. It aims to create a user experience that is simple, clear and easy to operate.
- **Develop Cooperation Among Small Farmers**
 - Timeline: March - June 2024
 - Explanation: Building partnerships with smallholder farmers during this period will help ensure a stable supply of agricultural products. This involves outreach and agreements to integrate their products into your platform.
- **School Cooperation Signing**
 - Timeline: March - June 2024
 - Explanation: This phase focuses on establishing partnerships with schools to implement educational programs or activities. You will enter into a formal agreement with an educational institution to incorporate the AgriLearn program into their curriculum or extra-curricular activities.
- **Logistics Manufacturer Signing**

- Timeline: May - June 2024
- Explanation: Planning to reach an agreement with logistics manufacturers within a month is crucial to establishing a reliable supply chain. This involves finalizing the shipment of produce.
- **VR Video Shooting**
 - Timeline: May - July 2024
 - Explanation: Committed to producing VR content that enhances the engagement and educational experience of school children. It includes planning, filming and editing VR videos to be used on the AgriLearn platform or in educational activities.
- **Social Media Promotion**
 - Timeline: July 2024 - Ongoing
 - Explanation: It is expected that the AgriLearn platform will be promoted through social media channels starting in July. The campaign was designed to build brand awareness, engage with the audience and drive traffic to the platform.
- **Company Sponsorship Cooperation**
 - Timeline: January 2024 - Ongoing
 - Explanation: Seek and receive corporate sponsorship to support the AgriLearn platform. The focus is on building and maintaining sponsor relationships to financially support operations.

4.2.2 Long-term expected schedule



- **Platform Trial Operation and Distribution**
 - Timeline: January - March 2025
 - Explanation: This phase involves initiating a trial run of the platform to test its functionality, user experience and operational processes. to collect feedback, identify any

issues and make necessary adjustments before full launch.

- **Cooperate with Government Agencies**
 - Timeline: February 2025 - Ongoing
 - Explanation: It is expected to begin working with government agencies to obtain support and comply with regulatory requirements starting in February 2025. This ongoing collaboration includes seeking recognition, funding or collaborating on measures consistent with government objectives and policies.
- The Platform Concept is Deeply Rooted in the People
 - Timeline: November 2025 – Ongoing
 - Explanation: Working with the government, the focus will be on deeply integrating the platform into the community and making it a resource that everyone can use. This ongoing effort aims to solidify AgriLearn's role and reputation among its target audience, ensuring it becomes an important tool and is widely accepted and used by the public.

5. Cost & benefit analysis

5.1 Associated cost

	Description	Expected Price
Website expenses	The initial operation will take into account the most basic website establishment costs, domain names, and maintenance costs. Other functions will be mainly free to use.	(1) Website setup cost: NT.\$50,000 (including design fees) (2) Domain fee: For agrilearn.tw, registration is NT. \$419 in the first year, and NT.\$1,049/month for subsequent contracts. (3) Maintenance cost: NT.\$30,000/year to the outsourcing manufacturer
Personnel expenses	It is expected to hire 1 accountant, 1 person responsible for contacting freight and rural areas, 2 people for website	The minimum salary is NT.\$27,470/month, a total of 4 people is NT.\$109,880/month, and 1

	inventory and customer service, and 1 person for website planning and community management, a total of 5 people.	accountant is NT.\$32,000/month. The total is NT.\$141,880/month.
VR equipment expenses	Purchase 30 units of Samsung Gear VR. The official price is NT.\$3,490/unit.	$3,490 \times 30 = \text{NT.} \$104,700$
Freight	Cooperate with Hsinchu.	A fortune truck carries 80 tons of agricultural
expenses	Cooperate with Hsinchu Logistics to deliver agricultural products from the same county and city to local rural primary schools, and calculate the freight based on Hsinchu Logistics' regional freight calculation table.	A fortune truck carries 80 tons of agricultural products from Changhua to a rural primary school in Yuanlin. The total freight cost= $27 + 156 + 27 + 30 + 50 + 45.5 = \text{NT.} \335.5 (Total shipping fee=10 pickup fees, 10 delivery fees + special service fee) Total freight cost for 50 trips a year $= 335.5 \times 50 = \text{NT.} \$16,775$
Total expenditure	After the first year/second year (Personnel costs are not included)	First year: NT.\$201,894/year After the second year: NT.\$47,824/year

The financial analysis reveals that while the first year requires a substantial investment due to setup, personnel, and equipment costs, subsequent years will incur significantly lower expenses. This reduction in cost is attributed to the elimination of one-time expenses like VR equipment and initial setup fees, though personnel costs will still need to

be considered. Overall, the business faces a high initial cost but benefits from lower ongoing operational costs.

5.2 Associated benefits

5.2.1 Short-term expected benefits (0 to 2 years)

Items	Expected Benefits
Increase in website visits	Website visits reached more than 15,000 times. Drive traffic through methods such as search engine optimization, content marketing, and website advertising.
Social media engagement rate	Social media engagement rate reaches 90%. This is achieved by regularly posting engaging content, interacting and responding to user comments.
Increased brand awareness	Brand awareness increased to 70%. Establish a brand image in a short period of time and attract more users and participants.
Expand service scope	Established partnerships with more than 50 schools and worked with more than 500 farmers to expand the platform to more farmers and rural schools to meet the growing demand.
Educational activities	The goal is to hold more than 100 food education activities, with more than 10,000 students participating. Organize food education activities in primary schools to enhance students' understanding and interest in food.
Partner expansion	Signed partnerships with 10 companies. Engage businesses, non-profits and government agencies to expand the platform's impact and jointly advance the goals of food education and waste reduction.

In the short term, the project is expected to achieve substantial benefits within 0 to 2 years. Website visits are projected to exceed 15,000 through effective SEO,

content marketing, and advertising. Social media engagement is anticipated to reach 90% by maintaining active interaction and engaging content. Brand awareness is expected to grow to 70%, significantly boosting the platform’s visibility. The service scope will expand by partnering with over 50 schools and 500 farmers, addressing increasing demand. Educational activities are set to engage more than 10,000 students through 100+ food education events. Additionally, partnerships with 10 companies will enhance collaboration and impact in food education and waste reduction. These outcomes will significantly elevate the platform's reach, influence, and effectiveness in its early stages.

5.2.2 Long-term expected benefits (More than 3 years)

Items	Expected Benefits
Reduce food waste	It handles more than 1,000 tons of surplus agricultural products every year and is committed to promoting a balance between agricultural production and consumer demand and promoting a sustainable food supply chain. Reduce food waste and improve resource utilization efficiency.
Raising educational awareness	The goal is to increase educational awareness to more than 90%, thereby enhancing society's understanding and emphasis on the value of food. Through the provision of educational activities and resources, we inspire people to understand and value food.
Nationwide impact	The national impact reaches 70%. Expanding this model to the whole country has become a national movement, making the public pay more attention to this issue and completely reducing food waste.

In the long term, the initiative is poised to deliver significant benefits beyond three years. It aims to manage over 1,000 tons of surplus agricultural products annually, enhancing the efficiency of the food supply chain and reducing food waste. The project seeks to raise educational awareness about food value to over 90%, fostering a deeper societal understanding and respect for food resources. Furthermore, it aspires to achieve a 70% nationwide impact, scaling the model to become a national movement that addresses and substantially reduces food waste across the country. These long-term goals underscore a commitment to sustainability, educational

advancement, and widespread societal impact.

6. Conclusion

In conclusion, the AgriLearn Exchange platform represents a comprehensive solution aimed at addressing the economic and environmental challenges posed by surplus agricultural products and climate change. By facilitating the redistribution of unsold agricultural goods to rural schools and leveraging technology to educate students on food production, AgriLearn not only mitigates waste but also fosters a greater appreciation for food among young people. The platform's business model, underpinned by partnerships with farmers, schools, and companies, aligns with key Sustainable Development Goals (SDGs) such as reducing inequalities (SDG 10), ensuring quality education (SDG 4), and promoting responsible consumption and production (SDG 12). Through its short-term and long-term strategies, AgriLearn aims to significantly reduce food waste, increase educational outreach, and expand its impact nationwide. The anticipated outcomes include enhanced brand awareness, increased social media engagement, and the establishment of a sustainable food supply chain. Overall, AgriLearn Exchange exemplifies a holistic approach to sustainable development, integrating economic, social, and environmental objectives to create lasting positive change.



References

1. 台灣農業故事館（2018）。〈價值鏈上的糧食耗損與浪費〉。台灣：中華民國行政院農業部。取自 https://theme.moa.gov.tw/theme_list.php?theme=storyboard&id=409
2. 中華民國勞動部（2024）。〈基本工資的意義〉。台灣；國民勞動部。取自 https://www.hct.com.tw/Allocation/allocation_volume.aspx
3. 陳芳毓、許鈺屏與李鈺淇（2024）。〈什麼是永續發展目標 SDGs?17 項目標一次掌握〉。《未來城市》。取自 <https://futurecity.cw.com.tw/article/1867>
4. United Nation. (n.d.). The 17 goals. Retired from <https://sdgs.un.org/goals>
5. 林維楷、黃佩涵（2020）。〈農委會收購過剩香蕉做堆肥 蕉農感嘆血本無歸〉。《寰宇新聞》。取自 <https://youtu.be/D2L9ACcBLrw?si=3CNPhdQFvOGAqTsC>
6. 中華民國農業部（2006）。〈農產品計畫生產之可行性分析〉。台灣：中華民國行政院農業部。取自 <https://www.moa.gov.tw/ws.php?id=12217>
7. 林昭武(2012年6月28日)。「全球農業政策為什麼混亂？」。《天下雜誌》，71。取自 <https://www.cw.com.tw/article/5038925>
8. 微光行動協會（日期未詳）。〈微光遠山〉。台灣：財團法人台灣微光行動協會。取自 <https://bethelight.org.tw/%E5%BE%AE%E5%85%89%E9%81%A0%E5%B1%B1/>