Gothenburg Digital Kiosks (structured)

Based on [Combined inputs document for Gemini]

Introduction

This document serves as a comprehensive strategic framework and modeling input for the Gothenburg Digital Kiosks initiative. Its purpose is to structure all necessary components—organizational, operational, and financial—into measurable, definable concepts for use in the Strategyplanner tool. Readers can expect a detailed breakdown of how the complex shared-economy ecosystem is organized and how its strategic paths are defined.

The core of the document is built upon a detailed **Ecosystem Model** featuring three main sections: **Roles & Participants**, **Value Proposition Exchanges**, and **Value Streams**. The Roles & Participants section defines a set of abstract roles (such as Owner, Inventory Buyer, Item Custodian, and Local Operator) and maps these roles across six distinct **Operating Model Alternatives**. This allows a reader to quickly understand the organizational structure, financial ownership (CapEx vs. OpEx), and operational delegation for any proposed model. This is followed by the Value Proposition Exchanges, which illustrate the two-way flow of service, funds, and delegation between every role, establishing the full internal economy of the project.

Finally, the document provides the necessary framework for **Strategic Planning and Scenario Execution**. The **Plan Scenario paths** section outlines three distinct 10-year (40-quarter) transition plans, each defined by a succession of Phases and a choice of Operating Model Alternatives for each step. Crucially, the **Further variations to the model** section defines the independent variables (Payment Model and Content & Site Focus) that act as "what-if" levers for testing each plan's viability against key financial and social metrics, allowing for detailed, measurable analysis of the project's long-term success.

Purpose

Make the Digital Kiosks initiative:

- Scalable
- Repeatable

As assessed and validated from the perspective of the Business Model of FB.

Note: Potentially, Business Models, as viewpoints or perspectives, can be added for other Participants as well, such as for the Platform Provider Company.

Scope

The scope of the Plan is: a **single project**. There may be multiple kiosks (lockers & software & item pool combinations), but only one “operating model” applies at one point in time, across these kiosks. E.g., if a “kiosk on demand” model is adopted (OPEX), this applies to all kiosks in scope of the Plan.

Two pilot projects:

- CLN, sharing of tools, custom, APEX, **2** stations. Scaling up to **11** stations in 10 years.
- Piffl, sharing of sports items, standard, OPEX, **1** station. Scaling up to **5** stations in five years,and **16** stations in 10 years.

Roles & Participants

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Abstract Role	Primary Function Covered
Sponsor	Sets the overarching strategic mandate, vision, and governance framework (e.g., city's high sustainability goals).
Service Operator	Holds the customer relationship, manages subscription services and collects all End User Fees and Data Revenue, while paying a single, comprehensive service fee to the asset Owner.

Owner	Direct leadership, project success accountability, and tactical management of the initiative's implementation and scaling.
Core Financier	Providing the core, committed operational budget and primary internal funding.
Capital Grantor	Providing external, non-operational, or subsidized funding (e.g., grants for specific goals).
Platform Provider	Design, supply, installation, and physical maintenance of the core hardware (kiosks, lockers and touch screens).
Digital Service Provider	Design, development, hosting, and subscription management for the core software platform, APIs, and end-user interface logic.
Inventory Buyer	Responsible for assortment determination (deciding which new items to procure) and the contractual procurement (the official, legal act of buying or leasing new items) to expand or replenish the shared inventory.
Item Vendor	Physical supply of items (production, sales, donation) to the Inventory Buyer.
Item Custodian	Responsible for the ongoing physical maintenance, repair, and quality-based management (curation, selection, and retirement) of the shared inventory.
Local Operator	Daily hands-on management, local logistics, on-site service, and physical technical support.
Community Enabler	All outreach, communication, marketing, and social initiatives required to drive user adoption and engagement.
End User	The borrower/consumer who utilizes the service to achieve personal, sustainability, and social goals.
Data Licensee	The buyer of aggregated and anonymized usage data collected from the digital kiosks. This data is bought to derive specific insights, such

	as urban planning trends, demand forecasting, and social equity impact.
Commercial Partner	Responsible for the strategy, sales, and implementation of secondary, non-core revenue streams. This includes facilitating, managing, and executing agreements for in-kiosk advertisements, cross-sell promotions for services, and co-marketing partnerships with Original Equipment Manufacturers (OEMs) or other third-party product and service providers.
Site Provider	Responsible for providing the physical location for the kiosk infrastructure. This role encompasses securing the required physical space (public or private), granting access permission, and potentially providing necessary utilities (power, internet connection point) and physical security/access for the Local Operator and Platform Provider to install and service the kiosk.

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Roles & Participants, with assignment Scenarios

Alternative operating models

The table below lists four alternative “operating models” (“Alternatives”).

Alternative	Name	Purpose
Alt-1-1	**Current CLN pilot**	Serves as the **initial pilot model** (based on CLN, customized) for validating the concept; FB maintains close management of the asset and inventory procurement while testing local partner engagement.
Alt-1-2	**City-Led**	To test the model's viability under **direct public service management**, allowing the City to fully integrate the kiosk service into its broader urban planning, social, and sustainability mandates.

Alt-1-3	**Partner-Led**	To test the model's viability when the ownership and full control of the kiosks resides with a third party organization (the Local Partner).
Alt-2-1	**Current Piffl pilot**	Serves as an **initial pilot model** (based on **Piffl**, turnkey), whereby FB provides the kiosk service to the public, but no longer as owner of the kiosks. and a long-term strategic model that maximizes operational efficiency, minimizes internal workload/risk for FB, and accelerates scalability through vendor expertise.
Alt-1&2-2	**Vendor-Led**	A long-term strategic model that maximizes operational efficiency, minimizes internal workload/risk for FB, and accelerates scalability through vendor expertise. The vendor owns the kiosks and is in full control.

Entities (Enterprises)

Entities in the project (Plan)

Organization (Entity)	Current proposed name	Generalized name for later
City of Gothenburg	City	Sponsor org
Familjebostäder, FB	Housing Company	Sponsor Delegate org
Local Partner	Local Partner	Third Party org
CLN / Piffl	Sharingstation Provider Company	Sharingstation org

Next to that, we have:

- Digital Service Provider Company: The company that provides the software for the kiosks
- Item Vendor Company: Prototypical company that is the supplier of items.
- Tenants / Citizens: The market segment of end users
- Data Licensees: The market segment of data licensees
- Commercial Partners: The market segment of commercial partners
- The EU: The governmental organization that provides the grant

Role assignments per Alternative

The table below lists the four “operating models” (Alternatives), each with their assignment of Roles.

Abstract Role	**Alt-1-1: Current CLN pilot**	**Alt-1-2: City-Led**	**Alt-1-3: Partner-Led**	**Alt-2-1: Current Piffl pilot**	**Alt-1&2-2: Vendor-Led**
Sponsor	City	City	City	City	City
Service Operator	Housing Company **Note:** Grant but no end user fees, no data package income	City **Note:** No end user fees, no data package income	Local Partner **Note**: Can have end user fees and data package income	Housing Company **Note:** Grant but no end user fees, no data package income	Sharing Station Provider Company **Note: M**ay have end user fees and data package income. But in that case: The Housing Company does no longer pay the Platform Provider !!
Owner	Housing Company	City	Local Partner **Note**: Pays the Platform Provider	Sharing Station Provider Company	Sharing Station Provider Company

Core Financier	Housing Company	City	Local Partner	Housing Company	Sharing Station Provider Company
Capital Grantor	The EU	The EU **Note**: No grant	The EU **Note**: No grant	The EU	The EU **Note**: No grant
Platform Provider	Sharing Station Provider Company	Sharing Station Provider Company	Sharing Station Provider Company	Sharing Station Provider Company	Sharing Station Provider Company
Digital Service Provider	Digital Service Provider Company	Digital Service Provider Company	Digital Service Provider Company	Digital Service Provider Company	Digital Service Provider Company
Inventory Buyer	Housing Company	City	Local Partner	Sharing Station Provider Company	Sharing Station Provider Company
Item Vendor	Item Vendor Company	Item Vendor Company	Item Vendor Company	Item Vendor Company	Item Vendor Company

Item Custodian	Local Partner	Local Partner	Local Partner	Sharing Station Provider Company	Sharing Station Provider Company
Local Operator	Local Partner	Local Partner	Local Partner	Sharing Station Provider Company	Sharing Station Provider Company
Community Enabler	Housing Company **Note**: In that context interacting with others, like the local tenant organization	City	Local Partner	Housing Company **Note**: ● In that context interacting with others, like the local tenant organization. ● **These costs are not invoiced**	Housing Company **Note**: ● In that context interacting with others, like the local tenant organization. ● **These costs are not invoiced**
End User	Tenants / Citizens	Tenants / Citizens	Tenants / Citizens	Tenants / Citizens	Tenants / Citizens
Data Licensee	Data Licensees	Data Licensees	Data Licensees	Data Licensees	Data Licensees

Commercial Partner	Commercial Partners	Commercial Partners	Commercial Partners	Commercial Partners	Commercial Partners
Site Provider	Housing Company **Note**: No fees	City **Note**: No fees	City **Note**: Can get fees, like market dues/fees for a stall or pitch	Housing Company **Note**: No fees	Housing Company **Note**: Can get fees, like market dues/fees for a stall or pitch

Value Proposition exchanges between roles

This table shows the flow of value between the different roles, including the new distinction between the **Inventory Buyer** (strategic/procurement) and the **Item Vendor** (physical supplier).

Name	Offering / Value Proposition	Provider Role	Receiver Role
Strategic Oversight	Sets the overarching strategic mandate, vision, and governance framework.	Sponsor	Service Operator
Project Leadership	Provides direct leadership and project success accountability.	Service Operator	Sponsor
Operational Budget	Provides the core, committed operational budget and primary internal funding.	Core Financier	Service Operator
External Grant	Provides external, non-operational, or subsidized funding (e.g., grants).	Capital Grantor	Service Operator

Infrastructure Provision	Design, supply, installation, and physical maintenance of the core hardware infrastructure (kiosks/lockers, including the touchscreen for end-user interaction).	Platform Provider	Owner
Digital Platform Service	Design, subscription, maintenance, and hosting of the digital management software, API, and back-end logic necessary to operate the kiosks and user services.	Digital Service Provider	Owner
Infrastructure Business	Payment/contract and total volume for the provision, installation, and physical maintenance of the core hardware infrastructure (kiosks/lockers, including the touchscreen for end-user interaction).	Owner	Platform Provider
Digital Platform Service Business	Payment/contract and total volume for the subscription, maintenance, and hosting of the digital management software, API, and back-end logic necessary to operate the kiosks and user services.	Owner	Digital Service Provider
Operator Enablement (Tech)	Provision of the necessary system access, accounts, and tools to manage the daily operation software.	Owner	Local Operator
Tech Operations Support	Utilization of the platform for on-site management and reporting back to the owner.	Local Operator	Owner

Procurement Service	Assortment determination, CapEx/OpEx management, and the contractual process for new items.	Inventory Buyer	Owner
Buyer's Business	Payment/contract and total volume for the execution of the procurement and sourcing service.	Owner	Inventory Buyer
Shared Physical Items	The physical supply of the initial and ongoing physical goods/items (inventory).	Item Vendor	Inventory Buyer
Item Business	Payment/contract and total volume for the supply of items.	Inventory Buyer	Item Vendor
Inventory Delegation	Formal assignment and handover of the physical inventory to be curated and maintained.	Owner	Item Custodian
Managed Inventory Service	Ongoing physical maintenance, repair, replenishment, and curation of the shared inventory.	Item Custodian	Owner
Custody Business	Payment/contract and total volume for the ongoing management, maintenance, and curation of inventory.	Owner	Item Custodian
Item Maintenance Support	The technical intervention, including minor repair and logistics coordination (sending out for external repair), and final inspection to restore physical inventory items, flagged by the Local Operator, to a safe and fully usable state for immediate re-lending.	Item Custodian	Local Operator

Operation Delegation	Authorization, training, and resources for daily hands-on management and local service delivery.	Owner	Local Operator
On-site Operations Service	Daily hands-on management, local logistics, physical service, and on-site technical support.	Local Operator	Owner
Operation Business	Payment/contract and total volume for the daily hands-on management, logistics, and on-site service.	Owner	Local Operator
Adoption Drive	Outreach, communication, marketing, and social initiatives required to drive user engagement.	Community Enabler	Owner
Adoption Business / Support	Payment, contract, or non-monetary support for community outreach and user adoption activities.	Owner	Community Enabler
Managed Service Provision	The comprehensive, end-to-end service, covering the platform, item costs, and operational tasks, which the Owner provides to the Service Operator.	Owner	Service Operator
Managed Service Utilization & Fee	Utilization of the managed service and the associated OPEX payment for the complete, managed kiosk service.	Service Operator	Owner
Kiosk Service & Access	The provision of the complete, accessible, and maintained sharing-kiosk solution to the public.	Service Operator	End User

Utilization & Fees	Utilization of the service and associated payments (e.g., subscription, per-use fees, or data).	End User	Service Operator
Data Licensing	Exclusive right to access and utilize the aggregated, anonymized usage and trend data from the digital kiosks. This provides the Data Licensee with the necessary insights (e.g., urban planning trends, social equity impact).	Service Operator	Data Licensee
Data Licensing Business	The commitment from the Data Licensee(s) to purchase a specified volume of data packages per period, driven by their internal need for insights.	Data Licensee	Service Operator
Commercial Engagement Access	Provision of controlled, strategic access to the digital kiosk platform, end-user interfaces, and associated physical space to facilitate the Commercial Partner's secondary revenue activities (e.g., in-kiosk advertisements, cross-sell, and co-marketing campaigns).	Owner	Commercial Partner
Secondary Revenue Share	Payment or revenue share agreement provided by the Commercial Partner to the Service Operator in exchange for the enablement and management of secondary, non-core revenue streams (Ads, cross-sell, etc.) (For more about this, see below)	Commercial Partner	Owner

Kiosk Site Provision	The provisioning of secured and accessible physical space, along with any necessary utilities (power/network), required for the installation and operation of the digital kiosk infrastructure (lockers, touchscreen, etc.).	Site Provider	Service Operator
Site Rental Business	Payment or rental fee agreement from the Service Operator to the Site Provider in exchange for the use of the site as a location for the kiosk infrastructure. This payment covers the cost associated with utilizing the physical space to run the service.	Service Operator	Site Provider
Late Return Fee	A behavioral and financial mechanism designed to ensure the maximum utility and availability of shared inventory by incentivizing End Users to return items promptly, thereby mitigating operational risk and generating supplemental revenue to offset costs.	End User	Inventory Buyer

More about Secondary Revenue Share

The promotional efforts of a Commercial Partner, utilizing the Gothenburg Digital Kiosks as a podium, can leverage both the digital and physical presence of the service. These opportunities go beyond simple ads and often involve integrated partnerships.

Here are potential ways the Commercial Partner could promote its offerings:

1. Digital & In-App Channels

These leverage the software platform and the end-user's interaction with the service.

- **In-App Advertisements:** Displaying ads within the mobile app or web interface used by the end-user to book or manage their item rental. This includes banner ads, interstitial ads, or sponsored listings for items.

- **Targeted Push Notifications:** Sending promotional messages or special offers to users based on their rental history, location, or declared interests (e.g., "Get a discount on a new bike lock after renting a bike!").
- **Confirmation Screen Promotions:** Displaying a compelling offer or ad immediately after a user completes a successful booking or return.
- **Email/SMS Marketing:** Including partner content or offers in official service communication emails (booking confirmation, return reminders) to the End User.

2. On-Kiosk Digital Display

This uses the kiosk's touchscreen interface to capture attention, especially when the kiosk is not actively in use.

- **Screensaver & Idle Screen Ads:** Displaying high-impact, full-screen advertisements while the kiosk is in an idle state.
- **Contextual Ads on Transaction Flow:** Showing relevant cross-sell promotions during the check-out process (e.g., "Need a matching drill bit? Click here to buy from our partner, Acme Tools").

3. On-Kiosk Physical Presence (Branding & Material)

These leverage the kiosk hardware and the inventory itself for high visibility.

- **Kiosk/Locker Vinyl Wraps:** Using the physical exterior of the lockers and kiosk structure for large-format, high-visibility branding and advertising. (This is similar to **vehicle wraps** or **transit advertising** for cars and buses.)
- **QR Code Promos:** Placing QR codes on the kiosk exterior or screen that link directly to a Commercial Partner's website, sign-up page, or special offer.
- **In-Locker Marketing:** Placing branded flyers, brochures, or small promotional product samples inside the lockers alongside the rented item.
- **Co-Branded Items:** Promoting items in the inventory that are supplied or sponsored by the Commercial Partner/Item Vendor, clearly marked with co-branding (e.g., "Sponsored by Acme Tools").

4. Strategic Partnership & Data Insights

These are higher-level engagements that generate value through collaboration.

- **Demand/Data Licensing:** The Commercial Partner (who may also be a Data Licensee) can use aggregated and anonymized usage data to inform their own marketing strategies, ensuring their promotions are highly relevant to the community.
- **Co-Branded Community Events:** Sponsoring adoption drives, maintenance workshops, or community events organized by the Local Operator or Community Enabler.

- **Exclusive Discounts/Affiliate Programs:** Offering exclusive benefits to kiosk users, establishing the kiosk service as a *channel* for accessing partner value.

These methods cover a wide range of promotional efforts, from low-cost digital advertisements to major physical branding and integrated co-marketing partnerships, which align with the Commercial Partner's goal of generating secondary revenue streams.

The Commercial Partner's role itself is expansive, covering high-effort activities that incur significant operational and strategic costs:

- **Strategy, Sales, and Implementation** of secondary revenue streams.
- Managing and executing agreements for **in-kiosk advertisements, cross-sell promotions, and co-marketing partnerships**.
- Executing on a high volume of promotional methods (in-app ads, on-screen ads, physical wraps, local events, etc.).

So, certainly over time, some good revenue should come out of it, otherwise it is not worth the cost for that partner.

Value Streams

Here is the table, which outlines the minimal vital activities (Value Stream) required to deliver each core Value Proposition, based on the information in the *Combined inputs document for Gemini purpose*.

Minimal Vital Activities per Value Proposition

Value Proposition	Provider Role	Receiver Role	Minimal Vital Activities (Value Stream)
Procurement Service	Inventory Buyer	Owner	* **Assortment Determination:** Establish the **local, customized assortment** based on neighborhood profiling (social vs. ecological goals). * **Sourcing & Contracting:** Execute **separate procurements** and purchasing processes (CapEx/OpEx) for both the technology and the items (due to a fragile supplier market).

Managed Inventory Service	Item Custodian	Owner	* **Physical Maintenance/Repair:** The **physical maintenance, repair,** and removal/cleanup of damaged items (to counter the threat of vandalism and theft). * **Curation:** The ongoing **selection and rotation** of items in the kiosk to maintain relevance (*not* the initial purchasing).
On-site Operations Service	Local Operator	Owner	* **Local Management:** The daily **hands-on management, logistics, and on-site service** at the local level. * **Technical Support:** Provide **physical technical support** for the kiosks (e.g., in case of malfunctions).
Adoption Drive	Community Enabler	Owner	* **Tenant Outreach:** Set up **communication campaigns** via the tenant app and local channels to drive adoption. * **Community Engagement:** Involve partners (like the Tenants' Organization) and organize **social initiatives** to promote trust and usage. * **Local Ownership: Generate local buy-in** from neighborhood leaders and residents to ensure project longevity (a key weakness/challenge in the analysis).
Kiosk Service & Access	Service Operator	End User	* **Platform Availability:** Ensure an **operational and reliable (Uptime)** kiosk and software solution. * **Item Availability:** Maintain an **appropriate and well-curated assortment** to minimize the 'Stockout Problem' (long wait times). * **Service Quality:** Guarantee a **low financial barrier** and high relevance to achieve overall End User Satisfaction.

Data Licensing	Service Operator	Data Licensee	* **Data Provisioning:** The Owner's necessary efforts to market, negotiate, finalize, and logistically deliver the licensed data package (e.g., extracting, anonymizing, formatting, and transferring the data) to the Data Licensee, which includes associated sales and administrative overhead.
Commercial Engagement Access	Owner	Commercial Partner	* **Commercial Partner Scouting & Negotiation**: The up-front business development effort required to identify, pitch, contract, and successfully onboard new **Commercial Partners** for secondary revenue streams (ads, cross-sells). This drives the **Commercial Partner Gross Revenue** potential. * **Digital Engagement Platform Management**: The ongoing technical and administrative effort required to configure, maintain, update, and monitor the digital space (software platform, APIs, interface) used for displaying advertisements and promotional content. This includes the administrative effort to manage contractual compliance, track performance metrics for **Commercial Partner Gross Revenue**, generate reports, and process the collection of the **Secondary Revenue Share** via the **Service Operator Provision Rate**.
Strategic Oversight	Sponsor	Service Operator	* **Strategic Governance & Compliance:** Establish the overarching strategic mandate, vision, and governance framework to ensure the project meets high-level City sustainability and social equity goals.

Kiosk Site Provision	Site Provider	Owner	*** Site Acquisition & Contractual Agreement:** Identify, evaluate, and legally secure the physical space (securing the required physical space, granting access permission) *** Utility Provisioning:** Ensure necessary operational utilities are provided and maintained, including power connection and internet connection point. *** Installation Access Management:** Manage the physical access and security protocols for the Platform Provider (installation) and Local Operator (servicing). *** Site Operation & Maintenance:** Conduct ongoing general physical upkeep, cleaning, and basic security of the immediate site area.

Plan Scenario paths

The 10-year plan is divided into two phases:

- **Phase 1 (Pilot & Validation):** 9 quarters (2 years and 1 quarter). This phase contains the EU grant period.
- **Phase 2 (Scaling & Strategic Transition):** 31 quarters (7 years and 3 quarters). This is the long-term operational model.

Phase Definitions

Phase Name	Primary Focus (Function)
Phase 1: Pilot & Validation	This phase is to validate the initial pilot model (Alt-1-1 or Alt-2-1) and secure key performance indicators (KPIs) and learning required to justify the transition.

Phase 2: Scaling & Strategic Transition	This phase is to execute the strategic transition to the long-term target Alternative (Alt-1/2-2, Alt-1-2, or Alt-1-3) and focus on large-scale deployment and long-term viability based on the business model.

Plan Scenario Paths

The following four scenarios model the transition from the two current pilots to three different long-term operating models:

Scenario Short Name	Initial Pilot (Phase 1: Q1–Q9)	Transition to (Phase 2: Q10–Q40)	Focus of the Transition
CLN pilot to Vendor	**Alt-1-1: Current CLN pilot**	**Alt-1&2-2: Vendor-Led**	Maximizing efficiency and scalability by transferring ownership and operational risk to the vendor.
CLN pilot to City	**Alt-1-1: Current CLN pilot**	**Alt-1-2: City-Led**	Integrating the kiosk service directly into public service management, aligning with city-level social and sustainability mandates.
CLN pilot to Partner	**Alt-1-1: Current CLN pilot**	**Alt-1-3: Partner-Led**	Testing the viability of a third-party organization taking full ownership and control of the kiosks.
Piffl pilot to Vendor	**Alt-2-1: Current Piffl pilot**	**Alt-1&2-2: Vendor-Led**	Leveraging the turnkey pilot to quickly transition to a long-term model where the vendor manages assets and operations for efficiency and reduced internal risk.

Implied Alternative derivation

The sequence of Alternatives in a scenario path must follow a logical and feasible model-driven derivation from the direct or indirect predecessor Alternative.

Derivation	Logical Consistency
Alt-2-1 from Alt-1-1	Transition from the **Current CLN pilot** to the **Current Piffl pilot**. This represents an model-technical shift by the Housing Company (FB) from one internally managed pilot type (custom, CapEx/APEX) to another (standard, OpEx), focusing on changes to the asset and procurement model while retaining internal ownership for further testing.
Alt-1&2-2 from Alt-2-1	Transition from the **Current Piffl pilot** to the **Vendor-Led** model. This is the primary strategic switch to the long-term, fully outsourced model. It leverages the Piffl model's pre-existing operational (OpEx) framework to transfer asset ownership, Core Financier, and most operational roles directly to the Sharing Station Provider Company (Vendor), maximizing operational re-use. Due to the model-technical derivation from Alt-2-1 from Alt-1-1, Alt-1&2-2 is indirectly derived from Alt-1-1, and therefore model-technically feasible.
Alt-1-2 from Alt-1-1	Transition from the **Current CLN pilot** to the **City-Led** model. This is a major political and organizational decision to hand over the entire operation, including ownership and financing, from the Housing Company (FB) to the City/Municipality.
Alt-1-3 from Alt-1-1	Transition from the **Current CLN pilot** to the **Partner-Led** model. This is a clear handover of full ownership and financial responsibility from the Housing Company (FB) to a third-party Local Partner, leveraging the initial pilot for validation before externalizing the model.

Further variations to the model

The existing scenarios cover the **Organizational and Financial Assignment** (Who does what, and how is it funded—CapEx vs. OpEx). The two new variations you've identified—**Payment Model** and **Content & Site Focus**—serve as independent levers that affect revenue, utilization, cost, and social impact.

These new variations can be modeled as two additional axes or dimensions, which can be combined with any PlanScenarios

This axis directly affects the **Revenue Stream** and **User Adoption** assumptions in your model (e.g., Utilization and Equity Reach KPIs).

Variation State	Name for Model	Description	Core Impact to Model
P1	**Monthly Pass**	The favored long-term revenue approach; a fixed fee for unlimited or set borrowing.	Stable subscription revenue; potential high utilization; revenue is predictable.
P2	**Per-Use**	A transactional payment for each item borrowed (e.g., hourly/daily rates).	Transactional revenue stream; highly sensitive to price and demand; revenue is variable.
P3	**Free Period**	An initial promotional phase (e.g., 6–8 months) to drive adoption.	Zero/Delayed revenue for a period; focus on modeling the rapid increase in user adoption (Community Enabler KPI).

2. New Variation Axis: Content & Site Focus

This axis primarily affects the **Demand Engine** and **Item Custodian** roles in your model (e.g., initial stock cost, maintenance cost, and utilization rates for specific neighborhoods).

Variation State	Name for Model	Description	Core Impact to Model
C1	**Customized**	The current approach: Content is tailored by neighborhood (Eriksbo: toys/social; Högsbo: tools/ecological).	Higher initial planning/sourcing costs; models local demand more accurately, leading to higher targeted impact.
C2	**Standardized**	A single, non-tailored inventory offering is rolled out across all locations.	Lower planning/sourcing costs and simpler Item Custodian logistics; risks lower local utilization if inventory does not match neighborhood needs.

Modeling the Permutations

The **"Further variations to the model"** (Payment Model P1-P3 and Content/Site Focus C1-C2) are indeed intended to be the **"what-if Values"** or **independent levers** that are varied during a **"Scenario Execution."**

The strategic model is structured in three logical layers:

1. **The PlanScenario (The Path):**
    - **What it is:** The sequential path of Phases and Operational Alternatives over the 40-quarter time horizon (e.g., *Controlled Transition*).
    - **Your Role:** This is the *primary structure* you are modeling.
2. **The Alternative (The Organizational Engine):**
    - **What it is:** The definition of *who does what* (the A-F assignments for Owner, Custodian, Buyer, etc.) and *how it is funded* (CapEx vs. OpEx).
    - **Your Role:** This determines the underlying cost and operational structure for each phase of the path.
3. **The Further Variations (The What-If Levers/Scenario Execution):**
    - **What it is:** The **Payment Model** (P1-P3) and **Content & Site Focus** (C1-C2) axes. These directly affect key metrics like Utilization, Revenue, and Cost.
    - **Your Role:** These variations are precisely the "play buttons" you use to conduct the actual experiments:
        - You select one **PlanScenario** (e.g., *Municipal Leadership*).
        - You run **36 Scenario Executions** by testing every combination of **P1-C1** through **P3-C2** (3 x 2 = 6 variations) for the entire 40-quarter path.
        - This allows you to see how the choice of payment (P-axis) and inventory mix (C-axis) impacts the financial and social outcomes of your chosen long-term strategy (the PlanScenario).

Starter of Value model (Business model computations)

Value Proposition Components of “Kiosk Service & Access”

Model the strategic variations (Payment P-axis and Content C-axis) for the **"Kiosk Service & Access"** Value Proposition in Strategyplanner is by defining a fixed set of measurable components. The Scenario Executions then assign the specific quantities to these components.

This table contains the components that are directly manipulated by the **Payment Model (P1-P3)** and **Content & Site Focus (C1-C2)** Scenario Executions.

Category	Component Name	Quantifying Metric (Ratio Scale)	Rationale for Inclusion
Payment & Equity	**Use Fee**	Cost for a single, transactional item loan.	Directly models the **P2 (Per-Use)** and **P3 (Free Period)** financial barrier.

Payment & Equity	**Monthly Fee**	Cost for a fixed subscription.	Directly models the **P1 (Monthly Pass)** financial barrier. (Note: Only one of the two price metrics can be >0 at a time).
Scope & Scale	**Number of Kiosks**	Number of operational kiosks	Measures the physical scale, convenience, and reach (relates to the 11-kiosk target).
Inventory Cost	**Average Standard Item Price**	Average **purchase price** of a standardized item (e.g., small tool).	Necessary for modeling the cost structure of **C2 (Standardized)** inventory.
Inventory Cost	**Average Custom Item Price**	Average **purchase price** of a customized item (e.g., specific sports equipment).	Necessary for modeling the cost structure of **C1 (Customized)** inventory.
Inventory Customization	**Customized Inventory Ratio**	Percentage of the total inventory value/count that is tailored to a specific neighborhood (0-100%).	The primary lever to model the difference between **C1 (Customized)** and **C2 (Standardized)**.

Other Value Proposition Components of “**Kiosk Service & Access**”:

Additional Value Proposition Components (Operational and Impact Outcomes)

This table contains the outcome components, which are influenced by the levers above and the chosen Operational Alternative (A-F).

Key Metrics and Measurable Aspects

Category	Component Name	Quantifying Metric (Ratio Scale)	Rationale for Inclusion
Operational Experience	**Stockout Delay**	Average time a user waits for a currently unavailable (rented out or out-of-stock) desired item to become accessible.	**Models the Stockout Problem:** This is the critical measure of user pain due to high utilization/low inventory depth. It is impacted by inventory size, rental period policies, and the efficiency of the Item Custodian. (Formula too difficult..)

Operational Experience	**Service Reliability**	**Service Reliability, or Kiosk Operational Uptime, is the percentage of time a digital kiosk is fully functional, available, and ready for use by the end-user.**	**It is defined by the relationship between two key operational metrics for a repairable asset:** **Mean Time Between Failures (MTBF):** The average time the kiosk operates without a failure, representing the good, reliable run-time. **Mean Time To Repair (MTTR):** The average time required to perform a repair and return the kiosk to a fully operational state after a failure, representing the downtime. **The Kiosk Operational Uptime Percentage is calculated as follows:** **Service Reliability = MTBF * 100 / (MTTF + MTTR)**
Local Value	**Inventory Utility Score**	**Strategic Item Relevance Index (IRI) as a weighted score (0-10), that determines the actual value of the inventory by assessing the balance between user needs and financial viability.**	**It is a product of two factors:** 1. **Proven Relevance (Weighted Sub-Score): A measure of how well the inventory matches the local need,**

			quantified by a weighted average where strategic intent (Customized Inventory Ratio) receives 60% and demonstrated user adoption (Utilization Rate from the previous quarter) receives 40%. 2. **Financial Sustainability (The Critical Multiplier): A mandatory gate that scales the Relevance Sub-Score based on cost. It perfectly enforces the owner's profit mandate by driving the total score to zero (or negative) if the Average Custom Item Price exceeds the Benchmark Custom Item Cost, which is the internally set, non-negotiable financial maximum for**

			items that allows the overall project to be scalable and profitable. **In short, it is the score that answers: "Is the most utilized inventory both strategically relevant and financially responsible for expansion?"** **Formula:** Inventory Utilization Score (IUS) = (6 * Customized Inventory Ratio / 100 + 4 * Utilization Rate / Benchmark Utilization Rate) * (1 - Average Custom Item Price / Benchmark Custom Item Cost) **(See below for explanation)**
Social Impact	**Net CO2e Impact per User per Month**	The calculated difference between all Greenhouse Gas (GHG) emissions caused by the project (costs) and all GHG emissions prevented by the project (savings), divided by the number of active users and the number of months in the reporting period.	**Models the primary strategic mandate from the Sponsor and the core Behavioral Impact goal.** **Formula (see it explained below):** Net CO2e Impact per User per Month =

		It represents the project's total environmental balance (costs minus savings), distributed across the actively engaged user base over a monthly period. Its value is designed to answer the core strategic question: "After accounting for the environmental cost of the infrastructure and operations, what is the final environmental impact (saving or cost) generated by the average user each month? Unit: kg CO2e/user/month	(((Averted CO2e per Custom Use * Customized Inventory Ratio/100) + Averted CO2e per Standard Use * (1 - Customized Inventory Ratio/100)) * Utilization Rate * Number of Kiosks - (Kiosk CO2e Amortized Cost / 3)) / Total Active Users per month **Note**: A Quarter has 3 Months
Social Impact	**Utilization Rate**	The total number of bookings per kiosk per month. This count covers the use of both per-use payers and subscription users.	**Key for the 1,000 users to break even target and for measuring social adoption. (SEE BELOW FOR HOW THIS ONE IS CALCULATED FROM OTHERS)**

Calculation of Environmental Savings

Environmental savings are based on **averted purchases** (i.e., **prevented, avoided, or turned away)** and that the lifecycle cost of the shared item and the kiosk itself must be factored in.

Due to the level of abstraction of scenario planning in Strategyplanner, the calculation is based on **averaged** and **categorized** metrics (Standard vs. Custom) instead of specific item-by-item tracking. The final result is the **Estimated Average CO2e/month savings per active user**.

1. Input Values (Metrics)

These are the foundational metrics required for the calculation:

Value Name	Definition	Source/Type
LC CO2e Footprint Standard Item	The full carbon cost of manufacturing, shipping, and disposing of one purchased standard item (e.g., a new sports item).	Item Vendor Input Value
LC CO2e Footprint Custom Item	The full carbon cost of manufacturing, shipping, and disposing of one purchased custom item (e.g., a new drill).	Item Vendor Input Value
Displacement Factor Standard	The estimated average number of times a shared standard item must be borrowed from the service to convincingly replace a single purchase. This factor is typically estimated through market studies and behavioral science. **Note**: The best vehicle for delivering the value of Displacement Factor Standard is Value Proposition “Adoption Drive”. This is for the following reasons: • The DF is a metric of successful behavioral change (i.e., people choosing to share instead of buy). • The "Adoption Drive" is the initiative (carried out by the Community Enabler role) specifically responsible for driving user adoption and engagement. This is the action that directly increases the DF.	Input Value

	Other, less appropriate candidate VP's are: • Shared Physical Items: This represents the asset itself, which has the initial, inherent environmental cost (LC CO2e Footprint). • Utilization & Fees is the financial result of a high Displacement Factor. High DF leads to high utilization, which generates fee revenue.	
Displacement Factor Custom	The estimated average number of times a shared custom item must be borrowed from the service to convincingly replace a single purchase. This factor is typically estimated through market studies and behavioral science.	Input Value
Averted CO2e per Standard Use	The estimated lifecycle CO2e footprint (e.g., from raw material to disposal) of an averted purchase for a Standard inventory item, averaged across all standard items. (kg CO2e/booking)	Calculated. Averted CO2e per Standard Use = LC CO2e Footprint Standard Item / Displacement Factor Standard
Averted CO2e per Custom Use	The estimated lifecycle CO2e footprint (e.g., from raw material to disposal) of an averted purchase for a Customized inventory item, averaged across all customized items. (kg CO2e/booking)	Calculated. Averted CO2e per Custom Use = LC CO2e Footprint Custom Item /

		Displacement Factor Custom
Utilization Rate (Bookings/kiosk/Period)	The total number of bookings per kiosk per month. This count covers the use of both per-use payers and subscription users.	bookings/kiosk/month Kiosk Operational Data
Customized Inventory Ratio	Percentage of the inventory value/count that is customized.	IUS Calculation Input
Kiosk CO2e lifespan impact	The total estimated CO2e impact (from manufacturing, maintenance, etc.) for a single kiosk.	
Kiosk Useful Life	The estimated useful life of the kiosk, expressed in years (e..g, 10 years) (See it defined elsewhere, for depreciation purpose)	
Kiosks Disposed	The quantity of physical kiosks that are formally retired, removed from service, and written off the balance sheet within a specific year. This occurs when the asset reaches the end of its projected Useful Life.	
Kiosks Acquired	The quantity of new physical kiosks that are acquired and put into service within a specific year.	
Kiosk CO2e Amortized Cost	The total estimated CO2e impact of the kiosk's infrastructure, power, maintenance, and logistics, across all kiosks, divided by their expected lifespan and expressed on a period basis. (**Note**: amortizing is for intangible assets, what depreciating is for tangible assets.)	Internal Cost/Assumption Formula: ~~“Kiosk CO2e Amortized Cost”(t) = ∑{i=max(0, t -~~

		~~L), t - 1} ("Kiosks Acquired"(i) * "Kiosk CO2e lifespan impact"(i) / "Kiosk Useful Life"(i))~~ "Kiosk CO2e Amortized Cost"(t) = ∑{i=1,t}("Kiosks Acquired"(i) * "Kiosk CO2e lifespan impact"(i) / ("Kiosk Useful Life"(i) * 4)) - ∑{i=1, t} ("Kiosks Disposed"(i) * "Kiosk CO2e lifespan impact"(**i-4*L**) / ("Kiosk Useful Life"(**i-4*L**) * 4)) (See also Kiosk Depreciation Cost for similar formula) (lifespan in years, whereby a year has 4 quarters)
Total Active Users per Month	The total number of unique individuals, across all kiosks, who have used any service from the kiosk during the month.	Kiosk Operational Data

-----2. Calculation Formula (Step-by-Step)
f Your final metric, **Estimated Average CO2e/month savings per active user**, is the final output of this two-step process.

Step 1: Calculate the Total Monthly Gross CO2e Savings

This step calculates the environmental saving across all items, *before* subtracting the kiosk's operating cost.

1. The estimated total saving per booking is calculated by weighting the savings for Standard and Custom items based on the inventory mix:
   Average CO2e Saving per Booking = **Averted CO2e per Custom Use** * **Customized Inventory Ratio/100** + **Averted CO2e per Standard Use** * (1 - **Customized Inventory Ratio/100**)
2. **Total Monthly Gross CO2e Savings** equals *Average CO2e Saving per Booking* multiplied by the **Utilization Rate (Bookings/Period)**, and multiplied by the **Number of Kiosks** (because Utilization Rate is per kiosk).

Step 2: Calculate the Final Estimated Average CO2e/month Savings Per Active User

This is the final step that accounts for the kiosk's own environmental cost and normalizes the saving to the per-user metric.

1. **Total Monthly Net CO2e Savings** equals **Total Monthly Gross CO2e Savings** minus **Kiosk CO2e Amortized Cost per Month**.
2. **Estimated Average CO2e/month savings per active user** equals **Total Monthly Net CO2e Savings** divided by **Total Active Users per Month**.

Calculation and Role of the Inventory Utility Score (IUS)
The Inventory Utility Score (IUS) is a strategic measure of product and assortment effectiveness, separate from overall service satisfaction. It is a composite measure derived from observable strategic inputs, ensuring it is grounded in both project strategy and user performance.

Proposed Formula:

Inventory Utilization Score (IUS) = (6 * Customized Inventory Ratio / 100 + 4 * Utilization Rate / Benchmark Utilization Rate) * (1 - Average Custom Item Price / Benchmark Custom Item Cost)

Variable	Description
Customized Inventory Ratio	The percentage of inventory value/count that is customized (0-100%).
Utilization Rate	The total number of bookings per kiosk per month. This count covers the use of both per-use payers and subscription users.

Benchmark Utilization Rate	The target or highest acceptable Number of Bookings per Kiosk per Month, used to normalize the Utilization Rate to a score of 0-100.
Average Custom Item Price	The CapEx/OpEx cost of a custom item.
Benchmark Custom Item Cost	The highest acceptable cost for a custom item (a fixed threshold in the model, from the perspective of the Owner).

-----The formula works as a two-part filter: first, a weighted assessment of **Proven Relevance**, and second, a critical multiplier for **Financial Sustainability**.

1. Proven Relevance (The First Bracket)

The first bracket measures product-market fit using a 60/40 weighting:

- **Customized Inventory Ratio (Weighted at 60%):** Captures the strategic intent to meet specific local community needs.
- **Utilization Rate (Weighted at 40%):** Provides user validation. The actual **Utilization Rate** is normalized against the **Benchmark Utilization Rate** to give a score between 0 and 100, ensuring the final IUS is a count of usage tied to a strategic goal.

The entire term is divided by 100 to produce a normalized score between 0 and 10.

2. Financial Sustainability (The Second Bracket)

The entire utility score is constrained by the financial viability of the inventory using the multiplier: [1 - (Average Custom Item Price / Benchmark Custom Item Cost)]. This term acts as a mandatory financial guardrail tied to the Owner's mandate for a scalable, profitable business model.

- If the item price equals the **Benchmark**, the multiplier is **0**, setting the entire IUS to zero.
- If the item price exceeds the **Benchmark**, the multiplier becomes a negative number, resulting in a **negative IUS**. This correctly signals that the inventory is financially unsustainable, regardless of its user utilization.

The **Benchmark Custom Item Cost** is a critical financial cap, derived to ensure the project meets the required profitability standard for expansion. By intentionally avoiding operational flaws (which are measured by the separate **Operational Experience Score - OES**), the IUS remains a focused measure of the inventory's strategic success

2. The Benchmark Custom Item Cost is a Strategic Necessity, Not a Preference

It is not simply that FB "does not want to pay more," but rather that **they cannot** if the project is to be considered a success and be scaled across all their properties.

- The Benchmark Custom Item Cost is the **critical threshold** that separates a successful, scalable pilot from an expensive, one-off experiment that must be shut down.
- For FB, a public-facing but profit-driven company, paying above the benchmark Custom Item Cost would jeopardize the project's ability to achieve one of its core, agreed-upon thresholds: proving a sustainable **cost per use**.

3. How the Benchmark Custom Item Cost is Determined

The document defines the Benchmark Custom Item Cost only as "the highest acceptable cost for a custom item (a **fixed threshold in the model**)."

While the specific mechanism for setting the number is not explicitly provided in the text, based on the business model:

- **It is derived from the **Break-Even Cost Per Use**: The Benchmark Custom Item Cost is an **internally calculated financial cap** that works backward from the overall target "cost per use."
- This cap is set at the point where the Average Custom Item Price, when amortized and combined with all other operational costs (kiosk OpEx, labor, maintenance), still allows the final **Utilization & Fees** revenue stream to meet FB's profit requirement (profit if possible..).
- It is a fixed number used in the model to force every scenario to prove its financial viability against a rigid, non-negotiable profitability standard.

So, **IMPORTANTLY**:

- **In What-If Scenario Analysis:** The Benchmark Custom Item Cost is used as a **manual input** (a fixed threshold) to test a scenario. You can set the cap to a certain level to see if a proposed Operating Model Alternative (A-F) remains financially viable.
- **In Optimization (Constraint Solving):** It represents the **maximum acceptable cost** that a system/solver would calculate to ensure the project remains sustainable—specifically, to guarantee that the required (if possible..) **profit on every property** (Familjebostäder's mandate) can be achieved once all costs (including the amortized item price) are factored in.

It is the necessary boundary that ensures any high Inventory Utility Score is not achieved at the expense of overall profitability.

3. The Perfection of Analytical Integrity

Finally, the IUS formula is a perfect metric because of what it **excludes**. By focusing purely on **Product Fit and Cost**, it intentionally avoids conflating utility with service quality.

- Operational flaws (like a broken kiosk or long queue times) are perfectly measured by the separate **Operational Experience Score (OES)**. (see below)

This architectural separation ensures that the IUS is a **measure** of the inventory strategy, allowing for flawless analysis in the Strategyplanner tool to distinguish whether success or failure is due to *what was stocked* (IUS) versus *how it was delivered* (OES).

IUS vs. Overall End User Satisfaction

The IUS should not be the sole measure of overall End User Satisfaction. In Strategyplanner, it is architecturally stronger to separate the success factors: HIE

- **Inventory Utility Score (IUS):** Measures Product Fit. *Does the inventory match the local need?*
- **Operational Experience Score (OES) (Derived from Wait Time & Reliability):** Measures Service Quality. *Can I get the item reliably and quickly?*
- **End User Satisfaction (Overall KPI):** This is the final, highest-level KPI, which is calculated as a Weighted Average of IUS, OES, and the Financial Barrier (derived from Use / Monthly Fee).

This separation allows your Scenario Executions to clearly identify whether the plan is succeeding or failing due to the choice of what to stock (IUS) versus the efficiency of how it is delivered (OES).

Operational Experience Score (OES)

The **Operational Experience Score (OES)** is the measure of **Service Quality**, designed to perfectly isolate the performance of the physical and digital delivery system from the strategic success of the inventory. It specifically answers the user's question: *Can I get the desired item reliably and quickly?*

Relevance (Plausibility)

The OES is a vital and plausible metric because it ensures that a high demand (a high Inventory Utility Score) is not undermined by poor execution. It allows the Strategyplanner tool to perfectly diagnose if a project failure is due to a **Product Fit** issue (IUS) or a **Delivery Efficiency** issue (OES), which is critical for making correct operational decisions.

Component Name	Clear Definition	How it is Calculated and Why	Integral Formula in English (0-10 Scale)

Operational Experience Score (OES)	The final score (on a 0 to 10 scale) representing the quality, speed, and reliability of the sharing kiosk service delivery.	The score is the simple average of the two core operational success metrics: **Kiosk Uptime** (Service Reliability) and **Item Availability** (Item Wait Time). This averaging ensures that a failure in *either* the technology (kiosk breaking) or the logistics (inventory being out-of-stock) equally impacts the perceived service quality.	Formula of Operational Experience Score: Operational Experience Score (OES) = ((Service reliability / 10) + (1 - (Stockout Delay / Benchmark Stockout Delay)) * 10) / 2
Benchmark Stockout Delay	The **longest acceptable waiting time** for a user to access a desired item (the limit of the **Stockout Delay**) before the service quality is officially deemed a failure in the model.	Used as normalization factor in the formula of Normalized Item Availability Score	**Modeling Input:** It is a **Strategic Input** value that is either manually set in scenario analyses or determined by the constraint solver to ensure that operational logistics meet the project's overall profitability and end-user satisfaction goals.

Three more scores underlying End User Satisfaction

The three additional components for the **End User Satisfaction (Overall KPI)** have been worked out below, ensuring they provide the necessary rigor and detail to perfectly measure the full user experience alongside the existing scores (Inventory Utility Score, Operational Experience Score, and Financial Barrier Score).-----1. Customer Support Score (CSS)

The **Customer Support Score (CSS)** measures **Service Recovery Quality**. It assesses the effectiveness and speed of the human and digital support systems when a user encounters a problem.

Component Name	Clear Definition	Formula
Customer Support Score (CSS)	The final score (on a 0 to 10 scale) representing the quality, speed, and helpfulness of the support system. It measures **Service Recovery Quality**. It assesses the effectiveness and speed of the human and digital support systems when a user encounters a problem.	**CSS** = (10 * (1 - (Average Resolution Time / Benchmark Resolution Time)) + Support Survey Score) / 2
Average Resolution Time	The total elapsed time, averaged across all support tickets, from the moment an **End User reports an issue** until that issue is **fully resolved** (ticket closed) to the customer's satisfaction. This is a customer-facing metric that includes, but is not limited to, the MTTR (actual repair time).	Input
Support Survey Score	The customer survey score (on a 0 to 10 scale) collected immediately after a **support interaction** (e.g., phone call, chat session). It measures the customer's satisfaction with the helpfulness and resolution provided by the support team.	
Benchmark Resolution Time	The longest acceptable time (in hours) to resolve a support ticket before the service is deemed to have failed in its recovery process.	Input

-----2. Item Quality Score (IQS)

The **Item Quality Score (IQS)** measures **Product Condition and Durability**. It isolates the success of the Item Custodian role in maintaining the quality, cleanliness, and reliability of the shared physical inventory.

Component Name	Clear Definition	Formula
Item Quality Score (IQS)	The final score (on a 0 to 10 scale) representing the average condition and reliability of the shared inventory items. It measures **Product Condition and Durability**. It isolates the success of the Item Custodian role in maintaining the quality, cleanliness, and reliability of the shared physical inventory.	**IQS** = (10 * (1 – (Average Inventory Fault Rate / Benchmark Inventory Fault Rate)) + 10 * (1 - (Average Inventory Age / Max Acceptable Age))) / 2
Average Inventory Fault Rate	The total number of confirmed instances where a shared inventory item was reported as broken, damaged, or immediately returned due to a defect, normalized and expressed as a rate **per 100 uses (or transactions)** in a given period. It is a direct measure of the overall quality and reliability of the active item	Input
Average Inventory Age	The average age (in years or months) of all active items in the shared inventory pool, typically measured in months or years from the date of initial procurement (purchase/donation) to the end of the current period. This measures the freshness and physical lifespan of the assets. A high score suggests the **Item Custodian** is not sufficiently retiring or replacing older inventory items.	Input
Max Acceptable Age	The maximum lifespan (in years or months) that an item in the shared inventory is permitted to remain in active service before it is designated for mandatory retirement or replacement. This is a strategic threshold set by the project to ensure the overall inventory is consistently fresh and visually appealing, minimizing the perceived age penalty on the Item Quality Score.	

Benchmark Inventory Fault Rate	The maximum acceptable percentage of reported faults per 100 uses before inventory quality is deemed a systematic failure.	Input

-----3. Perceived Ease of Use Score (PEUS)

The **Perceived Ease of Use Score (PEUS)** measures the **Digital Usability Experience**. It assesses the cognitive and physical effort required to complete a rental transaction using the app and kiosk interface.

Component Name	Clear Definition	Formula
Perceived Ease of Use Score (PEUS)	The final score (on a 0 to 10 scale) representing the simplicity and intuitiveness of the user transaction process. It measures the **Digital Usability Experience**. It assesses the cognitive and physical effort required to complete a rental transaction using the app and kiosk interface.	**PEUS** = (10 * (1 - (Average Steps per Transaction / Benchmark Max Steps)) + Simplicity Survey Score) / 2
Average Steps per Transaction	The average number of discrete user actions (taps, clicks, screen scrolls, form inputs) required to complete a defined, high-value user flow. The most common flow is typically **Search for Item > Reserve Item > Navigate to Kiosk > Unlock Locker > Check Out/Confirm Use**. This metric objectively measures the complexity and efficiency of the digital platform, serving as a direct input for the **Perceived Ease of Use Score (PEUS)**.	Input
Simplicity Survey Score	The customer survey score (on a 0 to 10 scale) collected immediately after a **transaction** or key flow. It measures the customer's satisfaction with the **ease of use** and simplicity of the app/kiosk interface. This is also often referred to as a **System Usability Score (SUS) Proxy**.	Input

Benchmark Max Steps	The maximum acceptable number of steps a user must take to complete the entire transaction process.	Input

End User Satisfaction (Overall KPI)

See the table below.

Component Name	Clear Definition	How it is Used	Formula
Use Fee	See above		
Benchmark Use Fee	The fixed, strategic maximum acceptable price (in SEK) that the project can charge an End User for a single transaction or rental (Price per Use).	It acts as the normalization factor for the Price per Use. The actual Price per Use is divided by the Benchmark Use Fee to determine how close the current fee is to the unacceptable maximum.	
Monthly Fee	See above		
Benchmark Monthly Fee	The fixed, strategic maximum acceptable price (in SEK) that the project can charge an End User for a monthly subscription or membership fee (Price Per Month).	It acts as the normalization factor for the Price Per Month. Similar to the use fee, the actual Price Per Month is divided by the Benchmark Monthly Fee to determine if the subscription cost is creating a financial impedance.	
Financial Barrier Score (FBS)	The Financial Barrier Score is a normalized score (0-10) that assesses the end-user's financial impedance to using the service. It is derived by comparing	measure of **Affordability and Accessibility** for the end-user. It specifically quantifies the project's success in meeting its social goals by ensuring the service's	Financial Barrier Score **Formula:** Financial Barrier Score = ((Per Use Payers * (10 * (1 - (Use Fee / Benchmark Use Fee))

	the actual fees charged to a predetermined, strategically acceptable maximum price threshold (Benchmark Fees). The higher the price compared to the benchmark, the lower the score.	cost (Use Fee and Monthly Fee) does not create a barrier to adoption. The FBS is a necessary and highly plausible component of the **Overall End User Satisfaction KPI** for the following reasons: 1. **Social Mandate:** The project explicitly targets social goals like affordability and inclusion (especially in areas like Eriksbo). A perfect service (high IUS and OES) will fail to meet this mandate if the price makes it inaccessible to the target tenant population. 2. **Behavioral Impact:** High fees deter utilization. The FBS ensures the financial model supports the core goal of driving user adoption and sustainable behavior change, rather than simply maximizing	)) + (Subscription Users * (10 * (1 - (Monthly Fee / Benchmark Monthly Fee))))) / Total Active Users per Month **Note**: This is weighted by the corresponding user group sizes.

		short-term revenue. 3. **Complete Picture:** It provides the missing third dimension, alongside Product Fit (IUS) and Service Quality (OES), to give a complete, three-dimensional view of the project's overall health. How it is Applied The score is calculated by taking an inverted, weighted average of the two fee structures—**Price per Use** and **Price Per Month**—after each is normalized against a **Benchmark Fee** (the highest acceptable fee) to ensure the resulting score is scaled from 0 to 10.Integral Formula in English (Derived Structure) **Inputs Required:** 1. **Price per Use:** The actual fee charged for a single transaction/use. 2. **Benchmark Price per Use:** The strategic maximum acceptable fee	

		for a single use. 3. **Price Per Month:** The actual monthly subscription or membership fee. 4. **Benchmark Price per Month:** The strategic maximum acceptable monthly fee. 5. **Weight of Use Fee** and **Weight of Monthly Fee:** Strategic input weights (must sum to 1.0 or 100%) to prioritize one fee structure over the other.	
End User Satisfaction (Overall KPI)	The End User Satisfaction (Overall KPI) is a single, normalized score (0-10) that quantifies the overall performance of the sharing service by synthesizing the core elements of the business model: product relevance, service delivery quality, financial accessibility, customer support, inventory quality and ease of use.	This structure ensures that the project's success is assessed against all six required pillars: 1. **Product Relevance (IUS)** 2. **Service Delivery Quality (OES)** 3. **Financial Accessibility (FBS)** 4. **Service Recovery Quality (CSS)** 5. **Product Condition (IQS)** 6. **Digital**	End User Satisfaction formula: End User Satisfaction = ((Weight of IUS * Inventory Utility Score) + (Weight of OES * Operational Experience Score) + (Weight of FBS * Financial Barrier Score) + (Weight of CSS * Customer Support Score) + (Weight of IQS * Item Quality Score) + (Weight of PEUS * Perceived Ease of Use Score)) 100 ***Note:*** *The sum of all six weights (Weight of IUS + Weight of OES +*

		Usability Experience (PEUS) Any scenario that fails one of these three tests will result in a lower Overall KPI, providing a complete and truthful assessment of the project's health before making decisions about scaling	*Weight of FBS + Weight of CSS + Weight of IQS + Weight of PEUS) must equal 1.0 (or 100%) for the final score to be correctly scaled from 0 to 10.*

Note: There is a difference between the weights used in two formulas, and it is entirely intentional:

1. **IUS Weights (6 and 4, see above) are FIXED and DEFINITIONAL:**
    - **Purpose:** These weights are **internal** to the definition of the **Inventory Utility Score (IUS)**. They are not meant to be changed.
    - **Rationale:** They establish the project's core assumption that a perfect "Product Fit" is **60% based on strategic choice** (**Customized Inventory Ratio**) and **40% based on proven user demand** (**Utilization Rate**). Changing these weights would fundamentally change the meaning of the IUS metric itself.
    - **Function:** Their mathematical role is to create a combined "Relevance" sub-score that is perfectly scaled from 0 to 10 (as $600 + 400 = 1000$, which is divided by 100 to get a maximum of 10).
2. **End User Satisfaction (Overall KPI) Weights, see above, are FLEXIBLE and STRATEGIC:**
    - **Purpose:** These weights are **external** to the individual component definitions (IUS, OES, Financial Barrier). They are designed to be **user-settable (flexible)**.
    - **Rationale:** They allow the Scenario Planner to test how the project's success is affected by changing priorities. For example:
        - In a growth phase, you might set a very high **Weight of IUS** (e.g., 60%) to prioritize getting the product assortment right.
        - In a maturity phase, you might set a higher **Weight of OES** (e.g., 40%) to prioritize service stability and reliability.

In short, the IUS formula uses fixed weights to **define** what "good inventory" means, while the Overall KPI formula uses flexible weights to **prioritize** which aspects of the project are most critical to success in any given scenario.

Completing the business model calculations for the Owner

Here is the complete, integrated structure for the Owner's **Profit & Loss (P&L)** model, including the crucial Risk and Asset Management variables.

Owner's Integrated P&L and Risk Model Structure

This structure encompasses all revenues and costs associated with the Value Proposition Exchanges and incorporates the operational risks (failure, theft, maintenance, and warranty) as measurable variables.

Revenue Streams

Revenue is received from primary operational sources, external grants, and internal operational funding.

Here is the table summarizing the requested utilization and revenue metrics, including their definitions, application, and formulas based on the strategic modeling framework.

Component Name	Definition	Application / Plausibility	Formula (Calculated Fields Only)
Utilization Rate / Bookings per Kiosk per Period	The total number of bookings per kiosk per month. This count covers the use of both per-use payers and subscription users.	**Basis for Scores and Revenue Volume:** This single metric is the fundamental operational volume for the entire project. It is critical for: 1) Measuring demand saturation for the **Inventory Utility Score (IUS)**. 2) Serving as the volume metric for **Transaction Revenue** (which is volume-dependent).	Utilization Rate Transactional + Utilization Rate Subscription

Total Active Users per Month	The **total number of *unique individuals*** who have used **any service** from the kiosk during the month. This includes all users regardless of their payment type (Subscribers and Per Use Payers). It is across all kiosks.	**Reach & Normalization:** Used as the primary metric of community reach (adoption). It is the multiplier for **Subscription Revenue** and the **denominator in the "Net CO2e Impact per User per Month"** formula.	Total Active Users per Month = Subscription Users + Per Use Payers
Subscription Users	The subset of Total Active Users who pay a fixed, recurring **Price Per Month** fee for service access. It is across all kiosks.	**Source for Subscription Revenue:** This is the correct headcount for calculating the recurring revenue stream.	Not Applicable (Input metric from operational user data)
Per Use Payers	The subset of unique individuals who have no subscription but only pay a **Price per Use fee** when they book an item, and who have completed at least one transaction during the **reporting period**. It is across all kiosks.	**For Segmentation:** A headcount input for internal reporting; this population generates the transactional revenue.	Not Applicable (Input metric from operational user data)
Utilization Rate Transactional	The utilization derived specifically from bookings made by Per Use Payers, per kiosk per month.	**For Segmentation:** A conceptual metric necessary for internal reporting to segment the total Utilization Rate by payment model.	Not Applicable (Requires manual operational segmentation)
Utilization Rate Subscription	The utilization derived specifically from bookings made by Subscription	**For Segmentation:** A conceptual metric necessary for internal reporting to	Not Applicable (Requires manual

	Users, per kiosk per month.	segment the total Utilization Rate by payment model.	operational segmentation)
Transaction Revenue	The total monetary income derived solely from individual, per-use fees for borrowing items.	**Revenue Stream:** One of the two primary user-facing revenue streams. It is volume-driven by the **Bookings per Kiosk per Period** metric.	Transaction Revenue = (Utilization Rate Transactional * Use Fee) * Total Number of Kiosks * 3 **Note**: 3 months per quarter
Subscription Revenue	The total monetary income derived solely from recurring fixed fees paid by Subscription Users.	**Revenue Stream:** The second primary user-facing revenue stream. It is headcount-driven by the **Subscription Users** metric.	Subscription Revenue = Subscription Users * Monthly Fee * 3 **Note**: 3 months per quarter
Fee Revenue	The total direct monetary income from all End User payments, regardless of payment type (Subscription or Transactional).	**Aggregation:** The total sum of the two direct user payment streams (Transaction Revenue and Subscription Revenue).	Fee Revenue = Transaction Revenue + Subscription Revenue
External Grant	Funding provided from external, non-operational, or subsidized sources (e.g., grants from The EU).	**Funding Source:** This represents capital for specific goals but is not considered a sustainable operating revenue source.	Not Applicable (Input metric from financial data)

Revenue (Total Revenue)	The sum of all monetary income streams over a period.	**Project Profitability:** The top-line metric used to determine if the project achieves the mandated 5% profit target after all costs are deducted.	Total Revenue = Fee Revenue + External Grant
Average Data Package Price	The single, assumed price for a standardized data package license.	This value abstracts the complexity of data volume, package duration, and price negotiation into a single input for the model.	Money Amount per Package
Data Package Demand	The projected or committed total number of data packages (licenses) that the Data Licensee is expected to purchase in a given period.	This is the key volume forecast.	Number of Packages per Period
Data Revenue	The total income for a period from licensing aggregated and anonymized usage data from the kiosks.		Data Revenue = Average Data Package Price * Data Package Demand

Secondary Revenue Share	The payment received by the Service Operator from the Commercial Partner as a fee for the enablement and management of secondary, non-core revenue streams (such as in-kiosk advertisements and promotions).		See below for Secondary Revenue Share
Overdue Fee Revenue	The total income generated from items returned late by End Users		See below for Late Return Fee

Note: All three metrics—**Subscription Users**, **Per Use Payers**, and **Total Active Users**—are intended to be **aggregated totals across all kiosks**.

Fee Revenue: Not for the city and the housing company

Based on the functional structure and the implicit mandates of the City and Familjebostäder (FB), it is highly likely that the **Site Rental Fee** is legally permissible, while the direct collection of **End User Fees** is not.

This assumption rests on a fundamental legal distinction in the public domain:

The Legal Distinction

Category	End User Fees	Site Rental Fee / Market Dues
Function	Compensation for a **commercial service** (the lending of items and management of the transaction).	Compensation for the **use of public property** (the physical location/land).

Role of City/FB	Acting as a **Service Operator** (a commercial party).	Acting as a **Site Provider** (administrator of municipal property/land).
Legal Basis	Often restricted by **municipal or competition laws** (to prevent competition with the private market or to secure the public mission). The City/FB may not pursue profit maximization through direct commercial services.	Generally **permitted** as a charge for the management, security, and maintenance of public assets or territory, or as an administrative fee (like a permit or license).
Comparison	Direct, commercial revenue.	Indirect, administrative revenue (comparable to collecting rent or a right-to-use fee).

Conclusion

The logic of the project structure dictates that the **Site Rental Fee** functions as the "market due" or "pitch fee". It is a contractual compensation for the use of the municipal location and falls under the City's/FB's mandate to manage its own assets, rather than a mandate to operate a commercial service.

Therefore, FB/the City can likely legally:

- **Receive** a Site Rental Fee from the Vendor (as compensation for the use of their land/property as the **Site Provider**).
- **Not receive** End User Fees (as this would constitute direct commercial exploitation, which would likely violate their mandate as a public entity).

Secondary Revenue Share

This table outlines the purpose and calculation of each value within the context of the Commercial Partner's revenue stream.

Name	Definition	Formula / Type
Third-Party Access Rate	The contractual percentage that determines the portion of the total kiosk network made	Input

	available for the Commercial Partner's promotional efforts.	
Gross Revenue Per Accessible Kiosk	The estimated or assumed average monetary value generated by the Commercial Partner from a single accessible kiosk over a given period (e.g., one quarter).	Input
Service Operator Provision Rate	The fixed contractual percentage the **Service Operator** receives from the **Commercial Partner Gross Revenue** in exchange for providing and managing the commercial engagement platform/space.	Input
Secondary Revenue Share	The **payment** received by the **Service Operator** from the **Commercial Partner** as a fee for the enablement and management of secondary, non-core revenue streams (such as in-kiosk advertisements and promotions).	Calculated Secondary Revenue Share = Gross Revenue Per Accessible Kiosk * (Number of Kiosks * Third-Party Access Rate / 100) * (Service Operator Provision Rate / 100)

Late Return Fee

The table below analyzes how it is calculated.

Operand in your formula	Recommended Name	Definition
Percentage of the transations that are overdue in return	**Overdue Rate** (or **Late Return Percentage**)	The proportion of all lending transactions that result in a late return of the item.

Average overdue number of days	**Days Overdue** (or **Mean Overdue Duration**)	The average time (in days or hours) that an overdue item is kept late before it is finally returned to the kiosk.
Price per day overdue	**Overdue Fee** (or **Late Return Daily Rate**)	The fixed monetary charge levied against the borrower for each day (or part of a day) an item is kept beyond its agreed-upon return time.

The resulting calculated value would be named Projected Overdue Fee Revenue or Late Fee Revenue.

The complete formula would be:
Overdue Fee Revenue = (Overdue Rate / 100) * Utilization Rate * 3 * Number of Kiosks * Days Overdue * Overdue Fee

Note: this gives proper units, as follows:
Revenue Unit = (Overdue Bookings / Total Bookings) * (Total Bookings / (Kiosk * Month) * (Months / Quarter) * Kiosks) * Days * (EUR / (Day * Overdue Booking))

Site Provision Revenue

E.g. from the perspective of the City in Alternative Alt 1-1.

Value	Definition	Unit	Formula
Site Provision Revenue	Revenue from renting out the physical site for the digital kiosks.	Euro (per quarter)	Site Provision Revenue = 'Site Rental Fee * Number of Kiosks * 3

Cost Structure (Owner's Perspective)

Costs are incurred by the Owner to compensate all operational roles for their services and asset acquisition. This is driven by the choice of **Operating Model Alternative (A-F)**.

Recipient Role	Value Proposition (Owner as Provider)	Cost Components to Model
Platform Provider	**Total Platform Service Cost**	See below for how to calculate, dependent on CAPEX versus OPEX

Inventory Buyer	**Buyer's Business**	See below for how to calculate the cost of the Procurement service
Local Operator	**Operation Business**	See below for On-Site Operations Service Cost
Community Enabler	**Adoption Business/Support**	**See below for Adoption Drive Cost Structure**
Item Vendor	**Inventory Business**	**See below for Item Inventory Cost**
Item Custodian	**Custody Business**	See below for the Managed Inventory Service cost
Data Licensee	**Data Licensing Business**	See below for Data Licensing cost
Owner	**Integrated Project Risk Cost**	See Below for how Risk cost is calculated and included
Service Operator	**Commercial Engagement Cost**	See below for how Commercial Engagement Cost is calculated and included
Service Operator	**Site Rental Cost**	See below for how Site Rental Cost is calculated

Kiosk Service Cost (payment to Platform Vendor)

The method for including the cost of the kiosks (Platform Provision by Vendor/CLN) in Familjebostäder's (FB's) Business Model depends on whether the operating model is structured as Capital Expenditure (CapEx) or Operational Expenditure (OpEx).

The document's structured model for the Owner's financial perspective (FB's P&L and Cost Structure) requires treating the cost based on the financial nature of the alternative:

1. CapEx Model

In these alternatives, **Familjebostäder** (or the entity acting as the CapEx buyer, which is FB in A, C, D, F, and the City in E, but the analysis is from **FB's perspective** throughout) buys the assets and assumes ownership/risk.

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure
Asset Acquisition (Input)	Kiosk Acquisition Price	The full capital expenditure (CapEx) cost required to purchase a single digital kiosk or locker unit.	N/A (This is a one-time initial cost)
Asset Amortization (Metric)	Kiosk Useful Life (in periods)	The estimated duration (typically in years) over which a kiosk is expected to be functional, productive, and valuable for the project before it needs to be replaced.	N/A
Ongoing Service (Per Unit)	Platform Maintenance Fee	The recurring operational cost charged to	N/A (This is a per-unit recurring fee)

		maintain the core infrastructure, including the hardware, software, and management system, for a single kiosk.	
Ongoing Service (Per Unit)	Software Subscription Fee	The fixed, recurring operational payment for the ongoing provision, hosting, development, and maintenance of the core software platform, APIs, and end-user interface logic for a single kiosk for a defined period (e.g. monthly).	N/A (This is a per-unit recurring fee)
Kiosk Depreciation Cost	Kiosk Depreciation Cost	The periodic expense that reflects the loss in value of the kiosk hardware over its useful life.	~~“Kiosk Depreciation Cost”(t) = ∑{i=max(0, t - L), t - 1} (“Kiosks Acquired”(i) * “Kiosk Acquisition Price”(i) / “Kiosk Useful Life”(i))~~ “Kiosk Depreciation Cost”(t) = ∑{i=1, t} (“Kiosks Acquired”(i) * “Kiosk Acquisition Price”(i) / (“Kiosk Useful Life”(i) * 4)) - ∑{i=1, t} (“Kiosks Disposed”(i) * “Kiosk

			Acquisition Price"(**i-4*L**) / ("Kiosk Useful Life"(**i-4*L**) * 4)) (whereby L is Kiosk Useful Life) **Note**: • The complexity here is that the acquisition price varies over the periods. • A year has 4 quarters
Platform Operating Cost	Total Platform Service Cost	The total periodic operational expenditure (OPEX) incurred by the Owner for the ongoing software and technical management of all digital kiosks. This cost represents the aggregate payment made to the Platform Provider for the necessary digital infrastructure (software subscription, maintenance, hosting, APIs, and end-user interface logic) to keep the entire	**CAPEX (with some OPEX):** (Software Subscription Fee + Platform Maintenance Fee) × Number of Kiosks * 3 **Or (OPEX only):** Vendor Service Fee * Number of Kiosks * 3 **Note**: Multiplied by 3 to convert from month to quarter

		fleet of kiosks operational.	
(Total Periodic Cost)	N/A	N/A	**Kiosk Depreciation Cost + Total Platform Service Cost**

2. OpEx Model (**Alternative B**: Max Vendor Control) **OPEX !!**

In this alternative, the **Vendor (CLN)** is the Owner and assumes the capital cost and risk, selling a full service to FB.

Component	Value/Term to Use (to be defined in the model)	Definition	Cost Type in FB's BM	Periodic Formula for FB's Cost Structure
All-in-one Service (Per Kiosk Base)	Vendor Service Fee	The fixed, recurring fee paid per kiosk/locker by the Service Operator to the Platform Vendor (Owner), which bundles all capital, maintenance, and operational costs, including the software subscription.	Operating Expense (OpEx)	**CLN Service Fee (per period)**
(All-in-one Service (Total Subscription))	*Platform Service Subscription Cost*	The single, recurring operational charge paid by the Service Operator to the Platform Vendor (Owner) for the complete, bundled digital kiosk service, covering all platform, hardware, maintenance, and operational costs, including the software subscription.	Operating Expense (OpEx)	**Vendor Service Fee × Number of Kiosks**

Total Periodic Cost	N/A	The final, recurring expense for the Service Operator's participation in the digital kiosk initiative, fully represented by the total service subscription cost.	N/A	**Vendor Service Fee × Number of Kiosks**

Rationale: FB does not purchase the asset, meaning there is no depreciation. Instead, FB pays a predictable, recurring OpEx fee to the vendor for the complete service, which includes asset use, maintenance, and software.

<u>CAPEX and OPEX combined</u>

Important: Both calculations (CAPEX and OPEX) can be combined as follows:

Total Platform Service Cost = (Software Subscription Fee + Platform Maintenance Fee + Vendor Service Fee) × Number of Kiosks,

Whereby:

- In the CAPEX case: Vendor Service Fee = 0
- In the OPEX case: Platform Maintenance Fee = 0 and Software Subscription Fee = 0

Procurement Service cost

The best basis for calculating the cost of the **Inventory Buyer**'s Procurement Service—which covers assortment determination and sourcing & contracting—is **Effort-based**, meaning **hours per quarter spent × an hourly labor rate**.

Here is why: The Procurement Service is complex and knowledge-intensive, making an effort-based model most reasonable:

- **Assortment Determination:** This task is about **strategy and customization** ("Establish the local, customized assortment based on neighborhood profiling"). This intellectual effort is based on analysis and decision-making time, not the final number of items purchased.
- **Sourcing & Contracting:** The document notes a **"fragile supplier market"** and the need to **"Execute separate procurements"**. This indicates that the cost is driven by the time required for market research, negotiation, due diligence, and legal contracting, all of which are time-based professional services, not a function of item volume.

The **Effort-based** model is superior because it directly costs the service component:

- **Robustness:** It accurately captures the cost drivers of specialized, non-linear work. For example, negotiating a single complex supplier contract might take 80 hours (high cost) regardless of whether you order 10 items or 100 items from them. A rate-per-item model would fail to account for the true cost of that negotiation time.
- **Maintainability:** Time-tracking (hours spent) is a standard and auditable method for calculating the cost of internal or external professional services, making it easy to maintain and justify.

The alternative—a **rate per item purchased**—is suitable for the direct **cost of the inventory** itself (the physical item cost) but is not appropriate for the specialized **service** (procurement) that enables the purchase.

The effort (hours) for the Procurement Service is largely regardless of the number of kiosks.

Here is the reasoning:

1. **Strategic Nature of the Service:** The two core activities of the Procurement Service are strategic and contractual:
    - **Assortment Determination:** This is the time spent establishing the item selection strategy ("local, customized assortment based on neighborhood profiling"). This strategic work is done for the overall initiative or a specific neighborhood cluster, **not** for each individual kiosk unit.
    - **Sourcing & Contracting:** This is the time spent finding, negotiating, and formalizing contracts with Item Vendors (like Piffl or Library of Toys). Once a master contract with a vendor is established, the effort is complete, regardless of whether you end up purchasing items for 3 kiosks or 30 kiosks.
2. **Cost Driver:** The cost is driven by the **complexity of the vendor market** (as noted in the documents) and the **frequency of strategic review** (e.g., once per year to review the assortment), not by the volume/quantity of the physical assets being served.

The number of kiosks only directly impacts the cost of the **Physical Items** themselves and the **Total Platform Operating Cost** (as shown in the previous tables), but not the fixed, strategic labor cost for the Procurement Service.

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure
Effort: Assortment	Hours on Assortment	The estimated professional hours spent per period on the strategic task of *assortment determination*	N/A (Input: Hours per Period)

		(neighborhood profiling, selection, planning).	
Effort: Sourcing	Hours on Sourcing	The estimated professional hours spent per period on the execution task of *sourcing & contracting* (market research, negotiation, due diligence, and supplier finalization).	N/A (Input: Hours per Period)
Rate	Procurement Labor Rate	The fully loaded, all-inclusive hourly rate used for costing the labor of the Inventory Buyer.	N/A (Input: Rate per Hour)
Procurement Service Cost	Procurement Service Cost	The total periodic cost paid for the Inventory Buyer's professional services, covering both strategic assortment planning and operational supplier sourcing and contracting.	Formula: (Hours on Assortment + Hours on Sourcing) × Procurement Labor Rate

On-site Operations Service cost

Note: Below some Values have been added as well, as variations, to cover the perspective of the Business Model of the Local Partner.

Based on the effort-based model, here is the structured table detailing the costs of the **Local Operator's** service, which is the **On-site Operations Service**.

The cost is driven by the professional effort required for daily management and technical support, with the rate specifically named to distinguish it from other roles in the ecosystem.On-site Operations Service Cost Structure

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure

Effort: Local Management	Hours on Local Management	The estimated hands-on hours spent per period on local logistics, daily on-site service, and general hands-on management of the kiosks.	N/A (Input: Hours per Period)
Effort: Physical Tech Support	Hours on Physical Tech Support	The estimated hours spent per period providing physical on-site technical support for the kiosks, such as resolving malfunctions.	N/A (Input: Hours per Period)
Rate	Operations Labor Fee	The fully loaded, all-inclusive hourly rate used for costing the labor of the Local Operator.	N/A (Input: Rate per Hour)
On-site Operations Service Cost	On-site Operations service Cost	The total periodic cost paid for the Local Operator's service, covering all daily hands-on management, logistics, and on-site physical technical support services to ensure smooth operation of the kiosks.	**(Hours on Local Management + Hours on Physical Tech Support) × Operations Labor Fee**
Rate	Operations Labor Rate	The fully loaded, all-inclusive hourly rate used for costing the labor of the Local Operator **internally**.	N/A (Input: Rate per Hour)

On-site Operations Cost	On-site Operations Cost	The total periodic cost **for the Local Operator's delivery of its service**, covering all daily hands-on management, logistics, and on-site physical technical support services to ensure smooth operation of the kiosks.	**(Hours on Local Management + Hours on Physical Tech Support) × Operations Labor Rate**
On-site Operations Revenue (for Partner !!)	On-site Operations Invoices	The total periodic **revenue for the Local Operator's delivery of its service**, covering all daily hands-on management, logistics, and on-site physical technical support services to ensure smooth operation of the kiosks.	**(Hours on Local Management + Hours on Physical Tech Support) × Operations Labor Fee**

Adoption Drive Cost Structure

Based on the strategic and labor-intensive nature of the activities—especially the need to "Generate local buy-in" to address a key weakness noted in the analysis—the most appropriate cost basis is an **Effort-based** model (Hours per Period * Rate).

The best covering and shortest name for the hourly labor rate for this service is the **Adoption Labor Rate**.

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure
Effort: Tenant Outreach	Hours on Tenant Outreach	The estimated professional hours spent per period on the execution and setup of communication campaigns via the tenant app and local channels to drive user adoption.	N/A (Input: Hours per Period)

Effort: Community Engagement	Hours on Community Engagement	The estimated professional hours spent per period on involving external partners (e.g., Tenants' Org) and organizing social initiatives to build trust and promote usage in the local community.	N/A (Input: Hours per Period)
Effort: Local Ownership	Hours on Local Ownership	The estimated professional hours spent per period on generating local buy-in from neighborhood leaders and residents, a key strategic activity to ensure the project's long-term longevity and success.	N/A (Input: Hours per Period)
Rate	Adoption Labor Rate	The fully loaded, all-inclusive hourly rate used for costing the labor of the Community Enabler. This rate is distinct from other professional rates (e.g., Procurement or Operations).	N/A (Input: Rate per Hour)
Total Adoption Drive Cost	Adoption Drive Cost	The total periodic cost paid for the Community Enabler's service, covering all outreach, communication, marketing, and social initiatives necessary to drive user adoption and engagement, and secure local buy-in.	**(Hours on Tenant Outreach + Hours on Community Engagement + Hours on Local Ownership) × Adoption Labor Rate**

Item Inventory Cost

Here is the cost structure table:

New Input Assumption	Rationale	Suggested Placeholder
Inventory Pool Size	The total number of items a single kiosk holds or can borrow from (e.g., 50 items).	**40 Items/Kiosk**
Total Inventory Pool Size	The cumulative total number of items across the entire inventory pool for all active kiosks.	**Calculated:** ~~"Total Inventory Pool Size"(*t*) = *"Total Inventory Pool Size"*(t-1) + "**Inventory Pool Size**"(t) * ("Number of Kiosks Acquired"(t) – "Number of Kiosks Disposed"(t))~~ "Total Inventory Pool Size"(t) = ∑{i=1, t} ("Kiosks Acquired"(i) * "Inventory Pool Size"(i)) - ∑{i=1, t} ("Kiosks Disposed"(i) * "Inventory Pool Size"(**i-4*L**)) (whereby L is Kiosk Useful Life, and a year has 4 quarters) **Note**: The complexity here is that the Inventory Pool Size varies over the periods.
Inventory Refresh Rate	The percentage of the total inventory pool that needs to be replaced/refreshed due to loss, damage, or curation/rotation (e.g., 20% of the pool).	**20%**

Average Item Price	The average acquisition price of a single item in the inventory.	**Calculated:** “Average Item Price”(t) = ((Customized Inventory Ratio (t) / 100 * Average Custom Item Price(t)) + ((1 - Customized Inventory Ratio(t))/100 * Average Standard Item Price(t)))
Inventory Pool Refreshment Cost	The total operational expenditure (OPEX) incurred in a given period for the recurring purchase of items required to maintain the quality, relevance, and availability of the shared inventory pool. This cost covers the replacement of items lost or damaged, as well as the rotation and addition of new items necessary to keep the assortment attractive and up-to-date for end users.	**Calculated:** “Inventory Pool Refreshment Cost”(t) = “Total Inventory Pool Size”*(t)* * *Inventory Refresh Rate(t)* * “Average Item Price”(t)
Inventory Pool Depreciation Cost	The total depreciation expense for the inventory pool across all active kiosks.	**Calculated:** ~~“Inventory Pool Depreciation Cost”(t) = ∑{i=max(0, t - “Kiosk Useful Life”), t - 1} (“Kiosks Acquired”(i) * “Inventory Pool size” * “Average Item Price”(i) / “Kiosk Useful Life”(i))~~ “Inventory Pool Depreciation Cost”(t) = ∑{i=1, t} (“Kiosks Acquired”(i) * “Inventory Pool size”(i) * “Average Item Price”(i) / (“Kiosk Useful Life”(i) * 4))) - ∑{i=1, t} (“Kiosks Disposed”(i) * “Inventory Pool size”(**i-4*L**) * “Average Item Price”(**i-4*L**) / (“Kiosk Useful Life”(**i-4*L**) * 4))

		(whereby L is Kiosk Useful Life, and a year has 4 quarters) **Note**: • The complexity here is that the Average Item price and, possibly, Inventory Pool Size, vary over the periods. • A year has 4 quarters
Item Purchase Cost	The total periodic cost of the physical inventory items purchased from the Item Vendor.	**Calculated:** “Item Purchase Cost”(t) = “Inventory Pool Depreciation Cost”(t) + “Inventory Pool Refreshment Cost”(t)

Managed Inventory Service Cost

Note: Below some Values have been added as well, as variations, to cover the perspective of the Business Model of the Local Partner.

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure
Input: Volume Driver	Number of Item Maintenance Events	The periodic volume (e.g., per quarter) of repair and physical maintenance incidents that require attention from the Item Custodian.	N/A (Input: Volume per Period)

Input: Curation Effort	Curation Effort (aka Hours of Curation)	The estimated professional hours spent per period on the strategic task of *curation* (selection and rotation of items) to maintain the relevance of the inventory.	N/A (Input: Hours per Period)
Input: Rate (Transaction-based)	Contract Fee per Item Maintenance Event	Single, pooled average cost per incident fee, regardless of who does the work or whether it is in-warranty. It covers the cost of parts, logistics, and not-in-warranty repairs.	N/A (Input: Fee per Event)
Input: Rate (Transaction-based)	Cost Rate per Item Maintenance Event	Single, pooled average **internal** cost per incident fee, regardless of who does the work or whether it is in-warranty. It covers the cost of parts, logistics, and not-in-warranty repairs.	N/A (Input: Fee per Event)
Input: Rate (Effort-based)	Custody Labor Fee	The fully loaded, all-inclusive hourly rate used for costing the labor of the Item Custodian for non-transactional tasks like Curation. This rate is distinct from other labor rates in the model.	N/A (Input: Rate per Hour)
Input: Rate (Effort-based)	Custody Labor Rate	The fully loaded, all-inclusive hourly rate used for costing the labor of the Item Custodian **internally** for non-transactional tasks like Curation. This rate is	N/A (Input: Rate per Hour)

		distinct from other labor rates in the model.	
(Calculated: Maintenance/Repair Cost)	Physical Maintenance Cost	The periodic cost covering the reactive labor and resources for physical maintenance, repair, and cleanup of damaged or stolen items.	**Number of Item Maintenance Events × Contract Fee per Item Maintenance Event**
(Calculated: Curation Cost)	Inventory Curation Cost	The periodic cost covering the proactive, scheduled labor required for the strategic selection and rotation of items to maintain assortment relevance.	**Curation Effort × Custody Labor Rate**
Total Managed Inventory Service Cost	Managed Inventory Service Cost	The total periodic cost paid to the Item Custodian for the **Managed Inventory Service** (Custody Business), covering both reactive physical maintenance/repair and proactive item curation/selection for the shared inventory.	**(Number of Maintenance Events × Contract Fee per Item Maintenance Event) + (Curation Effort × Custody Labor Fee)**
Total Managed Inventory Service Cost	Managed Inventory Cost	The total periodic **cost for the Item Custodian for delivery of the Managed Inventory Service** (Custody Business), covering both reactive physical maintenance/repair and proactive item curation/selection for the shared inventory.	**(Number of Maintenance Events × Cost Rate per Item Maintenance Event) + (Curation Effort × Custody Labor Rate)**

Total Managed Inventory Service Cost (for Partner !!)	Managed Inventory Invoices	The total periodic **revenue for the Item Custodian for delivery of the Managed Inventory Service** (Custody Business), covering both reactive physical maintenance/repair and proactive item curation/selection for the shared inventory.	**(Number of Maintenance Events × Contract Fee per Item Maintenance Event) + (Curation Effort × Custody Labor Fee)**

Based on the detailed context from the linked document and standard financial modeling best practices, it is more **robust and reasonable** to follow **different cost drivers and ways of costing** for the Maintenance and Curation parts of the Item Custodian's service.

The mixed model (transactional for maintenance, effort-based for curation) is superior to a unified effort-based model because it aligns the cost structure with the fundamental nature and risk of each activity:

1. Why Different Cost Drivers Are Needed (and are more reasonable)

Activity	Nature of the Service	Primary Cost Driver	Rationale Based on Context
Physical Maintenance/Repair	**Reactive & Unpredictable**	**Transactional (Rate per Event)**	The context explicitly flags **"vandalism, theft, and destruction"** as a major **"fear"** and operational challenge. Maintenance is therefore an unpredictable, **risk-driven** cost. A transactional model (Cost per Event) is financially robust because it transfers the risk of volume spikes (e.g., a sudden increase in vandalism) to the service provider, protecting the Owner (Familjebostäder)

			from unpredictable high labor costs.
Curation	**Proactive & Strategic**	**Effort-Based (Hours * Rate)**	The context defines Curation as the **"ongoing selection and rotation"** of items to **"maintain relevance."** This is an organized, strategic planning activity, not a reaction to damage. An effort-based model (Hours * Rate) is appropriate because it directly costs the value of the intellectual and planning time spent to keep the assortment fresh and aligned with local needs.

2. Why a Unified Effort-Based Model is Less Practical

While making both effort-based would be simpler for tracking (one system), it would be **less financially robust** for the Owner (FB):

- **Owner Absorbs Volume Risk:** If Maintenance was purely effort-based (billable hours), the Owner would have no control over the variable hours spent responding to unpredictable vandalism or theft. The Item Custodian could simply bill unlimited hours, forcing the Owner to absorb all the financial risk of an insecure operational environment.
- **Lack of Incentive Alignment:** The transactional model encourages the Item Custodian to become efficient at fixing or replacing items to maximize profit per event. A pure effort-based model provides less incentive for efficiency and more incentive to simply log more hours.

Data Licensing Cost

For the **Data Licensing cost** (specifically the **Data Provisioning Cost**, which is the cost to the Owner/Service Operator to deliver the service), the most robust and accurate approach is the **Effort-Based Costing Model**.

While a "Cost per Data Package" model is simpler and easier to track, the effort-based model better aligns with the complexity of the activities described in the Data Licensing value stream.Recommendation and Rationale

Costing Model	Cost Formula	Rationale for Recommendation
Effort-Based (Recommended)	**Hours on Provisioning * Data Labor Rate**	This model is more robust because the value stream explicitly includes strategic, non-linear, and administrative tasks: **marketing, negotiation, finalization, and associated sales and administrative overhead.** These efforts are best tracked and costed by the time spent by professional staff. It accurately accounts for the complexity of securing each data licensing deal, not just the mechanical process of exporting the data.
Transactional	**Cost per Data Package * Data Package Demand**	This model is simpler and scales well, but it assumes the effort to deliver each data package is consistent and minor. It fails to capture the high, fixed labor cost (marketing, negotiation) required to land the client and set up the contract in the first place, which is a major part of the documented value stream activity.

Proposed Effort-Based Cost Structure

To model this, you would treat the Data Provisioning Cost as a function of the time spent on the core activities:

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure

Effort: Data Provisioning	Data Provisioning Effort	The estimated professional hours spent per period on the necessary efforts to market, negotiate, finalize, extract, anonymize, format, and deliver the licensed data package (including sales/admin overhead).	N/A (Input: Hours per Period)
Rate	Data Labor Rate	The fully loaded, all-inclusive hourly rate used for costing the specialized labor of the team managing the data licensing service.	N/A (Input: Rate per Hour)
Data Provisioning Cost	Data Provisioning Cost	The total periodic cost of the service provided by the Owner/Service Operator to the Data Licensee, ensuring all administrative, strategic, and logistical efforts to sell and deliver the data are covered.	**Data Provisioning Effort * Data Labor Rate**

Commercial Engagement Cost

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula for FB's Cost Structure
Scouting & Negotiation	**Scouting & Negotiation Effort**	The estimated dedicated labor effort (in hours) per quarter required for the initial acquisition and contracting of **Commercial Partners**.	N/A (Input: Hours per Period)

Scouting & Negotiation	**Commercial Development Labor Rate**	The hourly labor cost (in Euros) assigned to the personnel responsible for the high-value activity of **Scouting & Negotiation** with potential **Commercial Partners**.	N/A (Input: Rate per Hour)
Platform Management	**Platform Management Effort**	The estimated dedicated labor effort (in hours) per quarter required for the ongoing technical and content management of the digital engagement platform.	**N/A (Hours per Period)**
Platform Management	**Platform Management Labor Rate**	The hourly labor cost (in Euros) assigned to the personnel responsible for the recurring, technical activity of **Digital Engagement Platform Management** and reporting.	N/A (Input: Rate per Hour)
Commercial Engagement	Commercial Engagement Cost	The total labor cost incurred by the Service Operator for the set of activities required to secure, maintain, and administer the financial relationship with the Commercial Partner.	**Calculated:** Commercial Engagement Cost = (Scouting and Negotiation Effort * Commercial Development Labor Rate) + (Platform Management Effort * Platform Management Labor Rate)

Site Rental Cost

Based on the financial logic of the document's business model and the "Kiosk Site Provision" value exchange, here is the table defining the fee and the resulting cost:

Value Name	Definition	Formula
Site Rental Fee	The fixed charge paid to the **Site Provider** for securing the physical location, access, and potentially necessary utilities for **one single kiosk** over a defined operating period (e.g., month or year). This charge is functionally equivalent to a **market due or pitch fee**, serving as the contractual payment for the right to commercially operate a revenue-generating public-facing service on the Site Provider's managed property. It ensures the Site Provider is compensated for the use of their space and their role in enabling the End User Fee collection.	N/A (This is the input unit cost)
Site Rental Cost	The **total financial cost** incurred by the **Service Operator** for providing the physical locations for **all kiosks** in the scope of the project over the same defined operating period.	Calculated. Site Rental Cost = Site Rental Fee * Number of Kiosks * 3 **Note**: Multiplied by 3, for month to quarter conversion

Governance Cost

The Values and calculation for the **Strategic Oversight Cost** are defined as:

New Value Name	Definition	Type of Value
Governance Labor Rate	The fully-loaded, internal hourly cost rate for the Sponsor personnel responsible for the governance and compliance functions that align the project with the Sponsor's strategic mandate.	€ / Hour

Governance Effort	The estimated time commitment (measured in hours per period, e.g., per quarter) dedicated by the Sponsor personnel to the strategic oversight and governance of the initiative. This value is the primary driver of the cost.	Hours per Period
Governance Cost	The total periodic labor cost **carried** by the Sponsor for governance, compliance, and strategic alignment, which is aggregated into the **Total Mandate Cost**.	€ / Period Calculated Formula: Governance Effort * Governance Labor Rate

Total Cost

The total cost, defined to be independent of the funding model (CapEx or OpEx), represents the sum of all underlying resource and service expenditures required to run the entire Gothenburg Digital Kiosks ecosystem in a given period.

This is the sum of the costs for every value proposition the **Owner** (FB in most Alts, or CLN in Alt B) or the **Service Operator** (FB in Alt B) pays for.Total Periodic Model Cost Definition

Component	Value/Term to Use (to be defined in the model)	Definition	Periodic Formula (Summation)
Total Cost	*Total Model Cost*	The comprehensive, model-agnostic periodic expenditure covering all resources and services required to run the kiosk initiative. It is the sum of all cost components paid by the lead entity (Owner/Service Operator) to the various provider roles (e.g., Platform,	**Sum of all 13 Cost Components** (as listed below) **IMPORTANT:** This is cost, carried by a combination of Roles, not just one. It has to be filtered out per Role (Business Model), when

		Procurement, Maintenance, Item Vendors).	implementing it in Srategyplanner.
Cost Basis	N/A	N/A	Total Cost = Item Purchase Cost + Kiosk Depreciation Cost **Total Platform Service Cost +** Site Rental Cost + Procurement Service Cost + On site Operations Cost + Adoption Drive Cost + Managed Inventory Cost + Data Provisioning Cost + Commercial Engagement Cost + Governance Cost + Kiosk Financial Risk Reserve + Inventory Financial Risk Reserve

Breakdown of All Seven Cost Components

The formula for the total cost is the sum of the following individual cost components:

1. **Platform Business Cost:** The cost of the core technology platform.
2. **Buyer's Business Cost (Procurement Service Cost):** The cost of assortment determination and sourcing/contracting effort.

3. **Operation Business Cost (On-Site Operations Service Cost):** The cost of hands-on management, logistics, and physical technical support effort.
4. **Adoption Business/Support Cost (Adoption Drive Cost):** The cost of tenant outreach and community engagement effort.
5. **Inventory Business Cost (Item Purchase Cost):** The cost of purchasing new, replacement, and rotation items from Item Vendors.
6. **Custody Business Cost:** The cost of ongoing physical maintenance, repair, and curation of the shared inventory.
7. **Data Licensing Business Cost (Data Provisioning Cost):** The cost of extracting, anonymizing, formatting, and delivering the usage data to the Data Licensee.

Refinement of Total Cost, for accounting of Grant Complement

Term	Definition/Formula
Total Cost Base	The sum of all actual or planned eligible project expenditures by the Housing Company, before any adjustment to meet the 40% private complement requirement.
Grant Complement Expense	**Definition:** The minimum additional eligible cost that must be recorded or budgeted by the Housing Company to ensure the total project cost for their part meets the mandatory 40% private co-financing rule. If the Total Cost Base is already sufficient, this value is zero. **Formula:** -1 * MIN (0 , Total Cost Base – External Grant * (1 + (4/6)))
Total Cost	**Definition:** The total final eligible project costs for the Housing Company after accounting for the minimum required private co-financing. **Formula:** Total Cost Base + Grant Complement Expense

Site Provider Operational Cost Model

This model assumes all costs listed are OPEX (Operational Expenditure) and are calculated as an average rate per kiosk per quarter.

Cost Component (Operand)	Definition	Unit of Measure
Site Provision Cost	The total expenses the Site Provider incurs to maintain the operational readiness of the kiosk locations	€/ quarter Formula: Site Provision = (Site Administrative Cost + Utility and Connectivity Cost) * 3 * Number of Kiosks
Site Administrative Cost	A recurring, quarterly cost rate covering the Site Provider's internal labor and non-utility overheads. This includes: • Internal administrative effort for **Site** Acquisition (contracts/permissions) • Management of **Installation Access Management** and security protocols • Budgeted expenses for basic **Site Operation & Maintenance** (general upkeep, cleaning, non-technical security).	€/ Kiosk / month
Utility & Connectivity Cost	A recurring, quarterly cost rate covering the direct consumption expenses required for the kiosk's functionality. This includes: • The operational cost of the **Power Connection** (electricity) • The recurring cost of the **Internet Connection Point** (data/network service)	€/ Kiosk / month

Integrated Risk & Asset Management Model

This section defines the variables and financial components for managing the high-impact, low-frequency events that are *not* covered by the average maintenance costs in the Managed Inventory Service (OpEx) model.

Metric Category	Metric/Variable Name (Ratio Scale)	Function and Influence in the Model	Formula / Cost Calculation	Value Proposition Linkage
ASSET & LOSS RISK	**(Annual Item Replacement for Loss Rate (%))**	**INFLUENCE (Average OpEx):** Direct cost due to theft/vandalism. This is the **expected, average** loss rate applied to the Total Inventory Value to determine the recurring replacement cost in the Inventory Business line. *Varies based on Custodian (Local Partner vs. internal).*	N/A (Input Variable)	**Managed Inventory Service** (OpEx is covered within its cost calculation.) SEE ABOVE
Kiosk Risk Cost	**(Platform Warranty Duration (Months))** **(NOT DIRECTLY USED IN THE MODEL)**	**COST MITIGATION:** Defines the period during which asset loss/repair is covered by the Platform Provider. Costs related to kiosk/locker failure outside this window become a risk exposure for the Owner.	N/A (Input Variable)	**Kiosk Service & Access** (Delivered by the Platform Provider)

Kiosk Risk Cost	**Kiosk Financial Risk Reserve (CapEx)**	**RISK COST (Buffer):** The annual financial buffer (equivalent to an insurance premium or reserve fund) the Owner must set aside to cover the financial shock of a **total loss/mass vandalism of the kiosk** outside of the warranty period.	Formula: Kiosk Depreciation Cost * Kiosk Asset Extraordinary Loss Factor /100	**Owner's Integrated P&L** (Funded by the Owner to mitigate risk exposure).
Kiosk Risk Cost	**Kiosk Asset Extraordinary Loss Factor (%)**	Risk factor for loss outside the scope of routine (ordinary) maintenance/repair, covering events like major damage or failure.		
Item Risk Cost	**Inventory Financial Risk Reserve (CapEx)**	**RISK COST (Buffer):** The annual financial buffer (reserve fund/insurance premium) the Owner must set aside to cover the financial shock of **mass inventory theft or total loss events** (the "strange out of center peaks").	Formula: Item Purchase Cost * Inventory High-Impact Loss Reserve Factor / 100 (For Item Purchase Cost, see above)	**Owner's Integrated P&L** (Funded by the Owner to mitigate risk exposure).

Item Risk Cost	**Inventory High-Impact Loss Reserve Factor (%)**	Risk factor for events, such as mass theft, that severely affect the financial health and require a dedicated reserve fund for mitigation/replacement of item inventory. **Inventory High Impact Loss Reserve Factor** belongs to the **Buyer's Business** VP. This value is a **financial planning and risk management tool** controlled by the **Inventory Buyer** (the strategic role that owns the financial responsibility for asset procurement). The Buyer sets this factor to create a fiscal buffer against high-cost, low-frequency events.		
(Total Project Risk Cost)	**Total Integrated Project Risk Cost**	**TOTAL ANNUAL FINANCIAL EXPOSURE:** The total required annual cost for the Owner to financially mitigate unexpected, high-variance loss across all assets.	Kiosk Financial Risk Reserve + Inventory Financial Risk Reserve	**Owner's Integrated P&L** (The final line item for CapEx Risk Exposure).

SYSTEM RELIABILITY	**(Kiosk Mean Time Between Failures (MTBF) (Hours))** **REDUNDANT, SEE ABOVE**	**DRIVES COST & DOWNTIME:** A lower MTBF drives up the Local Operator/Custodian workload (and OpEx cost) and directly lowers the **Service Reliability** metric (Uptime).	N/A (Input Variable)	**Item Maintenance Support** (Delivered by the Item Custodian to the Local Operator).
SYSTEM RELIABILITY	**(Mean Time To Repair (MTTR) (Hours))** **REDUNDANT, SEE ABOVE**	**DRIVES COST & DOWNTIME:** The average time to fix a broken kiosk/item. Drives Custody Business OpEx cost and lowers the **Service Reliability** metric (Uptime). *Varies based on Custodian (Vendor vs. Local Partner).*	N/A (Input Variable)	**Item Maintenance Support** (Delivered by the Item Custodian to the Local Operator).
SERVICE PERFORMANCE	**(Service Reliability (Uptime) (%))** **REDUNDANT, SEE ABOVE**	**OWNER'S KPI:** The overall percentage of time the kiosk is operational. Calculated as: [Total Hours - (Number of Failures * Average Time to Fix)] / Total Hours. A crucial metric for **End User Satisfaction**.	(Total Hours -(Number of Failures * Mean Time To Repair (MTTR))) / Total Hours. (Note: MTTR is Mean Time To Repair)	**Managed Inventory Service** (KPI for the Custodian's OpEx service).

SERVICE PERFORMANCE	**(Item Wait Time (Average Stockout Delay) (Hours))** **REDUNDANT, SEE ABOVE**	**USER PAIN POINT:** Directly influenced by Utilization Rate and Item Custodian efficiency. A high wait time severely hurts **End User Satisfaction**.	N/A (Input Variable/Calculated based on Utilization and Custodian efficiency)	**Managed Inventory Service** (KPI for the Custodian's OpEx service).

Note on Cost vs. Risk
The **Managed Inventory Service Cost** table you reviewed covers the expected, recurring OpEx of running the service. The new **Financial Risk Reserve** items cover the unexpected, high-dollar-value loss events (like a total CapEx asset loss) that must be secured by the Owner through insurance or a reserve fund.

Total Annual Cost for Familjebostäder (FB)

Total Cost =

Item Purchase Cost +

Kiosk Depreciation Cost

Total Platform Service Cost +

Site Rental Cost +

Procurement Service Cost +

On site Operations Cost +

Adoption Drive Cost +

Managed Inventory Cost +

Data Provisioning Cost +

Commercial Engagement Cost +

Kiosk Financial Risk Reserve +

Inventory Financial Risk Reserve

Profit and Profit Margin

Profit is: Residual revenue that remains after all total costs, including operational expenses, capital recovery (depreciation or lease fees), and risk provisions, have been deducted from the total revenue earned over a specific period.

The final calculation for each Scenario Execution must be:

Profit = Total External Revenue - Total Cost

Profit Margin (as a percentage): Ratio that expresses the proportion of revenue that translates into profit.

Profit Margin (%) = (Profit / Total Revenue) * 100

Intangible Impact & Strategic Mandate Score

The following details the complete structure for the **Strategic Mandate Score (SMS)**, which is the overall Key Performance Indicator (KPI) for the project's success against the mandates of the City (Sponsor) and Owner/Core Financier.

The SMS is calculated as a weighted average of six distinct component scores, grouped into Environmental, Social/Urban, and Owner Health categories.

-----I. Strategic Mandate Score (SMS) Formula

The SMS is calculated as the weighted average of the six component scores below.

SMS = SUM of (Weight of Each Score MULTIPLIED BY Its Respective Score)

SMS = ((Weight of ES * Environmental Score) +
(Weight of SCS * Social Cohesion Score) +
(Weight of NQS * Quality of Neighbourhoods Score) +
(Weight of TS * Trust Score) +
(Weight of RAS * Risk & Asset Management Score) +
(Weight of FHS * Financial Health Score)) / 100

(Note: The weights of all six factors must be set to sum to 1.0, or 100%, to maintain the overall 0-10 scale for the SMS.)

Proposed weighting for the Strategic Mandate Score (SMS):

Score Component	Proposed Weight	Rationale
Environmental Score (ES)	**25%**	High priority: Direct reflection of the city's primary sustainability mandate (less consumption).
Social Cohesion Score (SCS)	**25%**	High priority: Direct reflection of the social equity mandate, especially in areas like Eriksbo (affordability and inclusion).
Trust Score (TS)	**15%**	Medium-High priority: Essential for tenant adoption, long-term engagement, and maintaining the social license to operate.
Quality of Neighbourhoods Score (NQS)	**15%**	Medium-High priority: Tracks the local, tangible impact of the kiosk service on the living environment.
Financial Health Score (FHS)	**10%**	Medium-Low priority: Necessary for proving scalability and financial sustainability, but secondary to the mandate.
Risk & Asset Management Score (RAS)	**10%**	Medium-Low priority: Essential for the longevity and stability of the assets and the service, ensuring operational continuity.
Total	**100%**	

-----II. Component Scores, Values, and Formulas

The following tables define the formulas and all necessary underlying values for the six SMS components, prioritizing the three requested social/urban scores (Trust, Social Cohesion, Quality of Neighbourhoods).

1. Trust Score (TS) - *Mutual User-to-User Trust*

The TS is a proxy for mutual trust, measured exclusively by the community's behavioral outputs related to returning and caring for shared items.

Value	Clear Definition	Unit
Trust Score (TS)	The score (0-10) that serves as a proxy for the level of **mutual user-to-user trust** within the community. It is measured exclusively by the community's behavioral outputs related to returning and caring for shared items. The score is specifically structured to combine behavioral measures of inventory loss and item misuse (the latter translated into scoring the cost of repair of the misuse).	**Score (0-10)**. Formula: TS = (Inventory Loss Score + Item Misuse Score) / 2
Inventory Loss Score	The score (0-10) that measures the community's performance regarding the return of shared items. The score is determined by the degree to which the actual Inventory Loss Rate exceeds the established reserve factor. It directly quantifies the behavioral output of users' trust in returning items.	**Score (0-10)**. Formula: 10 * (1 - (Inventory Loss Rate / Inventory High-Impact Loss Reserve Factor))

Item Misuse Score	The score (0-10) that measures the degree of item damage or misuse. The score is calculated based on the actual average cost for repair and maintenance ("Cost Incurred") compared to the budgeted or contractually agreed-upon cost ("Contract Fee"). It directly quantifies the behavioral cost of damage/misuse.	**Score (0-10)**. Formula: 10 * (1 - (Cost Incurred per Item Maintenance Event / Contract Fee per Item Maintenance Event))
Inventory Loss Rate	The total value of inventory (items) that is lost, unreturned, or stolen, expressed as a calculated percentage of the total active inventory value over a given period. This is the direct behavioral measure of users' trust in returning items. **Inventory loss rate** belongs to the **Managed Inventory Service** VP. This value is an **operational performance metric** controlled by the **Item Custodian** and **Local Operator** (the roles responsible for the physical security, tracking, and daily care of the assets). This metric measures the actual outcome of their operational effectiveness.	Percentage (%)
Cost Incurred per Item Maintenance Event	The Cost Incurred per Item Maintenance Event is the essential, variable financial metric designed to isolate and quantify the direct impact of user negligence or item misuse. It is fundamentally a behavioral proxy cost, distinct from the fixed, all-inclusive Contract Fee which covers the service provider's full operational expenses, overhead, and profit. Its value is intentionally low (e.g., €15 compared to a €250 Contract Fee) to ensure that the Item	€ / Event

	Misuse Score accurately reflects a high level of good community behavior as the norm. By tracking this isolated variable cost, the Service Provider gains a critical tool for risk management and provides the Owner with a key metric to measure the effectiveness of community engagement and the long-term sustainability of the service's operational health.	

2. Social Cohesion Score (SCS) - *Active & Passive Interaction*

The SCS measures the project's success in driving community participation through the sharing service, encompassing planned outreach events, spontaneous social interactions, and overall service adoption (**reach**).

Value	Clear Definition	Unit
SCS (Social Cohesion Score)	The score (0-10) for the project's ability to successfully drive community participation and social engagement through the sharing service.	Score (0-10) Calculated: SCS = (Effort_weight * Community Engagement Effort Score + Attendance_weight * Tenant Event Participation Score + Interaction_weight * On-Site Interaction Depth Score + Reach_weight * Total User Adoption Score) / 100 (In edge cases, this score can become > 10)

Community Engagement Effort Score	The score (0-10) for the intentional organizational mobilization of local resources to build a cohesive community structure. This score reflects the commitment and effectiveness of dedicated labor hours in actively facilitating dialogue, education, and collaboration among residents and partners. A higher score signifies successful direct intervention to stimulate and nurture the conditions necessary for community cohesion to form and strengthen.	Score (0-10) Calculated 10 * (1 - (Actual Community Hours / Benchmark Community Hours))
Tenant Event Participation Score	The score (0-10) for the strength of collective action and the community's willingness to engage in shared experiences. This score is a direct gauge of how successful the project is in unifying residents through valued communal occasions. By tracking attendance against targets, it reflects the degree of active involvement, which reinforces group identity, strengthens bonds, and deepens the overall sense of belonging.	Score (0-10) Calculated 10 * (Attended Tenants per Event / Target Attendance per Event)

On-Site Interaction Depth Score	The score (0-10) for the kiosk's effectiveness as an informal, neutral hub for spontaneous social connection and interaction. This score is based on the idea that user time spent at the location beyond the essential transaction facilitates unplanned, casual social exchanges. A higher depth score indicates the physical site is successfully transforming from a utility point into a vibrant, accepted neighborhood space where informal social ties are strengthened.	Score (0-10) Calculated 10 * (Average On-Site Interaction Time / Benchmark Max Interaction Time)
Total User Adoption Score	The score (0-10) for the scale of widespread social inclusion and the community-wide integration of the service. This score quantifies the project's success in achieving broad accessibility and acceptance across the entire tenant population. It indicates that the social benefits and shared resource model are successfully integrated and normalized, ensuring that the cohesive benefits of the project are inclusive and extend across the wider community.	Score (0-10) Calculated 10 * (Total Active Users Per Month / Target Total Active Users per Month)
Actual Community Hours	The total measured labor hours dedicated to driving community adoption, engagement, and local collaboration in a given period. This value is calculated as the **sum** of all hours recorded under existing operational cost categories, including **Hours on Tenant Outreach**, **Hours on**	Calculated: **Actual Community Hours** = Hours on Tenant Outreach + Hours on Community Engagement + Hours on Local Ownership

	Community Engagement, and **Hours on Local Ownership**.	
Benchmark Community Hours	The maximum labor budget (in hours) allocated for all community outreach and adoption efforts in a given period. This is the **fixed investment threshold**.	Hours / period
Attended Tenants per Event	The **average number of tenants (Count)** who attend a single dedicated community adoption or social event during the reporting period.	Tenants
Target Attendance per Event	The minimum required number of tenants (Count) that must attend a dedicated adoption or social event for the outreach effort to be considered a success. This is the **fixed social goal**.	Count (Tenants)
Average On-Site Interaction Time	The calculated average amount of time (in minutes) a user spends at the physical kiosk site *per transaction*, **beyond the minimum time required for the transaction itself**. This is a **proxy for passive social interaction**, calculated by subtracting the platform's minimum transaction time from the total time a user is in the kiosk vicinity, typically measured via non-platform sensors or observation. The metrics Average On Site Interaction Time and Benchmark Max Interaction Time directly relate to the quality and duration of a user's on-site engagement with the digital kiosks. The Adoption Drive is the mechanism to focus efforts on improving this user experience.	Minutes

Benchmark Max Interaction Time	The maximum average time (in minutes) a project believes a user *should* spend at the kiosk site per transaction to facilitate optimal, spontaneous social interaction without causing congestion. This is the **fixed behavioral threshold**.	Minutes
Target Total Active Users per Month	The maximum number of total unique active users (Count) that the project is targeting for the given **month** to ensure broad community adoption and social impact. This is the **fixed adoption goal**.	Count (Users / Month)

*(Note: Suggested weights are **30% for Effort, 20% for Attendance, 30% for Interaction, and 20% for Reach**. The weights of all four factors must sum to 1.0, or 100%.)*

3. Quality of Neighbourhoods Score (NQS) - *Convenience and Utility*

The NQS measures the project's success in enhancing livability by ensuring that **useful** resources are **conveniently available** to the community.

Value	Clear Definition	Unit
Quality of Neighbourhoods Score (NQS)	The score (0-10) for the project's success in enhancing neighbourhood livability by providing readily available and highly relevant shared resources. This tracks the core value of **convenience** and **access to utility** for the community.	Score (0-10) Calculated. NQS = (Inventory Utility Score + Item Availability Score) / 2

Item Availability Score	The score (0-10) that measures the operational success in minimizing the inconvenience experienced by end-users when a desired item is temporarily unavailable. It quantifies the difference between the actual time a requested item is out-of-stock (Stockout Delay) and a target or maximum acceptable delay (Benchmark Stockout Delay), translating this performance into a standardized convenience rating.	Score (0-10) Calculated. 10 * (1 - (Stockout Delay / Benchmark Stockout Delay))

4. Environmental Score (ES)

The final Environmental Score (ES) is a composite weighted average, normalized to a (0-10) scale, combining the *net carbon impact* and the *waste management impact*.

Value Name	Clear Definition (Calculation for the KPI)	Unit
Environmental Score (ES)	The score (0-10) that measures the overall success of the project against the Sponsor's mandates to reduce *CO2e emissions* and *waste*. The score is a weighted average of the project's **Net CO2e Impact** (including averted consumption and kiosk production) and its **Inventory Waste** (or, more generally, “refresh”) performance.	Calculated. Formula: ES = 0.7 * Net CO2e Impact Score + 0.3 * Inventory Waste Reduction Score

Net CO2e Impact Score	The score (0-10) that measures the project's success in achieving its net carbon impact goal. It is calculated by normalizing the actual Net CO2e Impact per User per Month (including averted consumption and kiosk production) against the predefined Target Net CO2e Impact per User per Month from the Sponsor's sustainability mandate.	Calculated. Formula: 10 * Net CO2e Impact per User per Month / Target Net CO2e Impact per User per Month
Inventory Waste Reduction Score	The score (0-10) that measures the project's success in meeting the Sponsor's mandate to reduce waste by tracking the efficiency of inventory management. It quantifies the performance against waste goals by comparing the actual rate at which inventory must be replaced or refreshed (Inventory Refresh Rate) against the goal-oriented Benchmark Inventory Refresh Rate. A lower Refresh Rate directly translates to higher waste reduction success and thus a higher score.	Calculated. Formula: 10 * (1 - (Inventory Refresh Rate / Benchmark Inventory Refresh Rate))
Target Net CO2e Impact per User per Month	The strategic minimum CO2e savings per user per month that the project must achieve to satisfy the Sponsor's sustainability goals.	kg CO2e per User per Month
Benchmark Inventory Refresh Rate	The fixed, maximum acceptable percentage of inventory replacement/refresh that the project owner is willing to tolerate before the environmental mandate for waste reduction is deemed to have failed.	Percentage (%)

5. Risk & Asset Management Score (RAS)

The RAS tracks the Owner's success in mitigating financial risk related to kiosk and inventory asset loss (theft, vandalism).

Value	Clear Definition	Unit
Risk & Asset Management Score (RAS)	The score (0-10) that measures the Owner's success in mitigating financial risk related to kiosk and inventory asset loss (theft, vandalism).	Score (0-10) Calculated. RAS = (Kiosk Asset Loss Score + Inventory Loss Score) / 2
Kiosk Asset Loss Score	The score (0-10) that measures the Owner's success in mitigating financial risk related specifically to the extraordinary loss or non-functionality of the physical Kiosk Assets (hardware, lockers, touch screens) due to events like theft or vandalism. It is calculated by normalizing the actual loss rate against a predetermined maximum loss factor.	Score (0-10) Calculated. RAS = 10 * (1 – (Kiosk Extraordinary Loss Rate / Kiosk Asset Extraordinary Loss Factor))
Kiosk Extraordinary Loss Rate	The percentage of active kiosks that are lost or rendered non-functional due to extraordinary events (e.g., vandalism, theft) in a given period. The Kiosk Extraordinary Loss Rate is best delivered by the	Percentage (%)

	On-Site Operations Service Value Proposition because it is a direct operational performance metric that quantifies the actual frequency of major physical loss events. This metric is a reflection of the security, care, and physical technical support provided on a daily basis by the Local Operator role, which is the core function of the On-Site Operations Service. Conversely, the Kiosk Asset Extraordinary Risk Factor is a strategic financial factor delivered by the Infrastructure Business VP, as it is a planned input used for budgeting and calculating the necessary financial reserve against risk, making it an element of financial planning rather than a measurement of day-to-day operational outcome.	
(For “Inventory Loss Score”, see Trust Score section above)		

Important: The Risk & Asset Management Score (RAS) remains a critical metric for the Sponsor (City/Housing Company, Familjebostäder) because its importance spans both indirect financial health and core strategic mandate, regardless of contractual delegation or direct payment structure.

The rationale is balanced by two key areas:

<u>Indirect Financial Risk</u>

The Sponsor is the ultimate financial risk bearer:

- **Cost Pass-Through:** Even when a vendor legally owns the kiosk assets and assumes risk, they build a **risk premium** for loss and vandalism into their service fee.

- **Future Fee Increases:** A low RAS (high theft/damage rate) raises the vendor's actual costs. This inevitably leads to a **higher service fee** for the Sponsor/Core Financier (FB) in the next contract renewal, thus impacting the project's **Financial Health Score (FHS)**.

Strategic Mandate and Public Service

The RAS is integral to the overarching strategic success:

- **Strategic Mandate Score (SMS):** The RAS must belong to the SMS because the physical protection of the assets (kiosks and inventory) is a non-negotiable part of the City's goal to run a sustainable and reliable public service.
- **Reputation and Goals:** A high theft/damage rate (low RAS) signals a failure to provide a functional service, which damages the City's public reputation and undermines its primary goal of effecting behavioral change (less consumption).
- **Indirect Entity Pressure:** Given the City owns Familjebostäder (FB), a rising risk for any third-party operator will ultimately put financial pressure on their owned entity (FB), potentially requiring future intervention or funding.

In summary, the RAS measures the operational reality (theft/damage rate), and while the direct financial burden might be temporarily shifted to a vendor, a failure in the RAS will ultimately impact the Sponsor's budget and their ability to fulfill their strategic, public-service mission.

6. Financial Health Score (FHS)

Given the constraints that the City and Housing Company (Sponsor/Core Financier) are non-profit and are not allowed to earn user fees, their primary financial goal is to **minimize the Net Cost** (or required subsidy) of the project.

The score should be based on comparing the actual *Net Sponsor Cost* against a predetermined maximum *Benchmark Net Sponsor Cost*.

Here is the final structure for the proposed **Financial Health Score (FHS)**. It uses a weighted average to emphasize operational efficiency (Cost Per Use) and financial sustainability (Net Cost/Subsidy).)

Value Name	Clear Definition	Unit

Financial Health Score (FHS)	The score (0-10) that measures the financial success of the Sponsor (basically City and Housing Company combined) in achieving operational cost efficiency and controlling the required project subsidy (net cost).	Score (0-10). Calculated. Formula: FHS = (CPU weight * Cost Per Use Score + NCS weight * Net Cost Score) / 100 (e.g.: FHS = 0.6 * Cost Per Use Score + 0.4 * Net Cost Score)
Cost Per Use Score	The score (0-10) that measures the project's actual cost to the Sponsor, against its maximum acceptable cost threshold.	Score (0-10) Calculated. Formula: 10 *(1 - (Cost per Use / Benchmark Cost per Use))
Net Cost Score	The score (0-10) that measures the financial success of the Sponsor in controlling the required project subsidy (net cost). It is calculated by comparing the actual net cost (Actual Net Cost) against the fixed, maximum acceptable threshold (Benchmark Max Net Cost) for the reporting period. The goal is a high score, indicating the actual subsidy is well below the maximum tolerated cost.	Score (0-10) Calculated. Formula: 10 * (1 - (Net Cost / Benchmark Net Cost))
Net Cost	The actual net cost (or “subsidy”) incurred by the Sponsor over the reporting period.	Euro / Period Calculated. Formula:

		Total Mandate Cost - Total Mandate Revenue
Total Mandate Cost	This captures all costs carried by the public entities, being the participants that represent the entire public-sector commitment to the mandate. IF these participants pay external parties (Vendor or Partner), that payment is already captured as a **Cost** in their P&L. Aggregating only the public entities' costs prevents double-counting and maintains a pure public-sector view.	Euro / Period Calculated. Formula: Total Cost for City + Total Cost for Housing Company **Important**: Alternative dependent.
Total Mandate Revenue	This captures all funding, grant income (EU), and operating revenue (e.g., data licensing fees) generated by the public entities to offset the total cost of the mandate. It excludes the commercial profit streams of the private partners.	Euro / Period Calculated. Formula: Total Revenue for City + Total Revenue for Housing Company **Important**: Alternative dependent.
Benchmark Net Cost	The fixed, strategic maximum acceptable net cost (or subsidy/loss) that the Sponsor is willing to tolerate for the project over the reporting period. **Achieving a net cost lower than this benchmark is the goal.**	Euro / Period

Cost per Use	The total cost to the project from the Sponsor's perspective (all OPEX/CAPEX payments to vendors and partners) divided by the total number of customer uses/transactions in the period.	Euro / Booking Calculated. Formula: (Total Mandate Cost / 3) / (Utilization Rate * Number of Kiosks) **Note**: 3 months per quarter
Benchmark Cost per Use	The maximum acceptable total cost to the Sponsor per single customer use/transaction.	Euro / Use

Estimated Input Value quantities

The following table lists quantity estimates of Input Values as used above, which, at least, apply to the current situation (Alt).

Value	Current Quantity Estimate	Target Quantity Estimate (10 Years)	Unit	Source/Rationale
External Grant	17,088.75 (4 quarters during 2026) 3,797.50 (For the 1st quarter of 2027)	0.00	€ / quarter	Grant terminates after Q1 2027.

Grant Complement	11,392.50 (4 quarters during 2026) 3,797.50 (For the 1st quarter of 2027)	0.00	€ / quarter	Mandatory 40% complement; terminates after Q1 2027.
Use Fee	13.66 (Could be 0.00 during free period, in that case, starting > 0 after Q1 2028, the pilot period; there it would start with **14.50**)	**17.82**	€ / Booking	Assuming **3%** annual inflation rate.
Monthly Fee	9.01 (During pilot period, so, until Q1 2028, it maybe 0; it would start with **9.56** in Q2 2028 then)	**11.75**	€ / Month	Assuming **3%** annual inflation rate.

Stockout Delay	36	20	Hours	Target KPI: Max one-day waiting period.
Customized Inventory Ratio	30 (Actually 0 for CLN, 100 for Piffl)	30	Percentage (%)	Assumed stable ratio.
Benchmark Custom Item Cost	500	**652.39**	€ / Item	Assuming 1.25 times the Average Custom Item Price.
Benchmark Stockout Delay	24	24	Hours	Fixed target KPI.
Benchmark Use Fee	13.66	17.82	€ / Booking	Assuming **3%** annual inflation rate.
Benchmark Monthly Fee	9.01	11.75	€ / Month	Assuming **3%** annual inflation rate.
Benchmark Resolution Time	24	**24**	Hours	Constant
Average Resolution Time	18	**12**	Hours	**Current Estimate:** Assumes current average resolution time is slightly below the benchmark. **Target Estimate:** Target to hit the 12-hour MTTR in a high-performing scenario.
Support Survey Score	7	**8.5**	Score (0-10)	**Current Estimate:** Good, but not excellent support satisfaction.

				Target Estimate: Aspirational goal for best-in-class support satisfaction after 10 years of operational focus.
Average Inventory Fault Rate	3	**1**	Faults / 100 uses	**Current Estimate:** Assumes a starting point of 3 defects for every 100 rentals. **Target Estimate:** Aggressive reduction to 1 defect per 100 uses, indicating excellent quality control.
Benchmark Inventory Fault Rate	5	**5**	Faults / 100 uses	**Fixed KPI (Threshold):** The maximum acceptable percentage of item faults before the inventory quality is deemed a systematic failure.
Average Inventory Age	1	**2.5**	Years	**Current Estimate:** Plausible average for a new pilot. **Target Estimate:** Balanced age to maintain quality perception while maximizing asset depreciation/value (below the Max Acceptable Age).
Max Acceptable Age	4	**4**	Years	**Fixed KPI (Threshold):** The maximum physical lifespan (retirement

				age) set for items in the shared inventory to maintain quality perception.
Average Steps per Transaction	12	**6**	Count (Steps)	**Current Estimate:** Plausible complexity for a Version 1.0 app. **Target Estimate:** Aggressive simplification of the transaction flow for maximum user ease and minimum friction.
Benchmark Max Steps	15	**15**	Count (Steps)	**Fixed KPI (Threshold):** The maximum number of steps allowed for a transaction flow before the digital experience is deemed too complex.
Simplicity Survey Score	6.5	**8.0**	Score (0-10)	**Current Estimate:** Acceptable, but room for improvement on digital usability. **Target Estimate:** Aspirational goal for an intuitive and frictionless user experience (app/kiosk interface).
Average Data Package Price	1,500 (0; 1,591.35 in 3rd year)	**1,957.16**	€ / Package	Assuming **3%** annual inflation rate.

Number of Kiosks	2 (CLN pilot start) / 1 (Piffl pilot start)	11 (CLN scale up) / 16 (Piffl scale up)	Count (Kiosks)	Calculated. Formula: “Number of Kiosks”= ∑{i=1, t}(“Kiosks Acquired”(t) – “Kiosks Disposed”(t))
Procurement Labor Rate	70	**91.33**	€ / Hour	Assuming **3%** annual inflation rate.
Operations Labor Fee	50	**65.24**	€ / Hour	Assuming **3%** annual inflation rate.
Operations Labor Rate	45	**58.71**	€ / Hour	Assuming **3%** annual inflation rate.
Adoption Labor Rate	50	**65.24**	€ / Hour	Assuming **3%** annual inflation rate.
Custody Labor Fee	60	**78.29**	€ / Hour	Assuming **3%** annual inflation rate.
Custody Labor Rate	54	**70.46**	€ / Hour	Assuming **3%** annual inflation rate.
Data Labor Rate	70 (0; 74.25 in 3rd year)	**91.33**	€ / Hour	Assuming **3%** annual inflation rate.

LC CO2e Footprint Standard Item	15	**12.51**	kg CO2e	Assuming 2**.0%** annual decarbonization factor (inverse of inflation). **Decarbonization Impact:** The 2.0% annual factor represents a **slow, steady reduction** in the carbon footprint of industrial production (e.g., due to more renewable energy, increased material efficiency).
LC CO2e Footprint Custom Item	50	**41.71**	kg CO2e	See above
Displacement Factor Standard	5	5	Bookings/Item	
Displacement Factor Custom	25	**25**	Bookings/Item	
Per Use Payers	300	590	Count (Users)	**Current Estimate:** Total number of active users: 600 for 3 kiosks (from ihopa rfp), via the (from interviews) named 1000 users target for 11 kiosks. Actually for CLN it starts with 2 kiosks instead of 3. So, 400 for 2 kiosks Assuming a mix of Per use payers / Subscription users of 75%/25% via 59%/41% (in 5 years) to 40%/60% in 10 years.

Subscription Users	100	410	Count (Users)	See above
Kiosk CO2e lifespan impact	450	**375.31**	kg CO2e/kiosk	Assuming **2.0%** annual decarbonization factor (see above).
Utilization Rate Transactional	450	590	Bookings / kiosk / month	Assumed fixed usage activity. Assuming 1 booking/month per Per Use Payer
Utilization Rate Subscription	750	2,050	Bookings / kiosk/ month	Assumed fixed usage activity. Assuming 5 bookings/month per Subscription user
Benchmark Utilization Rate	1300	2750	Bookings / kiosk/ month	Year 1: Set slightly above the initial actual (1200) to establish an ambitious, motivating goal for the pilot phase. Year 10: Set above the highest projected actual usage (2650) to create a stretch goal that prevents the Utilization Score from maxing out. This maintains a margin for continuous improvement and establishes a challenging, long-term aspirational performance standard.

MTBF (Mean Time Between Failures)	1,000	1,000	Hours	Assumed stable operational standard.
MTTR (Mean Time To Repair)	12	12	Hours	Assumed stable operational standard.
Average Standard Item Price	150	**195.72**	€ / Item	Assuming **3%** annual inflation rate.
Average Custom Item Price	400	**521.91**	€ / Item	Assuming **3%** annual inflation rate.
Inventory Pool Size	40	40	Items/Kiosk	Assumed stable operational standard.
Hours on Assortment	10	55	Hours/ quarter	Target Estimate, scaled with kiosks (11/2)

Platform Maintenance Fee	100 (CLN)	**130.48**	€ / kiosk / month	Applying **3%** annual escalator over 10 years. This calculation method is valid for long-term strategic planning because it models the cost of a scaling service contract conservatively. The initial 12-month contract term serves as the baseline, after which a 3% annual escalator is applied to the unit price. This standard escalation accounts for market factors such as inflation, rising labor costs for maintenance, and general technology cost increases, reflecting the likely price adjustment the Platform Provider would require upon contract renewal. The final cost is then accurately determined by multiplying this escalated unit price by the total number of active kiosks in any given period, assuming the vendor charges a uniform, current-market rate for all units, whether new or existing.

Software Subscription Fee	100 (CLN)	**130.48**	€ / kiosk / month	Applying **3%** annual escalator over 10 years. **The same reasoning applies as for the Platform Maintenance Fee.** In the proposal's cost table, the €100/month fee is explicitly listed as the **Software subscription for 2 stations**. Therefore, the assumption of an annual increase and multiplication by the kiosk count is directly applicable to this fee.
Vendor Service Fee	430 (CLN OPEX) / 193.43 (Piffl Hybrid OPEX) / 320 (Piffl All-in OPEX) (Piffl Hybrid 205.53 in 2028-Q1)	**561.05** (CLN OPEX) / **252.41** (Piffl Hybrid OPEX) / **420** (Piffl All-in OPEX) (Piffl All-in OPEX 343.08 in 2028-Q2)	€ / kiosk / month	Applying **3%** annual escalator over 10 years to all OPEX fees. The same reasoning applies. In an OPEX (Operational Expenditure) model, particularly the "Max Vendor Control" alternative described in the project documents, the Vendor Service Fee typically bundles all hardware, software, and maintenance costs into a single monthly charge. Because this fee covers the vendor's entire set of increasing costs over time (including maintenance and hardware replacements), it is necessary and standard practice to apply an annual escalator to this

				comprehensive fee as well.
Site Rental Fee	200 (take 210 at the start of the 3rd year, so, Phase 2) (In pilots it is 0)	260	€/kiosk/month	Applying **3%** annual escalator over 10 years.

Site Administrative Cost	55	73	€/kiosk/month	3% annual inflation

Utility & Connectivity Cost	110	145	€/kiosk/month	3% annual inflation
Kiosk Useful Life	7	7	Years	Assumed fixed asset lifespan.
Kiosk Acquisition Price	9,500 (CLN) / 6,225.28 (Piffl Hybrid)	**12,398.92** / **8,123.63**	€	Applying **3%** annual escalator over 10 years.
Kiosks Acquired	Manually entered	Varies	Count (Kiosks)	Manually entered quantities over the periods, starting with **2** in the first period, adding more, such that, the total number of Kiosks at the end equals **11**

				Note: Though, for Piffl, the following was said: (so, for Piffl: 1 (1st year) => 5 (5th year) => 16 (10 years), we keep it the same as for CLN, for comparability of Scenarios
Kiosks Disposed	Manually entered	Varies	Count (Kiosks)	Manually entered quantities over the periods, such that every kiosk acquired, is disposed after 7 years
Data Package Demand	13 (0; 26 in 3rd year)	73	Count (Packages)	Scaled with kiosks (11/2)
Hours on Sourcing	20	110	Hours / quarter	Scaled with kiosks (11/2)

Hours on Physical Tech Support	10	60	Hours/Quarter	Scaled with kiosks (11/2) Note: Item Custodian + Local Operator: 4 hours per week per kiosk, so 52 hours per quarter per kiosk. This is 52 * 2 = 104 hours per quarter in total (and split this over several lines..) Assuming that this effort is split over “Hours on Local Management”, “Hours on Physical Tech Support”, “Curation Effort” and “Item Maintenance” as 40%, 10%, 40%, 10% (whereby the latter is calculated based on maintenance events, iso on hours)
Hours on Local Management	40	220	Hours/Quarter	See Hours on Physical Tech Support

Hours on Tenant Outreach	23	128	Hours/Quarter	Collaboration/Engagement time for the three kiosks, seem to be, for the first year: 80 + 120 + 200 = 400 hours/year for the 3 kiosks combined. This is 400/4 = 100 hours per quarter. And this is for the combined effort, to be split into: “Hours on Community Engagement”, “Hours on Tenant Outreach” and “Hours on Local Ownership”. Best-guess split is 40%, 35%, 25% And thereafter also scale up from 2 to 11 kiosks.
Hours on Community Engagement	27	147	Hours/Quarter	See Hours on Tenant Outreach
Hours on Local Ownership	17	92	Hours/Quarter	Hours on Tenant Outreach

Number of Item Maintenance Events	5	29	Count (Events / Quarter)	The total effort allocated to "Item Maintenance" is 15.6 hours per quarter (10% of 156 hours). In the model, this 10% allocation serves as the *cost center* for the outsourced, event-based maintenance (see Hours on Physical Tech Support). Number of Events = 15.6 hours / 2 hours/event = 7.8 Events per Quarter Scaling by * 11/2
Curation Effort	41	227	Hours	See Hours on Physical Tech Support
Contract Fee per Item Maintenance Event	250	**326.19**	€ / Event	Best estimate, assuming **3%** annual inflation rate.
Cost Rate per Item Maintenance Event	225	**293.57**	€ / Event	Best estimate, assuming **3%** annual inflation rate.
Data Provisioning Effort	33 (0; 35 in the 3rd year)	183	Hours/Quarter	**Target Estimate:** Scaled from Current (33 hours / 2 stations) * 11 stations ≈ 183 hours.
Kiosk Asset Extraordinary Loss Factor	10	10	Percentage (%)	Assumed fixed risk factor.

Inventory High-Impact Loss Reserve Factor	15	15	Percentage (%)	Assumed fixed risk factor.
Third-Party Access Rate	50 (%)	50 (%)	Percentage (%)	Assumed to remain constant as a baseline contractual offering to all commercial partners, ensuring consistent service provisioning across all operating models.
Gross Revenue Per Accessible Kiosk	75	750	€ / kiosk/Quarter	Build up as follows: • Year 1: **75**. Motivation: **Pilot Mobilization (Low Adoption):** The initial revenue is minimal, representing approximately 10% of the final target. This covers only a small, guaranteed baseline fee, reflecting the setup phase, low initial user adoption in the CLN/Piffl pilots, and the fact that the cost of Commercial Engagement for the partner likely outweighs the benefit. • Year 3: **300**. Motivation: **Early Scaling &**

				Validation: The proof-of-concept phase is complete, and the service is starting to prove its worth to the Commercial Partner. Initial aggregated usage data becomes available, allowing for more valuable, targeted promotions. This represents roughly 40% of the final target. ● Year 5: **550**. Motivation: **Mid-Term Expansion:** The service is stable and expanding, with Piffl reaching its initial target of 5 stations and the CLN pilot growing. The commercial model is now semi-mature, incorporating more robust advertising and co-marketing deals. This represents about 73% of the final target. ● Year 10: **750**. Motivation: **Full-Scale Target:** The model has reached its maximum scale

				(CLN to 11 stations, Piffl to 16 stations) and is operating under the optimal long-term Alternative (e.g., Vendor-Led). With a large, proven user base and comprehensive commercial programs, the full potential of secondary revenue streams is realized. **Note**: The number of kiosks matters for the per-kiosk revenue due to three main reasons: ● **Network Effect & Pricing Power:** A larger network increases the value of each advertising slot, allowing the Commercial Partner to charge more per kiosk for wider reach and higher impressions. ● **Data Monetization:** A larger base generates a massive, more robust dataset, enabling highly targeted, higher-value advertisements. ● **Cost Amortization:** Fixed costs for Commercial Partner strategy and sales are spread over more kiosks, improving

				overall profitability and justifying a higher price per unit. • **Pilot vs. Scale:** The initial low revenue reflects high fixed costs spread over only a few pilot kiosks. • **Mature Network:** The target revenue is only feasible when the network reaches its full, valuable scale (27 stations).
Service Operator Provision Rate	15 (%)	15 (%)	Percentage (%)	Assumed to remain constant, representing a fixed management fee for the Service Operator's enablement and management of the secondary revenue stream, regardless of project scale.
Scouting & Negotiation Effort	80	80	Hours / Quarter	Constant (Reasonable): Assumed to be the fixed, quarterly labor effort required for managing and refreshing the partner portfolio, which is less directly sensitive to a moderate increase in the number of physical kiosks (2 to 11).
Platform Management Effort	27	147	Hours / Quarter	Scales with Kiosks: This operational effort is directly proportional to the number of assets/kiosks to monitor, administer, and report on. It scales from 2 kiosks (Q1) to 11 kiosks

				(Q40), increasing the effort by a factor of 11/2
Commercial Development Labor Rate	120	156.57	Euro / Hour	Subject to a **3%** annual inflation rate.
Platform Management Labor Rate	50	65.24	Euro / Hour	Subject to a **3%** annual inflation rate.
Governance Labor Rate	120.00	156.57	€ / Hour	Subject to a 3% annual inflation rate.
Governance Effort	100	40	Hours per Quarter	Effort is high during initial setup and scales down once the project is in a stable, operational phase.
Overdue Rate	5	3	%	Decrease: Assumes the maturity of the service leads to improved user behavior, effective platform incentives, and better user communication, resulting in fewer overdue returns.
Days Overdue	14	10	days	Decrease: Reflects a more efficient operational model and stricter, more active enforcement of return policies, leading to quicker resolution of overdue items.
Overdue Fee	0.75	1.00	€/day/booking	Increase: A strategic decision to increase the financial incentive for timely returns as the network scales. It could

				also account for general inflation or the increased cost of managing the inventory.

Continuation of the table, for Values needed for the Strategic Mandate Score:

This table provides the required Input Values for the Strategic Mandate Score (SMS), adjusted based on the assumption of 2 Kiosks at the Current Phase and 11 Kiosks at the 10-Year Target.

All values that scale with the number of kiosks (e.g., Total Active Users, Net Cost, Community Hours) have been proportionally adjusted. Per-Use or Rate-based metrics remain unchanged.

Value	Current Quantity Estimate	Target Quantity Estimate (10 Years)	Unit	Source/Rationale
Trust Score (TS) Inputs				
Inventory Loss Rate	**3%**	**2%**	**Percentage (%)**	**Rate of loss is independent of scale; retained.**
Cost Incurred per Item Maintenance Event	**€15**	**€10**	**Euro/event**	**Cost per event is independent of scale; retained.**
Benchmark Community Hours	**85**	**460**	**Hours / period**	**Scaled from 2 stations to 11**
Attended Tenants per Event	**8**	**20**	**Count (Tenants)**	**Attendance per event is independent of total kiosks; retained.**
Target Attendance per Event	**10**	**25**	**Count (Tenants)**	**Target per event is independent of total kiosks; retained.**

Average On-Site Interaction Time	**2**	**3**	**Minutes**	**Time per transaction is independent of scale; retained.**
Benchmark Max Interaction Time	**5**	**5**	**Minutes**	**Threshold per transaction is independent of scale; retained.**
Target Total Active Users per Month	**450**	**1,200**	**Count (Users / Month)**	**Scaled from 2 stations to 11**
Quality of Neighbourhoods Score (NQS) Inputs				
Environmental Score (ES) Inputs				
Target Net CO_2e Impact per User per Month	**50**	**80**	**kg CO_2e per User per Month**	**Target per user is independent of scale; retained.**
Inventory Refresh Rate	**15%**	**10%**	**Percentage (%)**	M: Rate is independent of scale; retained. That trend is a common and highly realistic assumption in the modeling of a new sharing economy initiative. It reflects the distinct phases of project rollout and operational maturity. The Inventory Refresh Rate (the rate at which items are replaced or swapped out) would be

				expected to be higher in the beginning for the following key reasons: 1. Initial Stocking and Scaling ● Initial Build-Out: The high rate at the very start is driven by the necessity of populating the kiosks and building out the initial fleet size mentioned in the scope (e.g., scaling up from 2 stations to 11 for CLN). This is a strategic acquisition, not just a replacement. ● Inventory Mix Optimization: In the early pilot phases, the Inventory Buyer and Item Custodian roles are actively learning which items are most popular, which break fastest, or which are simply unsuited for the sharing model. A high initial "refresh" rate allows for rapid swapping out of non-performing or fragile inventory for more robust or popular alternatives.

				2. Pilot & Adoption Risk ● High Initial Damage/Loss Rate: In the early stages of adoption, End Users are still learning how to use the service and treat the items. This often results in a higher initial rate of damage, misuse, or loss compared to a mature system. The Item Custodian must replace these items quickly, leading to a higher refresh rate. ● Vendor Trial: If the inventory comes from various Item Vendors, the initial period might be used to assess the durability and support provided by each vendor, resulting in a quicker refresh as the project settles on the most reliable suppliers. 3. Transition to Steady State ● Normalization of Depreciation: Once the project moves past the pilot phase and enters its

				mature "steady-state" operation (later phases in the 10-year plan), the refresh rate naturally decreases and stabilizes. It settles into a lower, predictable rate based primarily on the normal wear-and-tear and useful life of the standardized, successful inventory items. In short, the high initial rate accounts for the unpredictable chaos, learning curve, and scaling efforts of a new product launch, while the decreasing rate reflects the project's successful transition to an efficient, stable, and mature operating model.
Benchmark Inventory Refresh Rate	**20%**	**15%**	**Percentage (%)**	**Threshold is independent of scale; retained.**
Risk & Asset Management Score (RAS) Inputs				
Kiosk Extraordinary Loss Rate	**0.5%**	**0.1%**	**Percentage (%)**	**Rate is independent of scale; retained.**

Kiosk Asset Extraordinary Loss Factor	**1%**	**0.2%**	**Percentage (%)**	**Threshold is independent of scale; retained.**
Sponsor/Core Financier Health Score (FHS) Inputs				
Benchmark Net Cost/Subsidy	**€13,500**	**€24,500**	**Euro / booking**	**Scaled from 2 stations to 11**
Benchmark Cost per Use	**€6**	**€2**	**Euro / booking**	**Threshold per use is independent of total kiosks; retained.**

Note: Linear projection can be assumed for interpolation.

The document references used in the source column of the table and their corresponding file names are:

- **Doc [4]: Combined inputs document for Gemini purpose** (This is the new reference, used to cite the user quotes regarding break-even users, local partner time, and the 11-kiosk target.)
- **Doc [6]:** Gothenburg RFP.pdf
- **Doc [7]:** Procurament Proposal Familjebostäder, Gothenburg, Sweden_signed.pdf
- **Doc [8]:** ihopa proposal for familjebostader-1.pdf
- **Doc [9]:** Vendor RFP data
- **Doc [10]:** Collaboration Overview and Estimated Engagement Time

Mapping Value model to Plan & Role Collaboration

The Model's four Perspectives, across Alternatives

The following four perspectives are used for analysis, across Alternatives:

- **Business Model (BM) of the Housing Company (FB):** Crucial, as FB is the key driver and primary financial stakeholder in the initial pilots (Alt-1-1, Alt-2-1) and in strategic models where it retains the **Owner** or **Core Financier** role.
- **BM of the City:** Necessary, as the City is the overall **Sponsor** setting the strategic mandate and is directly involved as **Owner/Financier** in the **City-Led (Alt-1-2)** Alternative.

- **BM of the Local Partner:** Essential, as they are a central figure in operational delegation and assume the **Owner/Financier** role in the **Partner-Led (Alt-1-3)** Alternative.
- **The Plan or Ecosystem Overall:** Vital for assessing the project's success against its public goals of "less consumption" and "sustainability," which require evaluating the combined impact on society and the planet beyond a single entity's profit and loss.

This framework ensures that each Alternative is evaluated for its financial viability, operational feasibility, and strategic goal alignment across all major parties.

Two-tier model that enables comparability across Alternatives

The framework for comparing Value Impact across Alternatives and Scenarios centers on an integrated, two-tiered system:

- At the high level, the project's overall success against public goals is measured by the **Strategic Mandate Score** and its sub-scores, which are designated as **Plan Values** to ensure direct comparability across all Alternatives.
- For all other detailed financial and operational metrics, the underlying **Role Collaboration Model** and its **Value Propositions** are kept constant (invariant) regardless of the Alternative chosen. This also makes these Values directly comparable across Alternatives.

This allows the three distinct **Business Models** (Housing Company, City, Local Partner) to function as mere "views" that track which specific participant is responsible for the associated costs and revenues in a given Alternative.

This design guarantees that all Value impacts are consistently measurable and comparable. A key component of this approach is deriving the ultimate **Financial Health Score** by aggregating the total cost and revenue from the **City's Business Model** across all Alternatives, ensuring the score reflects the entire ecosystem's public financial impact rather than just a single entity's internal profitability.

Important: For the reason of the Role Collaboration model being invariant (i.e., the same across all Alternatives), whereby only assignments of the Roles to Participants partly varies, we can’t use My Proposition of the BMs, to track their total costs and revenues. This is because “Row swap” between Participants would also swap along the My Proposition objects, with the Roles, and this will corrupt the BMs. Hence these costs should be tracked at Plan level too.

Dashboard

Dashboard Proposal, organized into five strategic containers.

The dashboard is configured for maximum strategic detail in a print-friendly, non-scrolling view. The original three outer containers have been expanded to five to accommodate the detailed financial composition charts.1. Overall Dashboard Structure

Container Name	Placement	Width	Contents	Rationale
OUTER-A: Key Trend Comparison	**Top**	100%	INNER-A1 (33%), INNER-A2 (33%), & INNER-A3 (33%)	**Highest Priority.** Compares the most vital long-term trends (Profit, User Satisfaction and Strategic Mandate Score) over the full 40-quarter horizon. Inner containers enforce equal height.
OUTER-B: Core Operational Efficiency	**2nd**	100%	INNER-B1 (100%)	**Single-View Priority.** A dedicated, full-width container for the single most critical efficiency metric, which links volume (Utilization) to cost (Cost Per Use).
OUTER-C: Detailed Cost Composition	**3rd**	100%	INNER-C1, INNER-C2, INNER-C3, INNER-C4, INNER-C5, INNER-C6 (All 40, 50 and/or 60% width, stacked)	**In-Depth Financial Risk.** Uses stacked horizontal bars to cleanly display the detailed 15 cost elements for **each Mandate Partner** (Housing Co., City, Local Partner) across the key milestones.
OUTER-D: Detailed Revenue Composition	**4th**	100%	INNER-D1, INNER-D2, INNER-D3, INNER-D4, INNER-D5 (All 40, 50 and/or 60%	**In-Depth Revenue Impact.** Uses stacked horizontal bars to cleanly display the revenue breakdown for **each Mandate Partner** across the key milestones.

			width, stacked)	
OUTER-E: Final Strategic Scorecard	**Bottom**	100%	INNER-E1 (100%)	**Context & Milestone.** Places the supporting data table that provides the definitive summary of success metrics for all partners and compliance goals at the strategic checkpoints.

-----2. Core Widgets (Detailed Configuration)

All widgets compare all four Plan Scenarios: **CLN to Vendor, CLN to City, CLN to Partner, Piffl to Vendor**.

Container A: Key Trend Comparison

#	Widget Name	Type	Grouping	Period Scope (X-Axis)	Y-Axis / Data Series	Rationale
1	**Comparative Profit**	Line Chart	Group by **Scenario**	**All 40 Quarters**	**Y-Axis:** Profit (Euro). **Data Series (For each scenario):** Profit for FB, City, Partner. (**12 total lines**)	Tracks 10-year financial performance for all three key partners for each scenario.
2	**End User Satisfaction (KPI)**	Line Chart	Group by **Scenario**	**All 40 Quarters**	**Y-Axis:** End User Satisfaction Score. **Data Series:** One line for each of the four scenarios.	The primary social success measure and long-term service quality trend.

3	**Strategic Mandate Score (KPI)**	Line Chart	Group by **Scenario**	**All 40 Quarters**	**Y-Axis:** Strategic Mandate Score. **Data Series:** One line for each of the four scenarios.	The primary strategic success measure and long-term compliance trend.

Container B: Core Operational Efficiency (100% Width)

#	Widget Name	Type	Grouping	Period Scope (X-Axis)	Y-Axis / Segments	Rationale
4	**Cost Per Use & Utilization**	Column/Column	Group by **Scenario**	**Q4 (End of Year) for Years 1, 5, and 10.**	**Columns (Primary):** Utilization Rate (bookings/kiosk/month). **Columns (Secondary):** Cost Per Use (Euro). **(Dual Y-Axis is critical)**	**Core Efficiency View.** Visually links adoption (columns) with efficiency (columns). This limited period scoping ensures the chart is clean and non-scrolling while providing the essential insight into financial breakpoints at key milestones.

Container C: Detailed Cost Composition (6 x 100% Width, Stacked Vertically)

#	Widget Name	Type	Grouping	Period Scope (Y-Axis/Rows)	Segments (X-Axis)	Rationale
5	Cost Composition: Vendor-Led / City	Stacked Bar	CLN/Piffl Pilot to Vendor Scenarios	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	1 specified Cost Structure Value for the City.	Financial risk profile for City (Sponsor) in Vendor-Led transition.
6	Cost Composition: Vendor-Led / Housing Company	Stacked Bar	CLN/Piffl Pilot to Vendor Scenarios	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	2 specified Cost Structure Values for the Housing Company (FB).	Owner Risk Assessment focused on key FB costs in Vendor-Led transition.
7	Cost Composition: City-Led / Partner	Stacked Bar	CLN Pilot to City Scenario	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	2 specified Cost Structure Values for the Local Partner.	Viability Check for Partner's key costs in City-Led transition.
8	Cost Composition: City-Led / City	Stacked Bar	CLN Pilot to City Scenario	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	All remaining Cost Structure Values for the City.	Public Mandate Risk for City in City-Led transition.
9	Cost Composition: Partner-Led / City	Stacked Bar	CLN Pilot to Partner Scenario	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	2 specified Cost Structure Values for the City.	Public Mandate Risk for City's key costs in

						Partner-Led transition.
10	Cost Composition: Partner-Led / Partner	Stacked Bar	CLN Pilot to Partner Scenario	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	All remaining Cost Structure Values for the Local Partner.	Viability Check for Partner's main cost block in Partner-Led transition.

Container

#	Widget Name	Type	Grouping	Period Scope (Y-Axis/Rows)	Segments (X-Axis)	Rationale
11	Revenue Composition: Vendor-Led / Housing Company	Stacked Bar	CLN/Piffl Pilot to Vendor Scenarios	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	1 specified Revenue Stream Value for the Housing Company (FB) across two scenarios.	Owner Revenue Structure. Focuses on the primary FB revenue source in the Vendor-Led model transition.
12	Revenue Composition: City-Led / City	Stacked Bar	CLN Pilot to City Scenario	2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.	2 specified Revenue Stream Values for the City in the City-Led scenario.	Public Mandate Revenue. Focuses on the two key City revenue streams in the City-Led

						model transition.
13	**Revenue Composition : City-Led / Partner**	**Stacke d Bar**	**CLN Pilot to City Scenario**	**2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.**	**2 specified Revenue Stream Values for the Local Partner in the City-Led scenario.**	**Partner Sustainabilit y. Focuses on the Partner's revenue streams within the City-Led model transition.**
14	**Revenue Composition : Partner-Led / City**	**Stacke d Bar**	**CLN Pilot to Partner Scenario**	**2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.**	**1 specified Revenue Stream Value for the City in the Partner-Le d scenario.**	**Public Mandate Revenue. Focuses on the single key City revenue stream in the Partner-Led model transition.**
15	**Revenue Composition : Partner-Led / Partner**	**Stacke d Bar**	**CLN Pilot to Partner Scenario**	**2n Phase (2028-Q2 onwards): Q4 (End of Year) for Years 5 and 10.**	**4 specified Revenue Stream Values for the Local Partner in the Partner-Le d scenario.**	**Partner Sustainabilit y. Focuses on the main revenue streams for the Partner in the Partner-Led model transition.**

D: Detailed Revenue Composition (5 x 100% Width, Stacked Vertically)

Container E: Final Strategic Scorecard (100% Width)

#	Widget Name	Type	Grouping	Period Scope (X-Axis/Columns)	Columns/Data Series	Rationale
16	**Strategic Scorecard**	Table	Scenario	Q4, Year 1 (Baseline), Q4, Year 5 (Mid-term), Q4, Year 10 (Final)	**All 4 Alternatives (Alt-1-1, Alt-1-2, Alt-1-3, Alt-2-1). 5 Values:** * Strategic Mandate Score * End User Satisfaction (Overall KPI) * Profit for City (Euro) * Profit for Housing Company (FB) (Euro) * Profit for Local Partner (Euro)	Provides a single, cross-functional summary of the project's success (financial, social, strategic) for all major entities involved in the mandate at key strategic checkpoints.