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2026 KUS Startup Club Business Plan

Startup Item	DULDAM – B2B Operating Solution for Food-Waste Reduction
Item Overview	*Briefly describe the core functions, characteristics and advantages of the startup item.*

Institutional food-service operators purchase one product every day and then pay again to dispose of it: **food waste.** DULDAM is designed not to deal with food after it has already been discarded, but to intervene in the moments immediately before waste is created.

In university and corporate cafeterias, diners often take side dishes they do not intend to finish, or receive more food than they need because fixed-size ladles and serving utensils determine portion size. Near closing time, edible food may also remain unsold. We viewed these small, repeated moments as the source of a much larger waste problem.

The idea began while our ESG Management Team in the Law & Policy Society was researching food waste in institutional catering. We focused in particular on the fact that uneaten food already contains ingredient and cooking costs, while additional costs are incurred when it is discarded. This led us to ask: **"Can we reduce waste before it is created?"**

One of DULDAM's key advantages is that it can be introduced without major new equipment. We intend to begin with small, practical interventions that can be tested directly with food-service operators and diners.

First, we plan to adjust initial portion sizes by changing the serving sequence and using smaller ladles, scoops and containers. Diners who leave less food could receive stamp-based rewards, while behavioural prompts such as **"Will you really finish everything on your tray?"** would encourage people to reconsider portion size before serving themselves.

Second, we plan to install an open-source AI image-recognition camera at the tray-return area to record the type and amount of food waste. The resulting data could then be used to estimate future demand and determine more appropriate cooking volumes.

Third, where food still remains, we aim to explore discounted takeaway meals or end-of-day sales, subject to food-safety requirements, in order to recover revenue while improving student welfare. Food that can be donated safely could also be provided to vulnerable groups as part of a social-contribution programme.

Business Outlook	*Describe the industry, market and technology environment, including market size, outlook and sales strategy.* *Describe expected users, customers and target markets.*

① Differentiation: A Waste-Reduction Service, Not Simply an Environmental Service

Korea's institutional food-service market was estimated at approximately **KRW 6 trillion in 2025**, spanning corporate workplaces, universities, hospitals and public institutions.

Our focus is not limited to increasing sales. We believe that helping operators **reduce costs that are already leaking out of the business** can itself form a viable business model.

A 2024 case study published in the international journal Sustainability examined a German

corporate cafeteria that combined measures such as smaller portions, smaller serving utensils and the reuse of surplus food. Food waste was reduced by **46%**, while the economic benefits exceeded the cost of implementation.

This suggests that food-waste reduction can create value not only environmentally but also financially.

② Initial Customer: Contract Food-Service Operators at Universities

Our initial target market is university cafeterias. These are environments we understand well as users ourselves, allowing us to observe diner responses quickly. Their frequently changing menus also make them suitable for testing multiple interventions.

The primary customer is therefore not the individual student, but the **cafeteria operator or contract food-service company.**

Rather than asking operators to invest in equipment from the outset, we plan to offer **a food-waste reduction pilot package** combining site-specific serving methods, tools, behavioural campaigns and measurement.

During the initial commercialisation stage, we considered offering a **4-week pilot package at KRW 300,000–500,000 per site.** Sites that demonstrate positive results could then receive an ongoing food-waste analysis and operational-improvement service priced at approximately **KRW 100,000–200,000 per month.**

For example, securing ten sites at KRW 150,000 per month would generate **KRW 1.5 million in monthly recurring revenue, or KRW 18 million annually.** We therefore expect small pilot projects to provide a path toward longer-term B2B revenue.

Our sales strategy is intentionally simple. We first generate credible **Before / After data** at one location, then use that evidence when approaching other university food-service operators. Rather than saying, "We can reduce food waste," we believe a single page showing **"This is what changed at this cafeteria"** will be a much stronger sales tool.

Development Plan	**Describe the development plan by stage and specify the final objective.*

① Stage 1: Observe What Is Actually Being Wasted

We will conduct student surveys and interviews with food-service operators to identify commonly wasted menu items, dissatisfaction with portion sizes and current practices for handling unsold food after closing.

Where possible, we will also record diner counts and food-waste volumes over a defined period to establish a measurable baseline.

② Stage 2: Test Small Interventions One at a Time

We do not intend to introduce serving-sequence changes, smaller utensils, smaller containers, behavioural prompts and stamp rewards all at once.

Instead, we will vary conditions and take a behavioural-economics approach to identify combinations that reduce waste without creating inconvenience for diners.

③ Stage 3: Test the Viability of Surplus-Food Utilisation

We will survey students on their willingness to purchase discounted end-of-day meals and determine acceptable price levels.

At the same time, we will review food-safety requirements to identify which food can legally and safely be sold or donated. The priority is to establish operational feasibility, not simply

pursue an appealing social objective.

④ Stage 4: Build a Lightweight Measurement Tool

Using an open-source AI camera and weighing scale, we plan to record food types and waste weights and test how much manual work could realistically be reduced through open-source image-recognition technology.

If accuracy proves insufficient, we will not force full automation. Manual verification will remain where necessary.

⑤ Final Objective

By the end of the semester, our goal is to produce more than a campaign summary. We aim to build a practical validation dataset combining before-and-after food-waste volumes, student satisfaction, participation rates, willingness to purchase discounted meals and estimated cost savings.

Based on these results, the final objective is to complete DULDAM's first business proposal that can be presented directly to a university or food-service operator.

Development Schedule **Describe the development plan by stage and specify the final objective.*

• Total Development Period: September 21, 2026 – December 26, 2026

주요 추진내용
• 2026.09.21 ~ 2026.10.4 - Research domestic and international food-waste and institutional-catering cases; refine DULDAM's core service scope
• 2026.10.5. ~ 2026.10.18 - Survey university students on cafeteria use and causes of plate waste; review campus food-service operations and collect operator feedback
• 2026.10.19. ~ 2026.11.1 - Design low-cost experiments involving serving-order changes, smaller utensils and containers, behavioural prompts and stamp rewards
• 2026.11.2. ~ 2026.11.15 - Conduct feasible serving-method experiments or simulations; compare pre- and post-intervention waste volumes, satisfaction and participation
• 2026.11.16. ~ 2026.11.29 - Assess willingness to purchase discounted end-of-day meals, acceptable pricing, donation feasibility and food-safety requirements
• 2026.11.30. ~ 2026.12.8 - Review feasibility of AI-camera functions, define required data and functions, and visualise service screens and user flows
• 2026.12.9. ~ 2026.12.17 - Analyse experiment and survey results; refine target customers, revenue structure and service composition
• 2026.12.18. ~ 2026.12.26 - Complete the final business plan and operator-facing proposal; establish follow-up plans for MVP development and campus validation

Budget Plan

Budget Item	Details	Details	Notes
Serving-Method Experiment Materials	Small ladles and scoops, smaller serving containers, serving-sequence markers	KRW 280,000	Low-Cost Behavioural Test
Food-Waste Measurement Materials	Sorting containers, measuring containers, labels and recording supplies	KRW 150,000	Before/After Impact Measurement
Campaign & Reward Experiment	Stamp cards, behavioural prompts and serving-line signage	KRW 130,000	Student Engagement Test
Discounted Meal / Takeaway Validation	Food containers, sealing labels and related experimental materials	KRW 180,000	Surplus Food Utilisation Test
User Research & Service Validation	Survey/interview materials, printed service flows, interface mock-ups and test supplies	KRW 100,000	Customer Demand Validation
Prototype & Final Deliverables	Exhibition boards, prototype materials and printed business proposals/presentation materials	KRW 160,000	Final Deliverable Production
Total		**KRW 1,000,000**	