StrollAway

One stroller, many adventures

Semester Project: Designing a Stroller-Rental System through Transport Hubs

MSc. Entrepreneurial Business Engineering, 1st Semester
Course: Semester Project incl. Executing Entrepreneurial Ideas
Date: 02.01.2026

Module coordinator: Jesper Lindgaard Christensen
Group no.1:
Jezherel Platon-Reenberg - jplato25@student.aau.dk
Julie Elisa S Debou - jdebou25@student.aau.dk
Muruhaiya Gunasekaran - mgunas25@student.aau.dk
Varun Sudhakar Kadam - vkadam25@student.aau.dk
Ruxanda Buruiana - rburui25@student.aau.dk

Abstract

This project examines the feasibility of StrollAway as a Mobility-as-a-Service concept, offering a contactless stroller rental at airports. Parents often encounter different mobility constraints caused by transporting bulky equipment, increasing stress and logistical efforts. The project explores whether an airport based-rental service can address this problem in an operationally viable and strategically scalable manner. An exploratory research design was followed, combining expert interviews, survey information and early-stage solution and MVP validation with theoretical perspectives regarding service innovation and decision-making under uncertainty. Market fit analysis was used to identify demand potential and operational and institutional factors were examined to clarify key constraints related to infrastructure and hygiene.

Travelling with young children often introduces significant mobility challenges, particularly during arrivals and short term trips where carrying bulky equipment increases stress and logistical efforts. This project examines the feasibility of StrollAway, a contactless stroller rental service designed for airports and transport hubs, with the aim of reducing travel friction for families while operating within highly regulated infrastructural environments. The study addresses how such a service can achieve problem-solution fit, operational feasibility, and strategic viability under conditions of high uncertainty. Results indicated clear perceived value among parents if cleanliness, ease of use and reliability are guaranteed. While the concept demonstrated promising market potential, StrollAway's success depends upon its acceptance within the airport environment. If no such acceptance arises, a pivot plan has been set out to install locker stations in transport hubs with lower regulatory restrictions. As a final step, an exit strategy was developed based on acquisition by strategic players such as Smarte Carte, who already has an established partnership with multiple airports.

Table of Contents

Table of Contents 3
1. Introduction 4
2. Problem statement 7
3. Theoretical Foundation 9
3.1 Service Innovation: Insights from Gallouj & Djellal (2010) 9
3.2 Product–Service Systems (PSS) 11
3.3 Jobs to Be Done (JTBD) Theory 12
3.4 Value Proposition Design (Osterwalder et al. 2014) 13
3.5 Effectuation 14
3.6 Contingency Framework 15
3.7 Summary 16
4. Methodology 17
5. Startup Strategy 20
5.1 Analysis 21
5.1.1 Project Objectives 21
5.1.2. Initial Strategic Logic 23
5.1.3 Customer Journey Perspective 23
5.2 Conclusion 25
6. Market fit 26
6.1 Analysis and Discussion 27
6.1.1 Problem Validation 27
6.1.2 Market Validation 29
6.1.3 Solution Validation 32
6.1.4 MVP Validation 34
6.1.5 External Factors 35
6.2 Conclusion 38
7. Viable transport locations 39
7.1 Analysis and Discussion 40
7.1.1 Original Location Strategy 40
7.1.2 Collaboration Attempts and Constraints 41
7.1.3 Pivot 41
7.1.4 Alternative Pilot Locations: Evaluating Viability 42
7.2 Conclusion 43
8. Operational Design 43
8.1 Analysis 44
8.1.1 System Architecture 44
8.1.2 Hygiene and Maintenance Protocol 47
8.1.3 Logistics, Inventory Flow, and Rebalancing 49
8.1.6 Key Performance Indicators 51
8.2 Discussion 53

8.3 Conclusion 54
9. Exit strategy 55
9.1 Analysis and Discussion 56
9.1.1 Strategic Sale or Licensing to Institutional Actors 56
9.1.2 Strategic Acquisition by Smarte Carte 56
9.2 Conclusion 57
10. Conclusion 57
Appendix 62

1. Introduction

“We parents want the best for our kids, and we do not think twice when it comes to purchasing what they need. We end up purchasing many things that we use only for a very short time or that we do not actually use. This has an economical impact in families’ pockets and environmental consequences. There are ways parents can get what their kids need by saving money and the environment without compromising the quality and comfort. - Duygu Sefa (Drenik, 2021)

Parents often purchase childcare products that are only used for a short period of time or sometimes not used at all, leading to unnecessary household expenses and avoidable environmental impacts (Drenik, 2021). This reality is especially pronounced when families travel, as they may buy additional “travel strollers” that have limited use beyond holiday periods and are then either stored or discarded, contributing to material waste. In airports, parents typically face a constrained choice: check their own stroller through security, purchase an extra lightweight stroller to carry-on, or cope by carrying their tired children. All of which are frequently inconvenient, stressful and physically demanding.

Within this context, the StrollAway project explores how a service-based mobility solution can address the recurring mobility challenges faced by travelling parents, while simultaneously contributing to more sustainable consumption patterns. Rather than framing the problem as one of product insufficiency, the project adopts a service innovation perspective in which access, timing and integration into existing infrastructures become the primary sources of value. The shift away from ownership-based solutions toward access-based mobility services reflects broader developments in Mobility-as-a-Service (MaaS) and circular economy thinking, where value is increasingly generated through shared systems rather than individual possession.

The project originates from a lead user perspective. One of the project’s initiators can be characterised as a lead user in the sense described by von Hippel (1986): an individual who personally experiences needs that will later become widespread and who is therefore able to articulate latent problems before they are fully recognised by the market. As a frequent traveller with young children, this initiator encountered recurring issues related to stroller use during travel, including difficulties transporting strollers through airports, uncertainty about damage during air travel, and frustration with the low-quality travel strollers that failed quickly on trips. These experiences not only inspired the initial concept but also provided grounded insight into the situational constraints, emotional stressors, and practical trade-offs faced by the target user group.

This lead user perspective plays a central role in the entrepreneurial logic of this project. Rather than starting from a predefined technological solution, StrollAway begins with a concrete user problem in a specific context: mobility at arrival after air travel and movement

during the trip. In this sense, the project draws on the Jobs-To-Be-Done (JTBD) theory (Christensen et al., 2016), focusing on the concrete mobility “jobs” parents need to accomplish during travel and designing ways to ease those jobs. In this way, StrollAway is not positioned as a stroller manufacturer, but as a mobility service provider intervening at a critical point in the travel experience when friction, fatigue and uncertainty peak.

Strategically, the project is developed under conditions of high uncertainty. The market for airport-based stroller rental services is immature, access to airports is highly constrained, and user expectations around hygiene and safety are extremely high. Under such conditions, traditional predictive planning approaches are insufficient. Instead, StrollAway adopts a lean, experimentation-driven approach grounded in iterative learning and staged commitment (Ries, 2011). Strategic choices are not guided by long-term forecasts, but by cycles of hypothesis, test, and adaption. This approach is consistent with effectuation theory (Sarasvathy, 2001), in which available means, stakeholder interactions and early feedback shape the evolution of the business concept over time.

StrollAway positions itself at the intersection of family mobility, shared-use services, and infrastructure-embedded service innovation. This combined positioning creates both opportunities and constraints: airports and transport hubs offer dense passenger flows and high potential value, yet they are also governed by strict regulations, long approval cycles and complex stakeholder structures. As a result, feasibility of the project depends on both customer demand and acceptance by infrastructure operators. The project therefore treats partnerships, access rights and regulatory requirements as central uncertainties to be addressed explicitly, rather than as downstream operational details.

Service Innovation is a central concept in this project. StrollAway is conceived not as a new product but as a reconfiguration of existing resources; strollers, digital interfaces, lockers, cleaning routines and transport infrastructure; into an integrated service system. Value is created through the orchestration of these elements into a low-friction user journey that reduces physical burden, cognitive load, and emotional stress for parents. Because the concept focuses on recomining existing components rather than introducing a novel technical invention, formal patent protection is unlikely to be the primary mechanism for value capture.

StrollAway offers an access-based stroller rental service integrated into transport hubs, enabling families to obtain a clean, reliable stroller when they arrive, use it during their trip, and return it when they depart. The service aims to reduce over purchasing, lower the need to transport bulky equipment, and enhance comfort for both parents and children on the move. In this way, StrollAway seeks to extend stroller lifespans through shared use and to create a mobility solution that is both convenient and more resource efficient than individual ownership.

From an entrepreneurial perspective, feasibility is treated as a multidimensional construct, encompassing market acceptance, operational reliability and compatibility rather than

assuming that demand alone ensures success. Throughout the project, feasibility is analysed with respect to hygiene protocols, logistical complexity, recurring demand and partnerships, reflecting the interdependence of value creation and risk management in service-based business models that rely on physical assets. Hygiene, for instance, is not a minor detail but a core part of the value proposition, directly influencing adoption decisions and reputational risk.

The entrepreneurial approach adopted in this project is therefore learning-oriented rather than execution-driven. The objective of this project is not to present a perfect business plan, but to assess whether a stroller rental service can be credibly launched and designed within real-world constraints. Pilot environments, pivot strategies and alternative system configurations are explored as mechanisms to reduce uncertainty before committing to substantial investments. Using this approach, the project acknowledges the bounded rationality inherent in early stage start-ups and aligns its strategic ambition with practical feasibility.

2. Problem statement

Before starting a new business, it is essential to identify the barriers that may hinder its implementation or delay market entry. An early evaluation of these barriers enables StrollAway to determine whether the concept is feasible within the highly regulated airport ecosystem, current market conditions, required technologies and the partnerships necessary for deployment.

StrollAway faces several categories of potential barriers. The first and most fundamental is market feasibility: determining whether a real customer need exists and whether travelling parents consider stroller rental at airports or transport hubs a valuable solution. This includes understanding segment preferences, the extent of the mobility problem during travel, and the presence of direct or indirect competitors.

If a market need is confirmed, the next barrier concerns location and partnership feasibility. Airports represent the ideal environment for launching StrollAway, as they are the first point of contact for travelling families and therefore offer the highest potential usage. However, airports also present high entry barriers: they are heavily regulated, highly commercialised, and operate with long planning cycles. Securing space for smart lockers and gaining operational approval require alignment with airport authorities, safety standards, and competing commercial interests. Without a realistic pathway into airports, the business model risks becoming redundant.

Finally, operational and logistical feasibility must be assessed. A stroller rental system relies on a hygienic, reliable fleet, requiring efficient cleaning routines, prevention of malfunctions and cost-effective turnaround processes. Smart lockers must be placed in optimal, high-

visibility locations and comply with technical and safety requirements. These operational demands must be met without compromising on user experience or economic sustainability.

These challenges lead to the following main research question and secondary research questions:

How can StrollAway design a feasible, hygienic, and economically sustainable stroller-rental system through transport hubs, while validating that the model effectively solves parents' mobility challenges during travel?

Secondary Research Questions:

1. *Is there market demand for StrollAway, and which features or service attributes are most important for the target customer segment?*
2. *What are the most viable transport locations for a pilot deployment?*
3. *How can StrollAway design a cost-effective, hygienic, and operationally reliable logistics system for stroller cleaning, maintenance, and return within the constraints of transportation hubs?*

By answering these secondary questions, we can evaluate whether the StrollAway concept is feasible. If all three areas prove attainable, the idea can be considered viable for further development and potential pilot testing. The following chapters analyse each dimension in detail.

3. Theoretical Foundation

This chapter presents the theoretical foundation used to analyse and design the StrollAway concept. Given the project's complexity, which combines service innovation, physical infrastructure, customer behaviour, and decision-making under uncertainty; a single theoretical lens is insufficient. Instead, a set of complementary frameworks are applied to provide a coherent, multi-level perspective.

The chapter begins with service innovation theory, framing StrollAway as a systemic service innovation embedded in a socio-technical and institutional context. Product–Service System theory is then introduced to explain the access-based structure of the service. To address the demand-side logic, Jobs to Be Done theory is used to explain the underlying customer

problems, followed by Value Proposition Design, which translates these insights into a structured understanding of customer value and problem–solution fit. Effectuation Theory subsequently explains how the service concept and value propositions are developed and adapted through experimentation and stakeholder commitments under uncertainty. Finally, the Contingency Framework is introduced to guide operational decision-making by linking the level of uncertainty to the appropriate decision model.

Together, these frameworks provide an integrated foundation for understanding what kind of service StrollAway is, how it is structured, why customers may adopt it, how value is designed, and how both strategic and operational decisions are made. This foundation informs the methodological choices and the subsequent analysis.

3.1 Service Innovation: Insights from Gallouj & Djellal (2010)

Service innovation theory constitutes the central theoretical foundation of this project, as the StrollAway concept is fundamentally conceived as a service rather than a standalone product. Gallouj and Djellal's (2010) Handbook of Innovation and Services is adopted as a cornerstone analytical lens because it offers a structured approach to understanding how technological components, organisational arrangements, user interactions, and institutional constraints must be integrated to enable a viable and scalable stroller rental service within airport environments.

Gallouj and Djellal (2010) conceptualise services as multidimensional configurations composed of both tangible and intangible elements, including technical systems, organisational arrangements, competences, and user interactions. In contrast to traditional product innovation, service innovation is embedded within broader socio-technical networks and cannot be reduced to a single artefact. Innovation in services therefore emerges through changes in how these elements are configured and coordinated rather than through isolated technological improvements. A central contribution of their work is the emphasis on the systemic nature of service innovation, which involves coordinated transformations across technologies, organisational routines, and interdependent processes.

The framework further highlights the relational and co-produced nature of services, where value is created through interactions between users and providers, shaped by situational and environmental conditions.

User involvement is therefore not a peripheral consideration but an integral component of service innovation, as outcomes depend on how users interact with service touchpoints, how interfaces are designed, and how the surrounding environment structures behaviour. This perspective is highly pertinent for StrollAway, where users actively participate in the service

process through self-service booking, stroller use, and return within a constrained and time-sensitive travel context.

One of Gallouj and Djellal's key analytical contributions is the characteristics-based model of service innovation, which conceptualises innovation as changes in three interrelated dimensions: technical characteristics, service characteristics, and competences. Technical characteristics refer to physical equipment, digital tools, and interfaces that enable service delivery, while service characteristics relate to processes, speed, accessibility, pricing, and reliability; competences encompass the knowledge, skills, and routines of both service providers and users. This model provides a flexible and integrative lens for analysing innovations that combine physical artefacts, digital systems, and organisational change, making it particularly suitable for hybrid service concepts such as StrollAway.

Synthesising these perspectives, the literature identifies several recurring conditions that support effective service innovation, including systemic alignment across organisational and technical components, user-centric design that enables co-production, the development of appropriate competences, strong integration of hybrid product–service elements, effective governance across multiple organisations, adaptability to regulatory and infrastructural constraints, modularity and scalability of service components, and the management of intangible qualities such as trust and perceived reliability. These principles collectively provide a robust theoretical foundation for analysing and designing the StrollAway concept as a service innovation embedded within complex airport ecosystems, and they inform the subsequent empirical analysis and design choices in this project.

3.2 Product–Service Systems (PSS)

Product–Service System (PSS) theory provides a framework for analysing how service innovation is translated into integrated offerings that combine physical products and service activities to fulfil user needs through access rather than ownership. PSS are defined as systems in which tangible products and intangible services are deliberately designed and delivered together so that they jointly provide value, shifting the business logic away from product sales and toward functional use (Tucker, 2004). This perspective is particularly relevant for services where physical assets are shared among multiple users and embedded within an ongoing service system.

Within Tucker's (2004) PSS theory, use-oriented systems represent a distinct category in which the service provider retains ownership of the physical product while users are granted temporary access through models such as renting or sharing. In these configurations, the product remains central to value creation, but responsibility for maintenance, control, and quality assurance is concentrated with the provider rather than transferred to the user. Value is therefore delivered through availability, reliability, and ease of use over time, rather than

through ownership. This structure is particularly relevant for products that are used infrequently or for short periods, as it reduces the need for individual ownership of assets that would otherwise be underutilised.

A key implication of use-oriented PSS is the centralisation of operational responsibility with the provider. Because the product remains provider-owned, issues such as asset condition, hygiene, safety, and lifecycle management become integral elements of service delivery rather than secondary concerns. At the same time, shared or sequential use of assets enables more intensive utilisation of capital goods, potentially reducing the number of physical products required within the system. This is particularly relevant for travel-related baby equipment, which is often purchased as secondary, infrequently used items. By providing access at the point of need, use-oriented Product–Service Systems can reduce demand for such underutilised products, a mechanism that in the PSS literature is primarily associated with environmental impact through lower material throughput and production-related effects.

Use-oriented PSS further highlights the importance of service process design and user participation in shaping both operational and environmental outcomes. While provider ownership enables standardisation and control, system performance also depends on how users interact with the service. In this regard, PSS theory emphasises that environmental effects are conditional rather than inherent and depend on service configuration and user behaviour. Applied to hygiene operations, this implies that distributing low-impact cleaning activities across users, combined with lower-frequency intensive maintenance managed by the provider, may reduce the overall resource intensity of cleaning processes without compromising safety or reliability.

However, according to Tucker (2004), use-oriented PSS also involves potential trade-offs. Users may experience reduced exclusivity or be required to adapt to system-defined access and usage rules, which can represent tangible or intangible sacrifices. The viability of such systems therefore depends on careful service design that minimises user effort and uncertainty while maintaining convenience, trust, and reliability. Consequently, the design of access mechanisms, usage procedures, and supporting service processes plays a critical role in shaping user acceptance and overall system performance.

3.3 Jobs to Be Done (JTBD) Theory

While service innovation theory explains how services are reconfigured through changes in technologies, processes, and organisational arrangements, it does not in itself explain why particular service solutions are adopted by customers in specific situations. To address this demand-side dimension of service innovation, this project draws on Christensen et al.’s (2016) Jobs to Be Done (JTBD) theory, which focuses on the underlying progress customers seek and the situational contexts that shape service adoption.

Jobs to Be Done theory conceptualises customer demand as the desire to make progress toward a goal in a given context, suggesting that customers “hire” products or services to perform a job they need done (Christensen et al., 2016). From this perspective, products and services compete not within predefined categories, but as alternative solutions to the same underlying job, including workarounds, substitutes, or the option of doing nothing.

A defining feature of JTBD is its emphasis on situational triggers. The same customer may face the same underlying job across different contexts but select different solutions depending on environmental constraints, time pressure, emotional state, or social considerations. This makes JTBD particularly relevant for service innovations in travel environments, where customer behaviour is shaped by stress, uncertainty, and limited time rather than by stable preferences.

JTBD further recognises that jobs are multidimensional, encompassing functional, emotional, and social elements. Effective solutions therefore address not only task completion but also emotional reassurance and social signalling. As a result, innovation opportunities often lie in reducing friction, effort, and anxiety rather than in adding features.

Within this project, JTBD theory supports the analysis of market demand by reframing customer needs away from product categories and toward situational problems customers look to resolve. In doing so, it complements Product–Service System theory by explaining why access-based service configurations may be preferred over ownership in specific contexts and provides a conceptual foundation for subsequent value design and market-fit analysis.

3.4 Value Proposition Design (Osterwalder et al. 2014)

While Jobs to Be Done theory explains the underlying problems customers seek to resolve in specific situations, it does not in itself specify how these insights should be translated into concrete service offerings. To bridge this gap between customer understanding and solution design, this project applies the Value Proposition Design framework developed by Osterwalder et al. (2014).

Value Proposition Design provides a structured approach for designing and evaluating value propositions by systematically aligning customer needs with targeted products and services. The framework is centred on the Value Proposition Canvas, which consists of two interrelated components: the customer profile and the value map. The customer profile captures the customer’s jobs, pains, and gains, building directly on insights derived from Jobs to Be Done analysis. The value map, in turn, specifies the products and services offered, as well as the mechanisms through which customer pains are alleviated and gains are created.

A central concept in Value Proposition Design is the notion of “fit,” which refers to the degree of alignment between what customers seek to achieve and what the offering delivers. Fit is achieved when the proposed products and services effectively address the most relevant customer jobs while credibly relieving key pains and enabling desired gains. Rather than assuming value creation, the framework encourages explicit articulation and testing of value hypotheses, making it particularly suitable for early-stage service concepts and MVP development.

From a theoretical perspective, Value Proposition Design operationalises customer value as something that emerges in use rather than being embedded in features alone. It thereby complements demand-side theories by translating abstract customer needs into design-relevant elements that can be evaluated and iteratively refined. This focus on structured alignment between customer insight and solution design is especially relevant for service innovations operating in complex, time-sensitive environments, where perceived convenience, reliability, and reassurance play a critical role in adoption.

Within this project, Value Proposition Design supports the analysis of market fit by providing a framework for systematically linking identified customer jobs to specific service elements and design choices. As such, it serves as a bridge between behavioural insights derived from Jobs to Be Done theory and subsequent empirical assessment of customer acceptance and willingness to pay.

While Value Proposition Design structures how customer value is articulated, it does not explain how such value propositions are developed and adapted under uncertainty; this limitation is addressed in the following section through Effectuation Theory, which explains how value emerges through experimentation, stakeholder commitments, and iterative learning rather than predictive planning.

3.5 Effectuation

Effectuation theory explains how entrepreneurial organisations are developed under conditions of high uncertainty, where markets, technologies, and stakeholder commitments cannot be reliably predicted in advance. The theory was developed by Saras Sarasvathy (2001) and is based on empirical studies of expert entrepreneurs. In contrast to predictive, goal-driven planning, effectuation describes a non-predictive logic in which actors focus on controlling what they can influence and allow goals to emerge through action and interaction. In this sense, effectuation theory complements the preceding frameworks by explaining how service configurations, value propositions, and market assumptions are iteratively shaped through experimentation and stakeholder commitments under uncertainty, rather than through predictive planning.

A central distinction within effectuation theory is between causation and effectuation. Causation assumes that a specific objective can be defined upfront and achieved through planning, forecasting, and optimisation. Effectuation, by contrast, begins with the means currently available and allows strategic direction to evolve over time. This logic is particularly relevant in early-stage service innovation, where uncertainty surrounding customer demand, operational feasibility, and institutional constraints limits the usefulness of traditional forecasting approaches.

Effectuation theory is commonly articulated through five core principles. The *bird-in-hand principle* emphasises starting with existing means, including prior knowledge, skills, and networks, rather than waiting for optimal resources. The *affordable loss principle* suggests that decisions should be guided by the level of risk the entrepreneur is willing to accept, rather than by expected returns. The *crazy quilt principle* highlights the importance of partnerships and stakeholder commitments in shaping both opportunities and outcomes. The *lemonade principle* encourages entrepreneurs to leverage unexpected events and constraints as inputs for adaptation rather than as sources of failure. Finally, the pilot-in-the-plane principle frames the future as something that can be shaped through action rather than predicted through analysis.

From an innovation perspective, effectuation theory conceptualises opportunities as emergent rather than discovered. Value propositions, markets, and even strategic objectives are co-created through iterative experimentation and stakeholder interaction. This view aligns closely with service innovation processes that unfold in complex, regulated, or multi-actor environments, where initial assumptions are likely to be challenged during implementation.

Within this project, effectuation theory provides a relevant lens for understanding the strategic logic justifying early-stage development, pilot testing, and adaptive decision-making. It complements customer- and value-oriented frameworks by explaining how service concepts and value propositions can be iteratively refined through experimentation and partnership formation prior to large-scale commitment. As such, effectuation theory supports the analysis of how the service can be developed and validated in practice under conditions of uncertainty.

3.6 Contingency Framework

While effectuation theory explains how strategic direction and value propositions emerge through experimentation and stakeholder commitments under uncertainty, it does not specify how concrete operational decisions should be structured as uncertainty varies. The Contingency Framework is used in this context to guide decision-making in the operational design of StrollAway based on differing levels of problem consensus and solution knowledge.

Within the Contingency framework, developed by Daft et al. (2010), decision-making is conceptualised along two dimensions: problem consensus and solution knowledge. Problem consensus refers to the extent to which stakeholders agree on what the problem is, while solution knowledge focuses on the extent to which there is clarity and/or agreement on how to solve that problem. Different combinations of these dimensions imply different levels of uncertainty and therefore require different decision-making approaches. When both problem consensus and solution knowledge are high, rational and analytical decision-making approaches, often referred to as Management Science, are appropriate. When solution knowledge is high but problem consensus is low, decision-making is characterised by negotiation and coalition-building, as described by the Carnegie model (Daft et al., 2010).

In the context of StrollAway's operational design, a high level of problem consensus is assumed. Stakeholders are expected to agree on the fundamental operational challenges associated with delivering a hygienic, reliable, and scalable stroller-rental service within regulated transport hubs. In contrast, solution knowledge remains uncertain, particularly with respect to optimal locker placement, hygiene cycles, maintenance routines, and fleet balancing. According to the Contingency Framework, this combination of high problem consensus and low solution knowledge makes incremental decision-making the most appropriate approach (Daft et al., 2010).

Incremental decision-making frames large decisions as a sequence of smaller choices instead of a single, comprehensive choice (Mintzberg, 1976). Rather than seeking optimal solutions upfront, organisations progress through gradual adjustments guided by learning and feedback. Operational commitments are decomposed into manageable sub-decisions, this is particularly suitable in environments characterised by bounded rationality which prevents optimal decision-making. The incremental decision-making framework consists of three structured phases: The identification phase, the development phase and the selection phase. In the identification phase, issues (in this case operational issues) are recognised and framed. The development phase focuses on generating and testing alternative solutions. Lastly, the selection phase evaluates solutions and retains them based on observed performance instead of pure theoretical superiority.

3.7 Summary

This chapter has established the theoretical foundation for analysing and designing the StrollAway concept by integrating complementary frameworks that together address the project's central research question: how a feasible, hygienic, and economically sustainable stroller-rental service can be developed within transport hubs while effectively addressing parents' mobility challenges during travel. Each framework contributes a distinct analytical perspective that supports different aspects of the research design.

Service innovation theory provides the overarching lens for understanding StrollAway as a systemic service innovation embedded in a socio-technical and institutional context, thereby supporting the overall assessment of feasibility and integration within regulated transport hubs. Product–Service System theory further specifies how this innovation can be structured as a use-oriented, access-based service, clarifying ownership, responsibility for hygiene and maintenance, and the economic logic underlying the rental model. Together, these frameworks inform the analysis of how a hygienic and economically sustainable operational system can be designed within the constraints of transport environments.

To address the demand-side dimension of the research, Jobs to Be Done theory explains the underlying mobility challenges parents face during travel and why an access-based stroller service may be preferred over ownership or other alternatives. Value Proposition Design builds on these insights by structuring the analysis of customer value and supporting the evaluation of market demand, feature importance, and willingness to adopt the service. These frameworks are directly relevant to the secondary research question concerning market demand and the service attributes most valued by the target segment.

Effectuation theory contributes by explaining how the StrollAway concept can be developed and refined under conditions of uncertainty through experimentation and stakeholder collaboration. This perspective supports the validation of assumptions related to market demand, service design, and early pilot deployment. Finally, the Contingency Framework complements effectuation by guiding how operational decisions are structured based on problem consensus and solution knowledge, supporting an operational design approach in which complex choices are broken down into smaller components.

Collectively, these frameworks establish a coherent theoretical basis for addressing both the primary and secondary research questions and guide the methodological choices and empirical analyses presented in the subsequent chapters.

4. Methodology

This project adopts a mixed-method research design, combining qualitative and quantitative methods to address the research questions related to startup strategy, market fit, and operational feasibility of the StrollAway concept. The methodological approach is informed by the theoretical foundation presented in Chapter 3, which conceptualises StrollAway as a service innovation embedded within complex socio-technical and infrastructural environments.

Service innovation theory (Gallouj & Djellal, 2010) and Product Service System theory (Tucker, 2004) both emphasise that value creation emerges through interactions between technical systems, organisational arrangements, users, and institutional contexts. As a result,

no single method is sufficient to capture the multidimensional nature of the phenomenon under investigation. Qualitative methods are required to understand user experiences, institutional constraints, and service interactions, while quantitative methods provide structured representations of interest, engagement, and system-level patterns. The mixed-method approach therefore follows directly from the theoretical understanding of services as relational, context-dependent, and co-produced.

Before data collection, the methodological ambition is to establish a sufficiently rich empirical basis to examine the research question from multiple perspectives, while acknowledging the constraints inherent to early-stage entrepreneurial research. Rather than aiming for predictive validation or generalisable outcomes, the methodology is designed to support learning, interpretation, and feasibility assessment. This orientation reflects both the exploratory nature of the research question and the uncertainty surrounding the early development stage of the StrollAway concept.

The market fit methodology is designed to address the research question by examining whether the mobility challenges faced by travelling parents constitute a meaningful problem and whether a stroller rental service could plausibly address this problem in specific travel contexts. Drawing on Jobs-to-Be-Done (JTBD) theory (Christensen et al., 2016), the methodological focus is placed on understanding user needs as situational jobs rather than as abstract or stable preferences.

Qualitative research is intended to form the core of the market fit analysis. Semi-structured interviews are planned with parents who have recent experience travelling with young children. These interviews are designed to explore underlying stress factors, emotional responses, situational constraints, and existing coping mechanisms related to mobility during travel. Open-ended questions are selected to allow participants to describe their experiences freely, enabling an in-depth understanding of the functional, emotional, and social dimensions of the jobs parents seek to get done when travelling.

Quantitative methods are intended to complement these qualitative insights and support triangulation. Surveys are planned to capture broader indications of perceived usefulness, openness toward a shared stroller service, and potential concerns related to pricing and trust. In addition, a landing page is designed as an early validation instrument to observe initial behavioural engagement with the concept. Metrics such as page views, time spent, and navigation behaviour are intended to function as indicative signals of interest rather than as measures of demand. Together, these methods are selected to assess market fit in a manner consistent with the exploratory scope of the research question.

To further address the research question from a strategic perspective, the startup strategy methodology is grounded in Lean Startup methodology (Ries, 2011; Blank & Eckhardt, 2024), effectuation theory (Sarasvathy, 2001), and discovery-driven planning (McGrath & MacMillan,

1995). These perspectives conceptualise entrepreneurial decision-making as iterative and learning-oriented, particularly under conditions of high uncertainty.

From an initial planning standpoint, the startup strategy methodology is intended to explore which infrastructural environments could realistically support an early StrollAway pilot. Qualitative desk research and comparative analysis are selected to assess alternative contexts such as airport terminals, car rental facilities, and public transport hubs. These methods are chosen to evaluate regulatory complexity, institutional accessibility, ownership structures, and stakeholder dependencies, thereby informing strategic choices relevant to the research question.

Rather than relying on predictive business planning, the methodology emphasises structured experimentation and incremental validation of assumptions. Lean Startup principles inform the intention to test strategic hypotheses through small-scale pilots before committing significant resources. Discovery-driven planning supports the explicit articulation and examination of assumptions related to regulatory feasibility, partnership openness, and operational workflows. Effectuation theory guides the focus on available means and feasible entry points rather than on idealised future configurations. This combination allows the research to explore startup strategy as a response to contextual constraints rather than as a predefined plan.

The operational design methodology is intended to address the research question by examining whether the StrollAway concept can be translated into a feasible pilot within regulated transport environments. In line with contingency theory (Daft et al., 2010) and the concept of bounded rationality, operational feasibility is approached as a decision-making process under uncertainty rather than as an optimisation exercise.

In this context, the methodology is informed by the incremental decision-making model (Mintzberg, 1976). Rather than assuming that a complete and optimal operational system can be specified upfront, the incremental model conceptualises operational design as a sequence of smaller, interrelated decisions that evolve in response to emerging information, constraints, and stakeholder interactions. This perspective is particularly suitable for early-stage organisations operating in infrastructure-dependent and highly regulated environments, where uncertainty, institutional dependencies, and incomplete information limit the feasibility of comprehensive upfront planning.

Accordingly, the operational methodology does not aim to define a finalised or optimal operational configuration. Instead, it is structured to decompose operational feasibility into a set of manageable building blocks, allowing each element to be examined and refined independently. These building blocks include physical infrastructure and system architecture, hygiene and maintenance protocols, logistics and asset flow, and operational performance

indicators. This decomposition enables adaptive refinement as insights emerge, while maintaining coherence across the overall service system.

Desk research and regulatory analysis are planned to assess the legal and technical feasibility of installing locker systems and stroller fleets within transport hubs. This includes evaluating compliance with building regulations, safety standards, accessibility requirements, and fire and electrical regulations. In parallel, technical benchmarking is intended to support the selection of suitable stroller models and locker configurations based on durability, safety, and compatibility with shared-use contexts.

Hygiene and maintenance processes are intended to be examined through comparison with industry practices and alternative cleaning approaches. The objective is to explore how safety, user trust, and operational efficiency can be balanced within the constraints of airport and transport hub environments. Logistics and inventory flow are intended to be analysed through system mapping, focusing on how strollers, users, and service personnel interact across locations under different deployment scenarios.

Consistent with an incremental decision making approach, the methodology avoids committing to a single, fixed operational model at an early stage. Instead, operational choices are deliberately decomposed into smaller, sequential decisions, enabling the design to evolve as empirical insights and contextual constraints become clearer. Within this learning-oriented framework, quantitative indicators are employed as sense making tools rather than optimisation targets. Key Performance Indicators (KPIs) capture essential operational dimensions such as utilisation, maintenance efficiency, service reliability, and cost structure and are used to compare alternative scenarios and support iterative refinement. In this way, KPIs function as simplified signals that facilitate learning, reduce the risk of premature commitment, and inform considerations related to future scalability.

In summary, the methodology is designed as an exploratory, mixed-method approach aligned with the theoretical understanding of service innovation, Product Service Systems(PSS), and entrepreneurial decision-making under uncertainty. By combining qualitative research methods with Lean experimentation, the project intended to generate context-sensitive insights into startup strategy, market fit, and operational feasibility. All methodological choices were guided by the objective of reducing uncertainty through learning rather than prediction, ensuring coherence between theory, research design, and the early-stage nature of the StrollAway concept.

5. Startup Strategy

StrollAway's concept arose from a combination of personal experience, field observations, and a goal to solve an existing problem. This is not a predefined business plan, but an idea

developed through direct observation and exposure to the pain many parents face while traveling: the logistical, financial, physical and emotional burden of managing child mobility while traveling.

Challenges often arise for parents when multitasking between navigating through security procedures, transporting childcare equipment (particularly strollers) while being under time pressure, travel fatigue and taking care of small children and luggage. One of StrollAway's founders has experienced this problem firsthand when travelling with young children. Repeated reliance on folding travel strollers, which are often expensive yet less practical than standard strollers, combined with uncertainty around airline handling procedures and potential fees, highlighted a clear gap in existing solutions. These experiences reinforced the need for an alternative that enables a more predictable and less stressful travel experience for parents. This personal insight was further supported through direct observation of airport environments.

StrollAway, began with available means rather than an abstract market opportunity, in line with effectuation logic (Sarasvathy, 2001). The available means include real life experiences about stroller use while traveling from the founder's perspective together with an understanding of travel flow. The founder recognized that families are facing more obvious challenges in airports compared to other travel hubs, as this is a higher traffic transport location. In order to mitigate the inconvenience of bringing a foldable stroller on the trip an alternative solution was designed. This alternative solution can be introduced at a critical time in the customer journey, replacing ownership with temporary access.

This chapter describes StrollAway's startup strategy by explaining how the idea was developed, how initial strategic assumptions were formed, and how early constraints shaped subsequent decisions. As well, it introduces a description of the project goals, an explanation of the initial focus on airports as pilot locations, and a reflection on early attempts to form partnerships. Through observation, experimentation, and adaptation, the chapter illustrates a lean process, rather than a finalized strategic decision.
The following chapters provide a more detailed analysis of market fit, operational design, and pivot options.

5.1 Analysis

5.1.1 Project Objectives

StrollAway's strategic vision is to provide parents with a scalable, service-based mobility solution that reduces travel-related pressure while promoting more sustainable consumption habits. A number of interrelated objectives are used to guide early decision-making and evaluation of the project.

First, users can locate, unlock, rent, and return strollers seamlessly through a digital platform. This platform integrates payments, availability, and usage data for customers and provides StrollAway with useful information for optimising their service or as support for future expansion across locations.

Secondly, the project will initially focus on deploying smart locker stations at airports with high traffic. These locker stations are the pick-up and drop-off points for strollers and the point where the actual usage of StrollAway's services starts. To make the service convenient it is important to choose the right accessible and visible location (closer to the exit area, transport hubs or car rental offices).

Thirdly, establishing robust and affordable maintenance and sanitation protocols is an important objective. Given that the service targets families with young children, hygiene, safety, and reliability are critical, confirmed by the conducted interviews and survey, parents highly value hygiene and reliability. Diane said that if she would rent a stroller from StrollAway, her trust in the product would greatly depend upon clear hygiene standards. Trust is essential for the company, especially in the startup phase (Appendix C).

Fourthly, StrollAway aims to form strategic partnerships with infrastructure owners and complementary service providers, such as airports, hotels, and travel agencies. In regulated environments, these partnerships are crucial for access, legitimacy, and scalability. First, strategic partnerships should be formed with airports as StrollAway wants to install its locker stations within their buildings. By entering into a strategic partnership, StrollAway can secure exclusive access to high-traffic locations and customer visibility. A revenue-sharing concession can be agreed, in which case StrollAway installs and operates the locker stations and either the airports receive a fixed percentage of the rental revenue or they receive a fleet lease per square meter. By collaborating with airlines, the stroller rental can be integrated in the travel journey before arrival. Airlines could offer StrollAway’s rental strollers as an additional option when booking a flight ticket, ensuring a smooth booking journey where every single problem can be solved in one process. Similarly to collaborations with airlines, hotels can implement StrollAway’s service in their booking platform.

Summarizing, StrollAway aims to provide a scalable, digital stroller-rental service at airports, reducing families’ travel stress and supporting more sustainable consumption. The business is focused on seamless online integration of smart lockers with robust and clean strollers at high-traffic airports, using strategic partnerships to find customers and integrate StrollAway’s booking system with theirs.

5.1.2. Initial Strategic Logic

From both an observational and experiential standpoint, airports initially appeared as the most logical entry point for StrollAway. Logically, when parents descend from the airplane, they need immediate access to the strollers as young children can only walk a short distance. Lockers placed close to passing-by points for parents make it easily findable and accessible without needing to go somewhere else to get their stroller.

These findings made airports strategically attractive for several reasons. As stated by the European Conference of Ministers of Transport (2005), airports are central nodes in the overall transport chain. Large numbers of possible customers move through the same spaces every day, creating a high density of potential users.

From a customer journey perspective, placing stroller access directly in arrival zones is especially attractive. According to the conducted interviews and StrollAway's lead user, being able to pick up a stroller immediately after landing would reduce stress at a critical moment and allow parents to move through the airport more smoothly.

Additionally, airports already host other shared mobility services, such as luggage trolleys, car rentals, and bike-sharing schemes. This suggested that stroller rental could be conceptually integrated into existing service ecosystems, supporting the initial assumption that airports might be receptive partners.

5.1.3 Customer Journey Perspective

StrollAway's strategic logic is based upon the customer journey perspective of parents or families. Rather than finding a conceptual solution, a stroller rental is approached as an intervention within a broader experience of travelling families, unfolding over multiple stages, touchpoints and emotional states. A customer journey does not begin at the start of use of a stroller, but well before that. Several moments of interaction are identified between the customer and StrollAway. The six interaction points will be analyzed to discover what the goal of that interaction is, what pain points can occur and what opportunities can be discovered in that moment.

The first moment of interaction, awareness, means that customers become aware of StrollAway's existence. For instance, parents want to travel with their children and be mobile on vacation but encounter some difficulties. As mentioned before, people can take their own stroller, which is often too bulky for air travelling. They can buy a travel stroller, often expensive and discarded soon because of its low quality and usability or they can rent from a baby equipment rental, thus having to travel a short distance without a stroller. At that moment, StrollAway can be introduced as a solution for that problem via several touchpoints. Social media ads can be used to make parents aware of their services. Ensuring the right

keywords are linked to StrollAway in google searches is another important factor and for last-minute solution seekers, posters can be hung up in airports signalling the possibility to rent a stroller immediately. In this touchpoint, StrollAway can position itself as a sustainably responsible organisation helping parents in making their trip more convenient. In this step, the most important features of the service will already be viewable: contactless rental, hygiene and sustainability.

Secondly, parents take StrollAway into consideration when choosing their mobility type for their travel. In this step, they explore the alternatives to solve their mobility problem. As mentioned, they can bring their own stroller, bring a lightweight travel stroller, rent from the hotel or from baby rental services outside the airport, borrow from local friends or rent from StrollAway. This is the moment where StrollAway can persuade customers to choose their service. Important touchpoints in this interaction are StrollAway's website, app, online reviews and travel bloggers. Being mentioned in travel blogs gives StrollAway a larger visibility in the right community. Following the conducted expert interviews, parents want to compare price, the cleanliness/hygiene of strollers and convenience of booking in this phase. Parents can be hesitant about using StrollAway as they are unsure if it is trustworthy and hygienic. To convince those parents to choose StrollAway, they can showcase safety standards and hygiene protocols on their website, app and social media. Videos can be made about how the stroller can be safely folded to show StrollAway being there for their customers every step of the way. Testimonials from earlier users can also be shown on the website or app to add trust to the brand.

As a third interaction point, parents make a decision to use StrollAway's services or not. In this phase, they choose a rental period, a day-to-day rental period as we want to add to parents convenience when their plane for example has a delay. Next, they can choose a pick-up location at one of the locker stations operated by StrollAway. Lastly, they will pre-pay for their rental. This can be done through website or app booking. After they have paid for their rental, an email with a QR code will be sent to their email address. From the conducted interviews, StrollAway learned that parents highly value a confident and quick rental system. Saskia mentioned that if it takes too long to make a reservation and seems very complex, she would not use it. Here, parents can be afraid of hidden fees, unsure about return policies, afraid of not finding the lockers at their destination and they can encounter a dysfunctional app. To act against these possible pain points, a direct QR-code confirmation should be sent to customers mail addresses, in that mail the return policies should be explained and a live availability map should be added to the application, allowing parents to easily find the locker stations.

After deciding to rent a stroller, parents have to use it during their holiday and smooth mobility with children should be ensured. They will be using the stroller around the airport, in the city or at their destination, in public transport and maybe in their rental car. That is why it is necessary to be able to fold and unfold the stroller easily. Parents can use the app to find

videos about how to fold and unfold the stroller and other information about the stroller. There will also be customer support available during the day, as the stroller will mostly be used during the day and a 24/7 customer service might be too expensive for StrollAway. Parents might be worried about damaging the stroller or the stroller not being weather proof, using a robust stroller design to avoid damage and also worrying parents is central to StrollAway's idea. A report button will be available in the app during the rental period, allowing parents to report any issues as soon as they happen. This allows StrollAway to react to these issues quickly and efficiently.

At the end of their trip, parents will have to return the stroller to a locker station. Back at the airport, parents might be rushing to get to their plane, signalling a need for a quick return system. Parents can find a nearby locker station with available lockers through the live availability map in their app. They can scan their QR code, received by StrollAway via mail to open an available locker. They can put the stroller in the opening locker and their rental period will be stopped, they will also be receiving a confirmation about the end of their rental. After their rental, they will be able to provide feedback about both the stroller and StrollAway's services.

The final step in the customer journey focuses on customer loyalty. After a rental, parents will receive a follow up email with possible relevant information and redeeming credits for a next trip. Hopefully, they will also tell their acquaintances about their positive experience, leading to positive word-of-mouth. A referral program can be introduced to positively influence the word-of-mouth principle. By doing this, customers will feel rewarded and valued by StrollAway which will help them to return to StrollAway's services. Possible problems that can occur is that people forget StrollAway's brand name, that they have had issues during their previous rental or that they are not sure if StrollAway operates at their next destination. All of these issues can be mitigated by having clear information on the website and app
.

5.2 Conclusion

StrollAway's startup strategy is described in this chapter as a process of lean approach rather than a ready to go action plan. Based on both personal experience and direct observation, the chapter illustrates how the idea was born out of a recurring and tangible mobility challenge for travelling parents. Particularly, moments of arrival within transport infrastructures revealed gaps in existing services, illustrating how systems often fail to support families under high mobility pressure.

The initial decision to focus on airports was therefore not accidental, but grounded in where the problem appeared most visible and intense. From a service innovation perspective, they also function as complex service ecosystems where well-integrated solutions can benefit from trust, visibility, and perceived legitimacy.

The initial startup strategy was mostly formed around an informed opinion from lead users and limited grey literature. For this reason, the startup strategy should be understood as an informed starting point rather than a final blueprint. The following chapters build on this foundation by critically examining whether the initial strategic assumptions hold when confronted with market realities, operational requirements, and external constraints. Through analyses of market fit, operational design, and the broader institutional environment, the project evaluates whether the original strategy can be sustained or whether adaptation is required as the startup moves from idea to implementation.

6. Market fit

Market fit, as defined by Taghian et al. (2010), is the degree to which an organization's capability configuration corresponds with foundational external environmental factors, such as customer need, willingness to pay and problem-solution fit. This chapter evaluates if StrollAway's service corresponds with those environmental factors and solves a true pain point for parents. Do parents perceive mobility while traveling with small children as a problem, and would a stroller rental service at airports be a compelling solution? During the course of this chapter the below secondary research questions will be answered:

Is there market demand for StrollAway, and which features or service attributes are most important for the target customer segment?

Including problem and market validation tries to establish that families travelling with children face an important mobility challenge on arrival at destinations, while solution and Minimum Viable Product (MVP) validation assesses whether StrollAway, and its implementation, effectively solves the aforementioned problem. Finally, external influences will be discussed using the Porter's Five Forces Model. Using this model, StrollAway provides a visual representation of an external-looking perspective, evaluating the structural attractiveness and competitive dynamics of airport-based stroller rentals. In that way, StrollAway can determine whether the validated solution can be scaled and sustained economically over time.

Starting the research with the JBTD Theory, gives the opportunity to map challenges that parents are struggling with instead of finding solutions where no problem exists. Following the JBTD Theory, the Value Proposition Canvas is introduced fitting the customer profile with the value map.

Five in-depth interviews were conducted with parents who are often travelling by plane with children (Appendix C). Each of the interviewees have travelled by plane with one or more children under the age of six years old. The six-year threshold was applied as children of that

age normally do not require a stroller anymore, and likely surpass the weight limits established for stroller use (Craft Child, n.d.). These semi-structured interviews provide an opportunity to gain insights into what parents struggle with during travel, what could form a solution and how the concept for StrollAway can be shaped into a viable solution.

Building on the in-depth interviews, a survey was designed aiming to receive quantitative data regarding market validation and solution validation (Appendix D). The survey was distributed via social media, private messages, and parent-focused groups, targeting international parents who travel frequently. Access to the target group was enabled through a mother acting as a facilitator. A total of 36 responses were collected over four weeks, but due to the limited sample size, the results are not treated as quantitative evidence but used solely to support qualitative findings.

Validating market, solution and MVP; a landing page was created, testing feasibility of offering stroller rentals to parents at airports (Appendix E). A total of 84 page views, with 65 users clicking one of the two options. Indicating a larger interaction rate than the survey, but still not significant enough to use as quantitative data for StrollAway's research. Following the use of data from the survey, the landing page data will also be used as qualitative support to conclusions from the interviews.

6.1 Analysis and Discussion

6.1.1 Problem Validation

The JBTD Theory (Christensen et al., 2016) from the lead user perspective of StrollAway's founder was used as a starting point for problem validation of parents travelling with children. The first JBTD is *packing luggage* without overpacking. Parents have to decide what child-related equipment, such as strollers, carriers or car seats, they want to take with them while travelling. They have to decide on what is really necessary for their vacation duration and destination. Secondly, the *transport of children and luggage* from their home to their destination has to be organized. Decisions have to be made on what mobility tools they are going to use to get to and from the airport. Getting off the plane, a third JBTD arises, *avoiding logistical failures*. When parents have decided to bring their own stroller on their travels, they risk them getting damaged in holding luggage or airlines losing them due to logistical failures. At that point, parents have to look for a solution for their broken or lost stroller during the trip, adding an extra strain on their travel plans. Once at their destination, the fourth JBTD starts: ensuring *child mobility at destination*. Parents have to have an easy way of taking their kids from one place to the other during their stay. The last JBTD consists of *adapting to changing contexts*. Travelling with children means there is often a need for different kinds of strollers, depending on the age of the child. This would lead to needing multiple different travel strollers.

Learning from the qualitative interviews, travelling with young children by plane is consistently described as stressful, especially when talking about logistics. Strollers emerged as a central pain point across all interviews. Parents consistently emphasised the necessity of having a stroller available for as long as possible before boarding and immediately after disembarking. Most parents with prior air-travel experience reported significant challenges related to stroller use, including managing children, luggage, and bulky equipment simultaneously. As a result, many either resort to lightweight travel strollers to meet airline constraints or forgo bringing a stroller altogether, leading to reduced mobility and increased strain when travelling with young children.

According to these five expert-interviews, a conclusion can be formed that stroller use while travelling is extremely inconvenient and a source of stress for parents. Jasper, a father of three (ages one, four and six) mentioned his uncertainty and frustration related to the repeated inquiries for demonstration from airline staff to prove that the stroller met carry-on size requirements. Lorena and Simon, parents of two children (ages three and six) never bring a stroller while travelling because they say they usually stay at a resort and do not feel a need for a stroller at those destinations. As their children are growing older, they feel more inclined to explore cities or the surroundings of the resorts, signaling a need for strollers at that moment. Saskia on the other hand, travelling a long distance from Europe to the USA with her children, mentioned convenience on long-term flights for parents travelling with young children. She could use her stroller up until boarding and received it back with the rest of her luggage. Only needing to bridge a small part of the airport without a stroller. An important point was that, on longer flights, no extra fee was charged for the stroller. Diane, a mother of two flying regularly between England and Denmark, brings a lightweight travel stroller, leaving her main stroller at home as it is too bulky for airport navigation.

The information received from the interview was confirmed by the answers in the survey: several participants registered challenges with managing luggage and stroller and struggling with mobility at the destination. Another important problem parents focused on in the survey was damage to the stroller after the flight. After analyzing the information from the survey and the interviews, both a functional and mental problem can be confirmed. Having to bring a personal stroller while travelling is not only a functional problem but also an emotional one for parents as it adds stress and struggle to their trip.

6.1.2 Market Validation

The next step towards concept validation is market validation: Is the market big enough to enter, who feels the problem most and is the problem big enough to create willingness to pay to resolve this pain.

To assess the potential scale of the opportunity and to place StrollAway within a broader market context, a TAM-SAM-SOM market analysis framework is applied as an initial planning instrument instead of a predictive forecasting tool. At the broadest level, The Total Addressable Market (TAM) captures the overall population of travelling families with young children who could benefit from access to a stroller during rental (IATA, 2025). Based on existing literature and market reports on stroller rental and travel related mobility solutions, this market is estimated at approximately DKK 10.5 to 11.2B (EUR 1.5 to 1.6B) globally (Appendix H). The serviceable Available Market (SAM) narrows this scope to families travelling through contexts where a stroller rental is both contextually relevant and conceptually feasible like airports (Eurostat, 2025). Applying assumptions regarding annual passenger volumes, the share of stroller age children and average rental duration and pricing, the SAM is estimated in the range of DKK 5.2 to 6.5B (EUR 700 to 900M) per year (Appendix H). The Serviceable Obtainable Market (SOM) represents a conservative estimate of the portion of this market that strollAway could plausible address in its early stages. By limiting the scope to a small number of high-traffic, partner accessible air transport hubs and accounting for constraints related to infrastructure access, pilot scale, operational capacity and phased rollout, the SOM is estimated at approximately DKK 600 to 750M (EUR 80 to 100M) annually (Appendix H).

Taken together, the TAM-SAM-SOM demonstrates that under conservative assumptions and significant operational constraints, a meaningful market opportunity remains. At the same time, the analysis makes clear that Strollaway cannot and shouldn’t address the whole market simultaneously. Instead, the figure reinforces the need for prioritisation and focus, particularly in identifying those customer segments where the experienced pain is strongest and where willingness to adopt a paid solution is highest. This insight motivated the subsequent market segmentation, which shifts the analysis from how large the market is and which parts of the market should be addressed first.

Market segmentation (Smith, 1956) is applied to prioritise high-pain customer segments rather than addressing the entire market simultaneously. By initially focusing on these segments, StrollAway can establish early profitability and build credibility before potentially expanding into lower-pain segments. Findings from the interviews indicate that stroller rental services are most relevant for city trips and shorter stays of up to one week. For longer trips, parents generally prefer bringing their own stroller, as extended rental periods of three to four weeks often become more expensive than transporting a personal stroller. A second segmentation dimension concerns the age of the child. One interviewee, Saskia, explained that when her children were very young (0–1 years), she relied exclusively on a Maxi-Cosi and preferred to bring her own, as it was optimally suited to her child and could also be used onboard the airplane. As her children grew older, she confirmed that using a different stroller would no longer present an issue.

Taken together, the analysis identifies two primary segmentation dimensions: trip length and age of children. Both the interviews and the survey results indicate that the strongest problem–solution fit exists for families travelling on shorter stays with children older than one year. This is further supported by survey responses, where most parents of children older than one year considered a stroller rental service to be a feasible solution.

Willingness to pay assesses whether the identified problem is sufficiently significant for customers (in this case, parents) to incur a monetary cost for a solution. It moves validation beyond expressed interest by evaluating whether demand is economically viable within realistic price ranges. To explore willingness to pay for a stroller-related travel solution, existing alternatives and the costs associated with these options were analysed.

Several airlines currently offer free stroller handling as part of their baggage services. For example, Volotea allows parents to tag their stroller at check-in and use it until the gate, where it is then checked as luggage (Volotea, n.d.). Similar services are provided by airBaltic, KLM, and British Airways (airBaltic, n.d.; KLM Royal Dutch Airlines, n.d.; British Airways, n.d.). While these initiatives indicate recognition of the problem and aim to reduce friction for travelling families, their 'free of charge' nature may limit parents' willingness to switch to a paid alternative. Moreover, these airline services typically require strollers to be fully foldable (airBaltic, n.d.; British Airways, n.d.), which excludes some families' primary strollers and can necessitate the purchase of an additional travel stroller.

The market for travel strollers further illustrates parents' willingness to pay for solutions that ease mobility during air travel. Prices range from 814 DKK for the Dreambee Essentials Buggy (Dreambaby, n.d.) to 2,233.42 DKK for the Baby YoYo (Babylux, n.d.), 3,503.25 DKK for the Joolz Aer+ (Joolz, n.d.), and 3,167.12 DKK for the UPPAbaby MINU V3 (Amazon, n.d.). These price points demonstrate that parents are already prepared to invest in travel-friendly stroller solutions, supporting the assumption that a paid stroller related service can be economically viable if it offers clear added value over existing alternatives.

Looking at interview information and survey data, a 75 DKK (~ €10)/day pricing for a single stroller seems acceptable for all parents. Below 53 DKK (~ €7)/day is perceived as cheap, but does not largely increase intent. On the other hand, pricing above 90 DKK (~ €12) /day shows a clear drop in likelihood to use the service. This leads to an acceptable price of 60 - 83 DKK (~€8 - €11)/day with a ceiling of 90 DKK (~€12)/day. These price levels should be interpreted with caution, as the majority of interview and survey respondents were based in Western Europe and may therefore hold different price perceptions than consumers in other regions. It is also important to note that the prices were generally perceived as acceptable for shorter stays, but were viewed as too costly for longer trips. Should StrollAway seek to expand into the segment of extended stays in the future, this pricing sensitivity must be addressed, for example by considering lower average daily rates or discounted pricing for longer rental periods.

Market validation revealed a limited set of recurring, high-impact challenges faced by travelling parents, particularly during arrival, transfer, and last-mile movement within transport hubs. As learned before, the most significant pains include: the physical and logistical burden of carrying bulky strollers, heightened time pressure and stress when navigating airports with children, the risk of damage or inconvenience when flying with personal strollers, and concerns regarding hygiene when using shared child equipment. Correspondingly, parents expressed strong gains in the form of travelling lighter, immediate access to child mobility upon arrival, confidence in hygiene standards, and a reduction in mental and physical effort during travel.

To translate these validated pains and gains into concrete service elements, the Value Proposition Canvas (Osterwalder et al., 2014) was applied as a structuring tool (Appendix G). Rather than capturing all possible challenges associated with travelling with children, the VPC focuses on those issues that appeared most consistently during surveys, questionnaires, and customer journey analysis. This approach helps to avoid founder bias and ensures that the proposed solution remains grounded in empirically observed needs.
The pain associated with carrying bulky strollers and managing excess luggage is addressed through StrollAway's core service concept, a contactless stroller rental system that allows parents to access a stroller only when needed. By removing the requirement to bring personal strollers on trips, the service directly supports the gain of travelling lighter while preserving comfort and mobility for children.

The survey revealed a dominant pain in time pressure and stress during airport navigation. StrollAway addresses this by integrating smart lockers into airport public transport zones and central city transport hubs, enabling fast, contactless pickup and return without additional detours. This design choice directly supports the gain of reduced stress and smoother travel flow during high-friction moments of the journey.

Concerns related to damage, delays, and inconvenience when flying with personal strollers further reinforce the value of accessing a stroller after arrival rather than transporting one throughout the journey. By decoupling child mobility from airline baggage handling, the service reduces uncertainty and improves predictability during travel, contributing to a more controlled and reliable user experience.

Finally, hygiene concerns surrounding shared child equipment were consistently highlighted during market validation. StrollAway addresses this through a value co-creation approach to hygiene, where the provider retains responsibility for cleaning standards, maintenance, and quality assurance, while users contribute by wiping down the stroller before return. This shared responsibility reduces perceived risk, supports operational efficiency, and strengthens trust in a service designed for young children.

Overall, the Value Proposition Canvas functions as a conceptual bridge between market validation and solution validation by demonstrating how StrollAway's service design choices are directly grounded in validated customer pains and gains. This structured translation ensures that subsequent solution validation focuses on evaluating a solution that is both feasible and closely aligned with the most critical needs identified during market validation.

6.1.3 Solution Validation

Solution validation examines whether the StrollAway concept is perceived by parents as a meaningful and appropriate response to the mobility challenges identified in the problem validation phase. Guided by Jobs-to-be-Done (JBTD) theory (Christensen et al., 2016), this stage focuses on understanding whether parents would hire a stroller rental service in specific travel contexts to accomplish functional and emotional jobs, rather than assessing general attitudes toward stroller ownership.

The findings from the in-depth interviews indicate that parents conceptually accept stroller rental at airports as a situational solution, particularly in travel scenarios characterised by high logistical complexity and time where carrying or transporting a personal stroller becomes burdensome. Importantly, respondents did not frame stroller rental as a replacement for ownership, but as a temporary support mechanism that reduces friction during specific phases of a journey. This reinforces the interpretation that the underlying job being addressed is not access to a stroller itself, but the reduction of travel related stress, physical effort and uncertainty.

Building on Value Proposition Canvas, solution validation therefore shifts focus from what the pains and gains are to whether the proposed solution is perceived as credible in addressing them. Interview findings highlight that perceived value is strongly contingent on the service's ability to mitigate risk. Trust related factors such as hygiene standards, stroller quality, reliability of availability and the presence of the official partnerships with transport operators emerged as decisive conditions for adoption. Parents expressed that without clear signals of professional maintenance and institutional legitimacy, the perceived benefits of convenience would outweigh concerns related to safety and cleanliness.

Survey findings, while limited in scale, help triangulate and reinforce the patterns identified through the in-depth interviews. Across both data sources, parents consistently described the idea of avoiding the transport of personal strollers as appealing, particularly in travel situations characterised by short stays, city trips, and complex arrivals. Interviewees frequently emphasised that in such contexts, the effort associated with carrying bulky equipment outweighed the benefits of using a familiar stroller, leading them to value convenience and reduced logistical burden over ownership. This perspective is echoed in the survey

responses, where parents expressed openness toward stroller rental when the need is situational rather than permanent.

In addition to these stated preferences, early behavioural signals from the landing page experiment further support this interpretation. Users who engaged with the landing page appeared most interested in scenarios involving immediate post-arrival mobility and short-term use, rather than in long-term substitution of stroller ownership. Together, these signals suggest that the StrollAway concept resonates primarily as a context-specific service designed to ease high-friction moments of travel, rather than as a general replacement for personal strollers.

At the same time, insights from interviews, survey responses, and landing page interactions converge around a shared set of expectations that shape adoption. Parents articulated clear requirements regarding ease of booking, transparent and reasonable pricing, and immediate availability upon arrival. Interviewees in particular highlighted that uncertainty around hygiene standards, stroller condition, or service reliability would significantly undermine perceived value. From a theoretical perspective, these findings align with value-based adoption logic, where acceptance depends on whether perceived benefits—such as reduced physical effort, lower stress, and smoother travel flow—clearly outweigh perceived costs and risks related to price, hygiene, reliability, and trust.

Although these findings cannot be generalised due to sample size limitations, they reinforce the qualitative evidence that the StrollAway concept resonates with the target segment at a conceptual level, while also clarifying the conditions under which parents would consider adopting the service. Overall, the solution validation demonstrates a strong conceptual problem solution fit. The findings suggest that StrollAway addresses relevant customer jobs and pains, while also highlighting that successful adoption depends on embedded trust, quality assurance, and ease of use into the service design.

6.1.4 MVP Validation

While solution validation focuses on perceived fit and acceptance, MVP validation examines early behavioural responses to a simplified representation of the StrollAway service. The purpose of this stage is to move beyond stated preferences and observe how users interact with a tangible articulation of the concept. In line with Lean Startup principles (Ries, 2011), a landing page was developed as a low-fidelity MVP to test initial interest and engagement with minimal resource investment.

The landing page experiment generated a total of 84 page views. Visitors spent an average of 77 seconds on the landing page, indicating that users engaged with the content and

invested time in understanding the proposed service. This level of engagement suggests that the concept successfully captured attention and addressed a relevant need among travelling parents.

To further explore user interest, a second page was provided containing more detailed information about stroller types and pricing. This page received 47 page views, with an average time spent of 112 seconds. The relatively high time spent on this page indicates that a subset of users moved beyond initial curiosity and actively evaluated the feasibility and attractiveness of the offering. From an MVP perspective, this behaviour suggests that the service proposition was sufficiently compelling to motivate deeper consideration.

However, despite these positive engagement indicators, the landing page experiment also revealed high bounce and exit rates. More than half of the users left the site after viewing only one page, indicating hesitation to proceed further. This behaviour suggests that while users were interested, they were not yet ready to commit or take a next step. In the context of MVP validation, this points to unresolved adoption barriers rather than a lack of relevance.

The observed drop-off behaviour is consistent with findings from the solution validation phase, where trust and perceived risk emerged as critical concerns. The absence of strong trust signals, operational details, or social proof on the landing page may have contributed to users' reluctance to move forward. Additionally, the novelty of stroller rental as an airport-based service may require further explanation and reassurance before users are willing to engage more deeply.

Overall, the MVP validation indicates that StrollAway generates genuine interest and engagement among its target audience but does not yet validate strong commitment or conversion intent. The findings provide valuable learning by confirming the relevance of the concept while simultaneously identifying areas that require refinement. As such, the MVP serves as an exploratory validation tool that informs future iterations rather than as proof of immediate market readiness.

While MVP validation provides early evidence that the StrollAway concept resonates with parents and highlights the conditions required for adoption, it does not address the broader competitive and structural environment in which the service would operate. To assess whether the concept can be sustained beyond initial user interest, it is therefore necessary to examine the external forces shaping competition, entry barriers, and value capture within the market. Accordingly, a Porter's Five Forces analysis is applied to evaluate the attractiveness of the competitive environment surrounding stroller rental and mobility services in transport hubs. This analysis complements the user-centered validation by shifting the focus from customer desirability to industry structure, helping to identify potential risks and constraints that may influence the long-term viability of the StrollAway concept.

6.1.5 External Factors

The Five Forces Model by Porter (1985) is used to map external influences and rate them according to their level of threat (high or low). The five forces are threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitutes, and competitive rivalry. Each force is discussed in terms of its relevance and level of threat to Strollaway's business model

Threat of New Entrants

Several elements of the StrollAway business idea can be imitated like buying strollers, searching for a standard locker system enabled with QR codes. These are not new technologies, and the recombination of already existing technologies can not be patented (McDonald et al., 2024). The existence of online retailers and baby-travel companies such as TripTots, already renting out travel-oriented childcare equipment, illustrates that access to the physical infrastructure is not in itself a significant barrier to entry (TripTots, n.d.) .

Conversely, gaining access to airports and airlines as strategic partners represents a substantial barrier. New entrants have to obtain approvals, comply with rigid regulations, and secure a physical space, which is limited in airports and expensive (European Union, 2014). Smarte Carte, already running luggage carts and lockers in several non-European airports, benefit from their proven operationally reliable infrastructures and systems, a deep understanding of airport governance structures, and established relations with several non-European airports (SmartCarte, n.d.). Reaching the same level as Smarte Carte for possible new entrants will lead to significant institutional and administrative friction.

Airports might adopt the idea of renting strollers themselves. In that case, they would not encounter the same barriers as regular entrants, and would then become a direct competitor with StrollAway, probably pushing them out of the market or airport. StrollAway's early entry in the European market, securing exclusive airport and airline partnerships increases switching costs for airports and airlines and makes rapid imitation more difficult. If the most prominent airports and airlines already secured a contract with us, it will be more difficult for new entrants to become relevant. As a result, the overall threat of new entry is only moderate and should not be labeled as urgent unless airports start to deliver this service themselves.

Bargaining Power of Suppliers

StrollAway depends on multiple kinds of suppliers: stroller manufacturers, lockers and IoT-enabled locking systems, but also airports as they provide the space to place the locker stations.

Looking at stroller manufacturers, there are a lot of certified stroller brands that are perceived as safe and robust (Baby Jogger, n.d.; Britax Römer, n.d.; Cybex, n.d.; (Bugaboo, n.d.). The manufacturers will thus have a low bargaining power as it will be easy to switch from one

manufacturer to another. Also, StrollAway maintains ownership of its stroller fleet and when the business scales, the ownership structure strengthens StrollAway's negotiating position through volume purchasing and customised requirements. The same goes for lockers, there are a lot of locker manufacturers available, so they will not have a large bargaining power either (Kaiser+Kraft, n.d.; Cube Lockers, n.d.; OfficeCity, n.d.). On the other hand, neither will we when bargaining with them as there are a lot of organisations in need of lockers. IoT-enabled locking systems are also widely spread and thus easily available with no, or limited, bargaining power for suppliers.

Airports possess significant bargaining power, as each location usually involves only one airport on which the business completely depends. If an airport refuses to rent or grant access to StrollAway, StrollAway can not operate in that city, directly threatening the viability of the organisation. It is thus important to maintain a good relationship with airport authorities to ensure long-term continuity and success.

Together, stroller manufacturers, lockers and locker systems can be qualified as insignificantly powered while airports and cleaning agencies have a more significant bargaining power. The Supplier's bargaining power thus forms a critical component in StrollAway's existence and continuity.

Bargaining Power of Buyers

StrollAway's customers, parents or families, have alternatives available as mentioned before: own bulky stroller, lightweight travel stroller or rental at a location not at the airport. However, their individual bargaining power remains limited. A large and growing volume of parents travel through European airports (Eurostat, 2025; International Air Transport Association [IATA], 2025), signalling no single buyer can significantly influence pricing or service terms. StrollAway's goal is to serve all families travelling by air, not targeting a few. The fragmented customer base, living and travelling all over Europe, reduces buyer leverage when acting individually. Together, this signals a low buyer's bargaining power.

Threat of Substitutes

As mentioned before, there are a few substitutes that might threaten the use of StrollAway's services. These substitutes have existed for several years and have been used greatly as we learned from the conducted interviews. Saskia, who was travelling from Belgium to the USA always brought her own, bulky stroller and Jonas, travelling once a year with his three children, bought a travel stroller that broke down during one of his family trips.

StrollAway distinguishes itself from these alternatives by its placement directly at the airport. Once parents arrive without bringing a stroller, having a damaged stroller or a stroller lost in luggage, renting a StrollAway stroller is the only feasible, logical solution left.

Several indirect competitors can be distinguished in Europe. Babonbo, BabyQuip and TripTots are indirect competitors.

Babonbo and BabyQuip are peer-to-peer rental platforms where parents can rent out their baby gear to parents travelling close to their home. Baby equipment can be delivered at the airport, hotel or vacation rentals, or other requested delivery locations or they can be self-picked-up at the providers' address (Babonbo, n.d.; BabyQuip, n.d.). Compared to StrollAway, they also offer strollers that can be delivered to the airport, but that comes with a high fee while StrollAway has its lockers there. Parents also have to agree on a location to pick up the stroller which might be difficult and rather an extra stress factor than one to ease parents' stress not fully resolving a JBTD issue.

TripTots owns their own stroller fleet, exactly like StrollAway but equipment is shipped to a predetermined location by the customer and they have to either return it or TripTots collects it. Also focusing on travelers, they are an indirect competitor to StrollAway in the United Kingdom (UK) (TripTots, n.d.). The equipment has to be shipped to an address, so parents again face the problem of not having a stroller available directly after their flight or they have to take the stroller with them on the airplane, not accurately resolving the JBTD.

Having applied the Porter's Five Forces Model to StrollAway, a structured understanding can be formed of the external influences on StrollAway's feasibility and necessary strategic decisions. The analysis demonstrates that the highest friction points lay with possible new entrants and the bargaining power of airports, which StrollAway is completely dependent upon. A few established indirect competitors might also form a threat to StrollAway, but thanks to StrollAway's placement at airports that competition can be seen as limited.

6.2 Conclusion

This chapter evaluated to which extent StrollAway answers a problem and to which extent that solution is viable by aligning customer needs, market segmentation, willingness to pay, solution acceptance and minimum viable product achievements, and external market conditions. Jobs-To-Be-Done (JBTD) theory, in-depth interviews, a supporting survey and low-fidelity MVP were used to guide the analysis. Mobility during air travel with young children is a real and recurring pain point for frequently traveling parents. Strollers emerged as a central source of functional inconvenience and emotional disturbance. Particularly, during travel and last-mile mobility at their destination. StrollAway's placement at airports thus confirmed to be convenient as they solve the last-mile mobility problem.

Problem validation, based on the JBTD Theory, confirmed the inefficiencies parents face when traveling by air, most significantly there was a logistical burden, uncertainty about acceptance of lightweight strollers on the airplane, risk when travelling with personal strollers,

including damage, loss and reduced flexibility. Market validation showed that this problem was at its largest for families traveling a short amount of time with children older than one year. Children younger than one year, often also use a seat on the airplane that can be attached to a stroller, signalling the need for bringing a personal stroller instead of renting another one. Families traveling for a short period (~one week), do not want to struggle with bringing their own stroller on vacation and, as conducted from the interviews and the survey, would have a higher willingness to pay than parents traveling for a longer period. At that moment, a personal stroller would outweigh the benefits of a rental stroller. A TAM-SAM-SOM analysis indicated an interesting market opportunity under strong assumptions. Pricing research suggested an acceptable daily rental rate of approximately 60-83 DKK (~€8-€11)/day.

Solution validation demonstrated a legitimate problem-solution fit, parents perceived airport-based stroller rental services as a context-specific service that reduces stress and increases convenience during high-friction travel experiences. Parents also confirmed that hygiene, quality, reliability and ease of use are fundamental trust-factors that are decisive conditions for adoption. A landing page was launched to initialise MVP validation, which shows interest and engagement, though there was a limited conversion rate highlighting the need for stronger trust signals, clearer operational reassurance and an increased reach to the targeted market segment.

Finally, Porter's Five Forces Model revealed a moderately attractive industry structure. The main strategic constraints stemmed from airport bargaining power and access barriers such as strategic partnerships with several airlines and airports. Competitive rivalry and buyer power remain limited at this moment in time. Overall, StrollAway demonstrates an acceptable market fit, with validated demand, a credible value proposition and a moderately attractive industry. This relies on the condition that customers trust the brand, strategic partnerships with airlines and airports are formed and operational reliability can be assured to customers.

7. Viable transport locations

Once market relevance for short-term stroller rental has been established, it becomes critical to assess which transport locations are most viable for pilot deployment. Location choice directly affects user relevance, operational feasibility, and institutional acceptance, particularly for a service that relies on physical infrastructure and access to regulated public spaces. This chapter addresses the following secondary research question:

What are the most viable transport locations for a pilot deployment?

Rather than treating location as a purely demand-driven decision, the analysis evaluates transport hubs as socio-technical environments in which passenger flows, regulatory

constraints, operational routines, and partnership access must align for a pilot to be feasible. The chapter follows a lean, exploratory approach in which initial assumptions are tested through low-cost empirical actions and subsequently refined based on observed constraints and responsiveness (Ries, 2011).

7.1 Analysis and Discussion

7.1.1 Original Location Strategy

Airports were initially identified as the most attractive pilot locations for StrollAway due to their strong alignment with the identified customer problem. Insights from surveys and interviews (Appendix C; Appendix D; Appendix E) highlighted that parents experience the highest mobility stress at airports, where long walking distances, luggage handling, security procedures, and time pressure converge. From Jobs to Be Done perspective (Christensen, 2016), airports are creating the type of challenges StrollAway seeks to address: enabling parents to move quickly and safely with young children immediately after landing, when fatigue and uncertainty are highest.

From a service innovation perspective, airports can be seen as dense service ecosystems in which value is co-created among multiple actors (Gallouj & Djellal, 2010). Strategically, airports also offer high visibility and concentrated passenger flows, as mentioned in ECMT (2005) airports act as "multimodal interchange nodes" (European Conference of Ministers of Transport, 2005), making them attractive for a use-oriented Product–Service System in which shared strollers are accessed at a single entry point and reused across multiple trips (Tucker, 2004). The initial assumption, aligned with the Value Proposition Canvas (Osterwalder, 2014), was that positioning stroller rental at the very start of the travel journey would maximise perceived convenience, reduce friction at a critical touchpoint, and support rapid awareness-building among the target segment.

7.1.2 Collaboration Attempts and Constraints

Empirically, the project team attempted to engage with Aalborg Airport and Copenhagen Airport, as well as several airline companies, to explore potential collaboration models. These outreach efforts included formal emails to multiple mail addresses and requests for interviews to understand concession structures, space availability, hygiene requirements, and partnership conditions. Despite multiple attempts, no responses were received, which was interpreted as a signal of high institutional entry barriers and limited openness to early-stage startups.

Rather than treating this lack of response as something unusual, the findings were analysed as external factors directly influencing the existence of StrollAway. Airports function as highly regulated socio-technical systems characterised by strict safety standards, security regulations, and complex stakeholder hierarchies (European Conference of Ministers of Transport, 2005). Access to physical space is typically governed through long-term concession agreements, and new services must comply with extensive approval processes involving airport authorities, security agencies, and commercial operators (San Francisco International Airport, 2025)

From a strategic management perspective, airports exhibit high bargaining power over suppliers and service providers. Early-stage startups lack both negotiating leverage and institutional credibility, making entry particularly difficult. The absence of feedback itself became a form of answer, signalling high entry barriers and limited openness to early experimentation. Within a Lean Startup framework (Ries, 2011), this institutional resistance can be interpreted as negative validation of the airport-as-pilot-location assumption.

7.1.3 Pivot

The decision to pivot was therefore motivated not by a lack of market demand, but by misalignment between the startup's current capabilities and the institutional environment of airports. Effectuation theory helps explain this shift: entrepreneurs act based on available means and adapt goals as constraints emerge (Sarasvathy, 2001). At this stage, StrollAway's means consisted of conceptual design, qualitative market insights, and limited resources, not the regulatory expertise or capital required to operate in airports.

Discovery-driven planning further supports this interpretation. Initial assumptions regarding airport feasibility were tested through a low-investment inquiry rather than full-scale implementation (McGrath & MacMillan, 1995). The initial startup idea was tested through low-cost actions such as emails and calls, using their responses (or lack of them) as a source for further decision making. When these assumptions proved unrealistic, StrollAway's focus was redirected toward environments where entry barriers are lower, and would not significantly change StrollAway's value proposition. In the new environments, learning and experimentation could continue (Daft et al., 2010; Mintzberg, 1976). Pivoting thus preserved the core value proposition while redefining the context in which it could be tested.

Another empirical indication of location viability occurred during the stakeholder outreach phase to alternative transport operators. While emails to airports and airlines remained unanswered, a successful phone call was established with the press office of DSB, the Danish national railway company, even though this did not result in a formal interview. As a result of this interaction, railway organisations seem more accessible and open to dialogue than airport stakeholders, at this stage, reinforcing the idea that rail-based environments are more

realistic for pilot deployment. In addition, several emails were sent to Metroselskabet in Copenhagen, which resulted in a generic but timely response rather than remaining silent. Based on this difference in responsiveness, it can be concluded that metro and rail operators have fewer barriers to entry than airport actors, and therefore represent more promising institutional partners for StrollAway´s early pilot deployment.

7.1.4 Alternative Pilot Locations: Evaluating Viability

Train stations and metro hubs emerged as the most viable alternatives for pilot deployment. Although they share several similar characteristics with airports, such as high passenger flows, travel-related stress, and relevance to families, these environments generally have lower security and access standards than airports due to their specific aviation screening regulations (Security World Market, 2016). Unlike airside airport areas, train and metro stations are typically public or semi-public spaces managed by transport authorities with more flexible approval processes.

From an operational perspective, these locations also support more predictable logistics. Strollers can be picked up upon arrival and returned either at the same station or at another designated hub, reducing reverse-logistics complexity and supporting incremental optimisation of the system architecture (Daft et al., 2010; Mintzberg, 1976). This directly addresses the research question concerning operational reliability and cost-effectiveness within transport constraints.

Bus terminals and intermodal hubs were also identified as potential pilot sites, particularly in urban contexts. While passenger volumes may be lower than in major train stations, these locations offer proximity to city centres and tourist areas. They are often managed by municipalities or private operators, reducing the bargaining power imbalance identified in Porter's Five Forces analysis.

Strategically, bus stations allow targeted pilots with limited capital exposure. This aligns with Lean Startup principles by enabling small-scale testing before wider rollout (Riis,2011).

7.2 Conclusion

This chapter demonstrates that the most viable transport locations for a pilot deployment are those that balance user relevance with institutional accessibility. While airports remain highly attractive from a demand perspective, empirical findings and external analysis reveal that they are poorly suited for early-stage experimentation, taking in consideration high bargaining power and regulatory complexity (Porter, 2008; European Conference of Ministers of Transport, 2005). Train stations and bus terminals offer more realistic entry points that allow StrollAway to test, learn, and adapt under manageable constraints, consistent with

effectuation logic and incremental decision-making under uncertainty (Sarasvathy, 2001; Daft et al., 2010; Mintzberg, 1976).

The pivot strategy therefore answers the second sub-research question by reframing location choice as a strategic trade-off rather than a purely demand-driven decision. By shifting focus to environments that enable learning and partnership formation, StrollAway increases the feasibility of pilot deployment while preserving its core value proposition.

8. Operational Design

This chapter presents the operational design of the StrollAway service and outlines how the stroller-rental system is configured to function within airport landside areas and public-transport hubs. As the service is embedded in highly regulated and logistically constrained infrastructures, the operational design must balance user convenience with safety, hygiene, and cost efficiency while ensuring reliable day-to-day operation.

The chapter addresses the following research question:
How can StrollAway design a cost-effective, hygienic, and operationally reliable logistics system for stroller cleaning, maintenance, and return within the constraints of transportation hubs?

Answering this question requires translating the validated customer need into a feasible operational system under conditions of institutional and logistical uncertainty. Building on the market fit analysis (Chapter 6), there is a consensus regarding the underlying problem faced by travelling parents, namely the burden of transporting strollers and equipment through complex travel environments. In contrast, uncertainty remains regarding how this problem can be operationally addressed within the regulatory, spatial, and governance constraints of transport hubs.

To structure decision-making under these conditions, the chapter applies the Contingency Framework, which distinguishes between levels of problem consensus and solution knowledge (Daft et al., 2010). The combination of high problem consensus and limited solution knowledge indicates that incremental decision-making is the most appropriate approach. Rather than relying on comprehensive optimisation, operational commitments are therefore decomposed into smaller, interrelated decisions that can be evaluated and refined through implementation and learning (Mintzberg, 1976).

This incremental logic is reflected in the structure of the chapter, which examines the operational design through a series of interconnected components, including system architecture, hygiene and maintenance protocols, logistics and rebalancing, and operational

performance indicators. By aligning operational design with the identified uncertainty, the chapter demonstrates how StrollAway can develop a robust and adaptable service system suited to the constraints of transportation hubs.

8.1 Analysis

8.1.1 System Architecture

This section outlines the system architecture underlying the StrollAway service, focusing on how physical infrastructure and operational assets are configured to deliver a reliable, hygienic, and scalable service under varying spatial and regulatory conditions. The architecture is designed to adapt to contextual constraints within transportation hubs while enabling efficient operations through decentralised service interfaces and standardised components. The following subsections examine the locker-based infrastructure and the selection of the stroller as a core operational asset within this system.

Lockers and regulations

StrollAway is based on a decentralised, locker-based distribution model in which lockers function as both physical storage and active service interfaces for stroller collection, return, cleaning, and maintenance. Locker stations are strategically located in high-footfall transportation hubs to ensure accessibility, operational flexibility, and alignment with passenger flows. Landside airport placements avoid airside security constraints while facilitating direct access to metro, train, or bus connections, and centrally located city transport hubs provide additional pick-up or return points, enhancing convenience and service reach.

In line with Gallouj and Djellal's (2010) systemic view of services as configurations of technical and organisational elements, the lockers are conceived as integrated service nodes that embed access control, hygiene handling, and maintenance coordination directly into the service infrastructure. Each unit is designed to use Bluetooth-enabled electronic locks and basic presence detection to manage access, confirm pick-up and return events, and indicate availability, reflecting common smart-locker technologies (What Is a Smart Locker?, n.d.). Hygiene and maintenance are organised through structured service processes linked to usage cycles, enabling predictable handovers, more efficient maintenance planning, and reliable service availability.

Locker design prioritises contextual fit by adapting to the regulatory, spatial, and operational constraints characteristic of Danish transport hubs, reflecting a contingency perspective in which design choices are tailored to environmental conditions (Daft et al., 2010). Modules are designed to comply with applicable BR18 Danish building, fire safety, electrical, and

accessibility regulations governing installations in public transport environments (BR18, n.d.; Dansk Standard - Danmarks Standardiseringsorganisation, n.d.). Design elements such as anchoring, material selection, module dimensions, and positioning are therefore tailored to maintain emergency egress, preserve CCTV sight-lines, avoid obstructions, and facilitate safe and hygienic interactions for both users and service personnel, so that lockers can operate reliably under the high passenger flows and extended operating hours common in airports and public-transport hubs.

Scalability and operational efficiency are supported through a stepwise, incremental design logic. Standardised locker modules with modular electrical and mechanical components enable gradual deployment, iterative improvement, and simplified maintenance, consistent with incremental decision-making under bounded rationality (Mintzberg, 1976; Daft et al., 2010). Initial installations focus on high-demand locations, while subsequent iterations refine material durability, ergonomics, telemetry integration, and cleaning protocols based on operational data. This progressive optimisation reduces maintenance downtime, supports hygienic handling, and enhances service reliability without requiring excessive upfront investment.

Collectively, the operational design demonstrates how a decentralised locker-based system can deliver a cost-effective, hygienic, and operationally reliable stroller logistics solution within the constraints of transportation hubs. By embedding service functionality directly into the infrastructure, adapting design choices to regulatory and spatial conditions, and enabling incremental refinement, StrollAway seeks to balance user convenience, safety, and operational efficiency across both airport and city environments. Within this system architecture, the stroller itself functions as a critical operational asset whose characteristics must align with locker design, maintenance routines, and overall service reliability.

Stroller Selection as an Operational Asset

The selection of a stroller model for the StrollAway rental fleet is a strategic operational decision, as the stroller functions as a managed asset within the service system rather than as a standalone consumer product. Its characteristics directly affect service reliability, maintenance effort, locker compatibility, and scalability. The selection process therefore prioritised operational performance and lifecycle efficiency over retail positioning.

Based on the defined operational requirements, two models were shortlisted: the Baby Jogger City Elite 2 and the Britax B-Motion 4 Plus. While both models support newborn use, perform well across mixed urban terrains, and offer access to spare parts within Europe, their suitability differs when evaluated in a high-turnover rental context.

The Baby Jogger City Elite 2 was selected due to its broader usability range, supporting children up to 34 kg, compared to approximately 20–22 kg for the B-Motion 4 Plus (Baby Jogger, n.d.; Britax Römer, n.d.). This wider range increases service inclusivity and reduces the need for multiple fleet variants. From an operational perspective, the City Elite 2's foam-filled, puncture-proof wheels represent an advantage over the Britax model's air-filled tyres, which introduce a higher risk of punctures and unplanned downtime. Reduced maintenance exposure supports more predictable availability and lower operating costs.

Ease of use is critical in travel environments where parents often manage luggage and unfamiliar infrastructure. The City Elite 2's intuitive one-hand folding mechanism allows quick and confident operation, reducing the likelihood of user error and subsequent support interventions (Mathews, 2022). When folded, the stroller adopts a long, flat profile that fits efficiently within narrow locker compartments, whereas the B-Motion becomes shorter but notably bulkier, limiting storage efficiency within the locker modules.

Although Britax benefits from a more centralised EU service network, the City Elite 2 compensates through widely available spare parts via European retailers and specialist repair providers, combined with a simpler mechanical design that reduces typical failure points (BarnevognsHuset, n.d.; Buggy Pitstop, n.d.; Mathews, 2022). In practice, lower repair frequency offsets the absence of a centralised service structure and supports cost-efficient fleet management.

Overall, the Baby Jogger City Elite 2 demonstrates superior operational fit by minimising maintenance risk and maximising locker compatibility. This selection reinforces the role of the stroller as a managed operational asset whose performance characteristics directly shape the reliability and scalability of the overall service system.

8.1.2 Hygiene and Maintenance Protocol

Hygiene System Design

StrollAway's hygiene system is designed to deliver a safe, user-friendly, and operationally efficient cleaning approach tailored to the constraints of transport hub environments. Airports and stations impose high hygiene expectations while operating under strict regulatory, spatial, and staffing limitations. The hygiene strategy therefore prioritises robustness and low operational complexity. The system centres on three interdependent elements: (1) modular, wipe-clean silicone contact components; (2) user-assisted between-use cleaning; and (3) periodic, off-site deep-cleaning routines.

A central design choice is the use of durable, non-porous silicone liners and protective sleeves on all high-contact areas, including the seat, bumper bar, and handlebar. Silicone does not absorb moisture, resists wear, and tolerates repeated disinfection, making it suitable

for rapid wipe-based cleaning between uses (Apple Rubber, 2020; Zare et al., 2021). Unlike textile interiors that require laundering, silicone components can be sanitised using a single disinfectant wipe, enabling a fast, predictable, and easily repeatable hygiene routine compatible with high-turnover rental use.

User-Assisted Cleaning and Behavioural Design

The second element of the hygiene system is a user-assisted wipe-down process performed at return. Parents are instructed to clean the silicone contact surfaces using disinfectant wipes provided within each stroller, supported by clear prompts in the app and at the return interface. Guidance from childcare and early-education settings indicates that wipe-based cleaning of smooth, non-porous surfaces is a widely recommended and familiar practice, supporting the appropriateness of this approach in a family-oriented service context (NHMRC, 2024; UCSF CCHP, 2024).

Several behavioural design features support compliance. Cleaning materials are placed directly inside the stroller, reducing friction and reliance on external resources. The return interface prompts users to confirm completion of the wipe-down, reflecting evidence that simple prompts and feedback mechanisms can improve adherence to hygiene routines in busy environments (UCSF CCHP, 2024; Srigley et al., 2024). Silicone surfaces also provide immediate visual feedback after wiping, reinforcing perceived cleanliness and supporting user confidence.

Risk Management and Safety Compliance

Operating within highly regulated transport environments requires a hygiene system that minimises safety risks while remaining easy to govern. Key risks associated with shared stroller use include microbial contamination, inconsistent user cleaning, material degradation, and misuse of cleaning products. These risks are mitigated through the exclusive use of smooth, non-porous silicone components on high-touch areas, which support controlled and verifiable wipe-based disinfection (Apple Rubber, 2020).

The hygiene system avoids technologies and practices that would introduce additional approval complexity or safety risk within passenger areas. No UV-C devices, heat-based equipment, or on-site storage of concentrated chemicals are required. Instead, periodic deep-cleaning and inspection are conducted off-site or in controlled back-of-house environments. This separation reduces exposure risks, simplifies regulatory approval, and avoids disruption to passenger flows while maintaining high hygiene standards (NHMRC, 2024).

Maintenance Protocols and Component Lifecycle

Maintenance routines are designed to support long-term durability, predictable performance, and reduced environmental impact. Silicone components are selected for their resistance to wear and ability to withstand repeated cleaning without significant degradation, reducing replacement frequency and maintenance variability (Apple Rubber, 2020). This supports a lifecycle-oriented approach aligned with Product–Service System principles, where durable components and controlled maintenance extend asset life and reduce material demand (Tukker, 2004).

Maintenance is structured across two tiers. Tier 1 consists of user-assisted wipe-downs between rentals, which are sufficient to restore surface cleanliness due to the non-absorbent properties of silicone. Tier 2 consists of scheduled quarterly off-site deep cleaning and inspection, during which components are assessed for wear and selectively replaced if necessary. Life-cycle assessments of shared stroller systems indicate that limiting intensive cleaning to a modest number of cycles per year helps preserve the environmental advantages of shared use by reducing water, energy, and chemical consumption compared with frequent textile laundering (Thorslund et al., 2020).

Component replacement follows a modular logic: silicone liners and sleeves can be swapped individually rather than replacing entire seat units or stroller bodies. This modularity extends equipment lifespan, reduces waste generation, and supports circular lifecycle strategies consistent with Product–Service System research (Tukker, 2004).

Summary

Together, these hygiene and maintenance protocols form an integrated operational system that balances cleanliness, safety, regulatory feasibility, and scalability. By combining user-assisted wipe-down routines with durable materials and periodic off-site deep cleaning, StrollAway establishes a hygiene model that is compatible with transport hub constraints and capable of evolving through incremental operational learning rather than reliance on high-intervention or technology-intensive solutions.

8.1.3 Logistics, Inventory Flow, and Rebalancing

Logistical Constraints in Transport Hub

StrollAway’s logistics model is designed to operate within the spatial, regulatory, and operational constraints of transport hubs such as airports and metro stations. These environments are characterised by limited available space, controlled access, strict safety requirements, and restricted service windows (Hsu & Chao, 2005; Kumar, 2024). As a result, logistics solutions must prioritise simplicity, predictability, and minimal on-site intervention.

Activities such as cleaning, maintenance, and redistribution must be executable without disrupting passenger flows or requiring continuous staff presence (Hsu & Chao, 2005; Kumar, 2024).

To address these constraints, StrollAway adopts a decentralised, locker-based logistics model in which strollers are stored, collected, and returned directly at fixed locations. Landside placement at airport terminals avoids airside security restrictions while aligning with natural passenger movement patterns. Installation and servicing activities are designed to take place during approved low-traffic or night-time windows and rely on modular infrastructure that can be deployed, adjusted, or removed without extensive construction work. This approach reduces operational friction and supports regulatory feasibility during pilot deployment.

Decentralised Inventory Flow

Inventory management follows a closed-loop logic tailored to shared use in transport environments. Each stroller moves through defined operational states, including available, in use, returned, verified, or under maintenance. Pickup and return events are logged at the locker interface, enabling basic asset tracking and usage monitoring without requiring continuous connectivity or complex sensing systems.

This state-based inventory flow supports operational reliability by ensuring that only verified and hygienically ready strollers are made available to users. Units flagged for inspection, deep cleaning, or repair are temporarily removed from circulation, maintaining safety and service quality. By embedding inventory control directly into the locker system, StrollAway avoids the need for centralised depots or staffed service counters, reducing costs and complexity while maintaining visibility over asset condition and availability.

Rebalancing Strategy

Demand for stroller rentals in transport hubs is expected to fluctuate based on travel patterns, peak seasons, and time of day. To maintain reliable availability without excessive logistics overhead, StrollAway applies a simple, threshold-based rebalancing logic. Each location operates within a defined minimum, optimal, and maximum inventory range. When inventory falls below or exceeds these thresholds, redistribution is triggered.

Rebalancing is planned to occur primarily during off-peak hours and is coordinated with scheduled maintenance and deep-cleaning cycles to minimise additional handling. Rather than attempting real-time optimisation, redistribution decisions are informed by historical usage patterns and observed demand trends. User incentives, such as prompts to return strollers at understocked locations, further support passive rebalancing and reduce the need for active transport between sites.

This approach reflects an incremental decision-making logic in which availability challenges are addressed through manageable adjustments rather than complex predictive systems. By combining decentralised storage, basic inventory visibility, and low-frequency redistribution, the logistics model remains robust, scalable, and compatible with the operational constraints of transport hubs.

Summary

Together, the logistics, inventory flow, and rebalancing design establish a cost-effective and operationally reliable system for managing shared strollers within transport hub environments. By prioritising decentralisation, modularity, and threshold-based decision-making, StrollAway avoids unnecessary complexity while maintaining service availability and hygiene standards. The resulting logistics model supports pilot deployment under uncertainty and provides a flexible foundation for incremental refinement as operational data becomes available.

8.1.6 Key Performance Indicators

Key Performance Indicators (KPIs) are used in this project as learning instruments rather than optimisation tools. Given the early-stage nature of StrollAway and the uncertainty associated with deploying a new service within transport hubs, KPIs are designed to support operational validation, identify feasibility constraints, and guide incremental refinement rather than to demonstrate long-term efficiency or financial performance. In line with incremental decision-making logic, KPIs provide structured feedback that informs subsequent operational adjustments related to placement, hygiene routines, fleet sizing, and logistics configuration. The selected KPIs are grouped into three categories reflecting the core dimensions of the operational research question: market demand, operational reliability, and economic sustainability.

Demand and Market Validation

Utilisation Rate per Stroller

This KPI measures the number of rental days per stroller over a defined period. It serves as a primary indicator of market demand and validates whether the service meaningfully addresses parents' mobility challenges during travel. High utilisation suggests effective placement and value proposition alignment, while low utilisation signals potential issues related to location choice, pricing, or service awareness. During the pilot phase, this KPI informs decisions on fleet size and location prioritisation rather than performance benchmarking.

Locker Occupancy Rate

Locker occupancy rate measures the proportion of time lockers are actively in use. As locker infrastructure represents a significant fixed investment, this KPI provides insight into capital efficiency and location performance. Persistent underutilisation indicates misalignment between passenger flows and locker placement, supporting incremental relocation or downsizing decisions. Conversely, consistently high occupancy may indicate unmet demand or the need for additional capacity.

Customer Satisfaction Score

Customer satisfaction is captured through a lightweight post-rental rating collected via the app interface. This KPI complements utilisation data by providing qualitative insight into perceived service quality, usability, and hygiene confidence. Rather than serving as a comprehensive service-quality metric, satisfaction scores are used diagnostically to interpret behavioural data and identify friction points in the user journey.

Operational Reliability and Hygiene

Cleaning Cycle Adherence

This KPI tracks whether strollers undergo scheduled off-site deep cleaning and inspection within the intended service intervals. It validates the feasibility of the hygiene model by monitoring deviations from planned maintenance routines. Persistent deviations indicate logistical or operational constraints that may require adjustment of cleaning frequency, service routing, or fleet sizing.

Damage and Repair Frequency

Damage and repair frequency records the occurrence of mechanical issues or component failures requiring intervention. This KPI is critical for managing safety risk, liability exposure, and maintenance cost. Patterns in repair data also inform design refinement, component durability assessment, and supplier negotiations. During early deployment, the KPI supports learning about real-world wear under shared use rather than fault minimisation.

Rebalancing Delay

Rebalancing delay measures the time required to restore inventory balance at locations experiencing shortages or excess supply. This KPI provides insight into the responsiveness of the logistics model under fluctuating demand. Extended delays signal weaknesses in redistribution routines or inventory thresholds and guide incremental improvements in scheduling, routing, or user incentive design.

Economic Sustainability Signals

Cost per Rental and Operational Expenditure per Location

These financial KPIs aggregate variable and fixed costs associated with delivering the service, including cleaning, maintenance, logistics, payment processing, and location-specific fees. During the pilot phase, these metrics are used to assess economic viability trends rather than profitability. They inform pricing decisions, partnership negotiations, and scalability assessments by indicating whether operational costs remain proportionate to observed demand and utilisation levels.

Summary

Collectively, these KPIs provide a structured feedback system that supports operational learning and risk reduction during early-stage deployment. Rather than enforcing predefined performance targets, the indicators enable StrollAway to adapt its service configuration incrementally in response to observed demand patterns, hygiene performance, and logistical constraints. This approach ensures that scaling decisions are grounded in empirical insight while remaining consistent with the project's contingency-based and effectuation-oriented methodology.

8.2 Discussion

The operational design developed for StrollAway demonstrates how a stroller-rental service can be configured to function within the spatial, regulatory, and organisational constraints of transport hubs. Rather than pursuing an optimised or fully specified logistics model, the design prioritises feasibility, robustness, and adaptability. This reflects the project's underlying assumption that early-stage services operating in highly regulated environments must be developed under conditions of uncertainty, where solution knowledge is incomplete and experimentation is necessary.

From a theoretical perspective, the operational configuration aligns with service innovation thinking by treating hygiene, logistics, and asset management as integrated service routines rather than isolated support functions. Value creation emerges through the interaction of physical infrastructure, digital access, user participation, and organisational processes, rather than from the stroller as a standalone product. Similarly, the use-oriented Product–Service System logic is reflected in the treatment of strollers as provider-owned operational assets whose availability, condition, and lifecycle are actively managed through the service design.

The hygiene system illustrates how risk management and service quality can be achieved without high-intervention or technology-intensive solutions. By combining non-porous silicone

materials, user-assisted wipe-down routines, and periodic off-site deep cleaning, the design balances hygiene assurance with operational practicality. Hygiene is therefore treated as an ongoing operational process maintained through repeated routines and monitoring, rather than as a one-time condition achieved through a single cleaning action.

Logistics and rebalancing choices further reflect a deliberate trade-off between simplicity and efficiency. Threshold-based inventory control, decentralised storage, and off-peak redistribution favour reliability and regulatory feasibility over real-time optimisation. While this approach may limit short-term efficiency gains, it reduces operational complexity and supports pilot deployment within constrained environments. Scalability is therefore positioned as a gradual, data-informed process rather than a predefined expansion pathway.

Several limitations must be acknowledged. The operational design has not been empirically validated through live deployment, and assumptions regarding demand patterns, user compliance, and cost structures are currently provisional. Regulatory approval processes and stakeholder coordination may also introduce site-specific constraints not fully understood at this design stage. However, the modular and incremental nature of the system provides a flexible foundation for pilot testing and iterative refinement.

8.3 Conclusion

This project set out to examine how StrollAway could design a feasible, hygienic, and operationally reliable stroller-rental system within the constraints of transport hubs, while addressing the mobility challenges faced by travelling parents. Through a theory-informed operational design approach, the project demonstrates that such a service is conceptually viable when simplicity, adaptability, and contextual fit are prioritised over optimisation.

Drawing on service innovation and use-oriented Product–Service System principles, the stroller is positioned not as a standalone product but as a managed operational asset embedded within a broader service configuration. Hygiene, maintenance, logistics, and user interaction are integrated into repeatable service routines rather than treated as auxiliary support functions. This configuration allows StrollAway to deliver temporary access to essential mobility equipment while retaining control over asset condition, availability, and lifecycle.

The operational design responds directly to the spatial, regulatory, and organisational constraints of transport hubs. A decentralised locker-based system, low-intervention hygiene routines, threshold-based logistics, and incremental rebalancing strategies collectively support feasibility within environments characterised by limited space, strict safety requirements, and restricted service windows. Rather than assuming stable demand or

complete solution knowledge, the design accommodates uncertainty through modularity and incremental decision-making.

Key Performance Indicators are used as learning instruments to support operational validation during early-stage deployment. By monitoring demand, reliability, hygiene performance, and cost signals, StrollAway can iteratively refine placement, fleet sizing, and service routines based on observed use rather than predictive assumptions. This approach aligns with effectuation-oriented logic and reduces commitment risk during pilot implementation.

Despite the limitations discussed, the project contributes a structured and theory-informed operational blueprint for a shared stroller service in transport hubs. Its primary contribution lies in demonstrating how service innovation, Product–Service System logic, and contingency-based decision-making can be operationalised to address a real-world mobility problem under conditions of uncertainty. The design provides a robust starting point for pilot testing and further empirical validation, supporting the future development and scaling of StrollAway as a practical service solution for travelling families.

9. Exit strategy

A clearly articulated exit strategy is an essential component of entrepreneurial planning, as it signals long-term strategic coherence, investor readiness, and realism regarding how value may ultimately be realised. Exit planning is not merely a final consideration but influences early decisions related to business model design, resource allocation, and partnership selection (DeTienne, 2010). This is particularly relevant for service organisations that depend on access to highly regulated infrastructures, such as airports and public transport hubs, where scaling independently can be institutionally complex and capital intensive.

For StrollAway, exit planning ensures that the concept is developed in a way that creates value not only for end users but also for organisations with the operational capacity, regulatory legitimacy, and geographic reach required to implement such a service at scale. The approach taken in this project reflects an effectuation-oriented understanding of entrepreneurship, in which long-term outcomes remain flexible and shaped by available means, stakeholder access, and learning under uncertainty rather than by fixed growth trajectories (Sarasvathy, 2001). At the same time, the project adopts a discovery-driven logic, emphasising validation of assumptions and staged commitments over early, irreversible investments (McGrath & MacMillan, 1995).

Based on the strategic analysis conducted throughout the project, two exit pathways are identified as both feasible and value-creating:

(1) sale or licensing of the validated service concept to large institutional actors such as airports, and
(2) strategic acquisition by an established mobility or passenger-service provider.

9.1 Analysis and Discussion

9.1.1 Strategic Sale or Licensing to Institutional Actors

One viable exit pathway for StrollAway is the sale or licensing of the developed service concept and operational framework to institutional actors such as airports. These organisations possess the organisational scale, financial capacity, and regulatory authority required to operate mobility services within controlled transport infrastructures.

Within this logic, the value of StrollAway does not primarily lie in ownership of physical assets or infrastructure, but in the development of a structured service concept that addresses a clearly defined passenger problem and has been designed to function within the constraints of transport hubs. By testing assumptions related to demand, service design, hygiene protocols, and operational feasibility, the project generates transferable knowledge that can be absorbed by actors already embedded within airport or airline ecosystems. This aligns with discovery-driven planning, where early-stage organisations focus on reducing uncertainty and creating decision-relevant knowledge rather than committing prematurely to large-scale deployment (McGrath & MacMillan, 1995).

Such an exit pathway is particularly relevant in environments where access to space, security clearance, and operational windows is tightly controlled, making independent scaling by startups structurally challenging. Licensing or sale allows institutional actors to internalise a validated solution while avoiding the risks associated with developing and testing a new service from scratch.

9.1.2 Strategic Acquisition by Smarte Carte

The most viable, concrete and strategically aligned exit scenario identified in this project is a strategic acquisition by Smarte Carte, a global provider of passenger convenience and mobility services operating primarily through concession agreements in airports and other public spaces. Smarte Carte manages luggage carts, lockers, and mobility aids across thousands of locations worldwide and has extensive experience working within regulated transport environments, such as airports .

While Smarte Carte’s existing stroller offerings are only used in amusement parks and for one-day only use, their offering does demonstrate organisational experience with child-

mobility services and the operational routines required to manage cleaning, maintenance, and asset availability at scale (Smarte Carte, n.d.). StrollAway's contribution lies not in replicating these services, but in developing a more user-centred, digitally integrated and standardised stroller-rental concept specifically designed around the needs of travelling families and the constraints of European transport hubs.

From an acquisition perspective, this creates a complementary relationship: StrollAway provides a validated service design and operational logic, while Smarte Carte brings established infrastructure access, operational capacity, and long-standing relationships with airport authorities. Acquisition would allow Smarte Carte to internalise a concept that has already undergone early-stage validation, thereby reducing development uncertainty and accelerating time-to-implementation. For StrollAway, acquisition represents a realistic pathway for scaling the concept beyond what would be feasible for an independent startup operating in highly regulated environments.

9.2 Conclusion

This exit strategy demonstrates that StrollAway's long-term value creation does not depend on becoming a fully independent operator within airports or public transport hubs. Instead, value is generated through the development of a well-defined, operationally feasible service concept that can be absorbed, licensed, or scaled by organisations with the necessary institutional capacity.

By identifying strategic acquisition by an established service provider and sale or licensing to institutional actors as primary exit pathways, the project aligns entrepreneurial ambition with structural realities of regulated service ecosystems. Grounded in effectuation logic and discovery-driven planning, the strategy reflects an understanding that successful entrepreneurship in such contexts often lies in creating solutions that others are better positioned to implement at scale.

10. Conclusion

This research project aimed to evaluate the feasibility of StrollAway, a stroller-rental service integrated into transport hubs, especially airports. The main goal was to determine if this service could be designed to be market-relevant, hygienic, reliable, and financially sustainable, while addressing the mobility challenges parents face when traveling with young children. Instead of presenting a finalized business plan, the study examined feasibility as a complex concept that includes customer demand, infrastructure compatibility, and operational execution in tightly regulated transport environments.

The key research question focused on "*How can StrollAway design a feasible, hygienic and economically sustainable stroller-rental service through transport hubs, while validating that the model effectively solves parents' mobility challenges during travel?"*. The findings indicate that this can be achieved by positioning StrollAway as a complementary service innovation that aims to alleviate parent's travelling stress during short strips. Traveling parents frequently face specific mobility problems, especially upon arrival and while moving through airports, when stress, fatigue, and time pressure peak. StrollAway provides temporary access to a clean, reliable stroller upon arrival, directly addressing this critical moment in the customer journey. Feasibility is achieved by coordinating physical assets, digital booking interfaces, hygiene practices, and partnerships with infrastructure operators, rather than relying on new technology. Economic sustainability seems possible through a targeted pilot strategy, high use of assets, and a pricing model suitable for short rentals, which together promote shared-use efficiency and longer product lifecycles.

Answering the first secondary research question: *"Is there market demand for StrollAway, which features or service attributes are most important for the target customer segment?"*, starts with looking at market demand. Chapter six shows a strong and consistent need for solutions that lessen the logistical and emotional burden of traveling with young children. Qualitative interviews, bolstered by survey data and landing-page interactions, indicate that parents view stroller handling as a significant source of stress during air travel. The strongest demand comes from families traveling for short stays with children older than one, for whom carrying a personal stroller is often more of a hassle than a help. Across all data sources, hygiene, reliability, and convenience emerged as important features or service attributes. Hygiene, in particular, is seen as a basic requirement rather than a distinguishing factor, since parents stated that without clear and trustworthy sanitation standards, they would not use a shared stroller service. Simple booking, immediate availability upon arrival, clear pricing, and confidence in stroller quality are crucial for adoption and willingness to pay, confirming a strong match between the problem and solution for a well-defined target group.

In terms of location feasibility and the secondary research question *"What are the most viable transport locations for a pilot deployment?",* the market fit analysis confirms that airports are the most promising initial deployment sites, but strategic outreach and research to airports and airlines showcased significant regulatory and organizational hurdles. Airports bring together many traveling families during peak mobility stress and already feature similar shared services like luggage trolleys and car rentals. From a customer journey angle, arrival halls and landside transport areas offer the most value, as they align with the immediate need for strollers. However, the research also emphasizes that accessing airports requires long lead times, compliance with regulations, and collaboration with multiple stakeholders, who are often not interested in working with newly established organisations (Flughafen Berlin Brandenburg GmbH, n.d.). Therefore, feasibility relies on a phased, partnership-driven strategy, starting with limited pilot programs in highly active transport hubs or nearby airport facilities and gradually expanding as operational and institutional learning progresses.

This project explored where to best launch a stroller rental service for families with young children. While airports seem to meet user needs due to factors like mobility stress, long walking distances, and time pressure, they are not suitable for initial testing. Feedback from Danish airports and airlines, or the lack of feedback, showed significant barriers to entry, limited responsiveness, and complex regulations that make engagement difficult. Viewing this through Lean Startup (Ries, 2011) and discovery-driven planning (McGrath & MacMillan, 1995), the lack of engagement indicated that the initial assumption about locations was incorrect. Strategically, airports have strong bargaining power and require more legitimacy, capital, and regulatory knowledge than StrollAway currently possesses, even though they are appealing due to demand and visibility.

Consequently, the project identifies train stations, metro hubs, and bus terminals as the best places for a pilot launch. These locations balance user needs with accessibility and practical operations. They have similarities to airports, such as high passenger volumes and family-related mobility issues, but come with lower security requirements, more flexible approval processes, and a greater willingness to communicate, which was seen in discussions with rail and metro operators. Operationally, these sites enable predictable logistics and gradual system improvement, fitting well with flexible strategies and ongoing service development in uncertain conditions. The findings show that choosing a location is a design decision influenced by social and institutional factors, not just by user demand. Future research should test pilot programs in rail and bus environments, look at usage trends and financial sustainability over time, and explore partnership models that help startups grow in more regulated transport systems like airports.

The operational analysis, based on research question: *“How can StrollAway design a cost-effective, hygienic, and operationally reliable logistics system for stroller cleaning, maintenance, and return within the constraints of transportation hubs?”,* indicates that a cost-effective, hygienic, and dependable logistics system can be built using a use-oriented Product-Service System model (Tucker, 2004), where StrollAway maintains ownership and responsibility for stroller maintenance and sanitation. By combining user-level light cleaning expectations with off-site managed deep-cleaning schedules, the balance between trust, safety, and operational efficiency can be achieved. A robust selection of strollers, smart locker infrastructure, and digital tracking systems allow for controlled access, predictable asset flows, and scalability within transport hubs. The findings also suggest that operational design should follow a gradual decision-making process rather than seeking the perfect system from the start. By testing hygiene routines, adjusting strategies, and evaluating maintenance schedules in pilot settings, StrollAway can minimize risk and improve operations before scaling up.

The exit strategy addressed the research problem of identifying realistic and value creating exit paths for StrollAway keeping in mind the constraints of highly regulated transport and mobility ecosystems. Recognising that scaling in environments such as airports and public

transport hubs is institutionally complex and capital intensive, the project examined how long-term value could be achieved through alternative strategic outcomes. The analysis was informed by effectuation theory (Sarasvathy, 2001) and discovery-driven planning (McGrath & MacMillan, 1995), framing exit strategy not as a terminal event but as a guiding logic shaping early decisions related to service design, validation activities, and partner selection. Instead of assuming a linear growth trajectory, the project evaluated exit options based on alignment between StrollAway's validated capabilities and operational capacities of incumbent actors.

The findings identify two primary and feasible exit pathways.The scale or licensing of the validated service concept to institutional actors such as airports, and strategic acquisition by an established mobility service provider, most notably Smarte Carte. In both the cases, StrollAway's value lies not in asset ownership but in the development of user-centred, operationally feasible, and context-aware service concept that addresses a clearly defined passenger problem. These exit options allow institutional actors to internalise a de-risked solution while leveraging their existing infrastructure access, concession agreements, and operational expertise. The implications of this strategy underscore that entrepreneurial value creation in regulated service ecosystems often depends on designing transferable innovations rather than pursuing full vertical integration. By aligning exit planning with structural realities, the project demonstrates how early-stage organisations can remain strategically coherent, investor-relevant, and scalable through collaboration and absorption rather than independent expansion.

The research shows that family mobility challenges can be solved through service-based, access-focused solutions integrated into existing transport infrastructures. Theoretically, the project illustrates how theories such as service innovation, Jobs to Be Done, Product-Service Systems, and effectuation logic can be used to analyze feasibility in complex, regulated situations. Hygiene emerges as a central factor in creating value in shared services for children, underpinning the importance of trust and perceived safety along with convenience.

Several limitations must be noted. The empirical findings are based on a small, mostly European sample, which may limit their relevance in different cultural and economic settings. The study relies on stated preferences and early engagement indicators rather than actual behavior in a live operational pilot, which might overstate true adoption rates. Additionally, the assessment of regulatory and partnership feasibility was conducted through desk research rather than secured agreements with airport authorities. These limitations reflect the exploratory nature of the project but also outline the context for interpreting the conclusions.

Future research should focus on real-world pilot testing to confirm behavioral adoption, operational performance, and costs over time. Longitudinal studies could explore repeat usage, asset wear, hygiene effectiveness, and lifecycle economics. Further research is needed on partnership models with airports, airlines, and adjacent service providers, as well as potential growth into other transport hubs like major train stations. Comparative studies

across regions would help refine pricing strategies and evaluate differences in perceptions of hygiene, trust, and willingness to adopt shared child mobility services.

In conclusion, this research shows that StrollAway's value lies in developing a focused and practical service concept rather than operating as a fully independent provider. By tackling a specific mobility challenge with an accessible, clean, and integrated approach, the concept can lessen travel-related stress for parents while promoting more sustainable consumption habits. StrollAway's long-term impact will come through options like licensing, acquisition, or scaling by organizations that can implement it. Feasibility is defined not by removing all uncertainty but by creating a system that can learn, adjust, and grow responsibly. This positions the service as a transferable and valuable solution within regulated mobility systems.

Appendix

Appendix A - Customer Journey

	Doing	*Touchpoints*	*Goal*	*Pain points*	*Opportunities*
Awareness	Parent wants to travel with children, difficult to take stroller	- Social ads - Google searches - Posters in airports	Using a stroller on vacation	- own stroller = too bulky - travel stroller = waste + expensive - Renting from baby equipment rentals = travel short distance without stroller	highlighting sustainability + convenience in ads
Consideration	Exploring alternatives: - (lightweight travel) stroller - hotel/ baby equipment rental -Borrow from Friends - Renting from StrollAway	- Website/ app - online reviews - travel bloggers	Compare price + convenience	Unsure if service is trustworthy and hygienic (new concept + parents are sensitive to hygiene and safety)	- Show safety standards etc. on website, get some certifications videos about safe handling of strollers - Add testimonials
Decision	-Choosing rental Period -selecting pick-up location (at a public transport hub) -Payment	-Website/App Booking -QR Code E-mail	Complete reservation (Confident and quick)	-Fear of hidden fees -Not sure how Return works -app not working - fear of not finding lockers in public transport hub (we can already give solution to this by having a direction thing in the app)	- Direct QR-code confirmation - Live availability map
Use	Using the stroller around airport, city and in public transport	-Physical stroller -Phone app -Customer	Smooth mobility with children	-Worried about damaging the stroller -weather Proofing	-Robust stroller design (all-terrain) -In app-report issue button

	-folding/unfolding	support	during trip	(rain covers)	
Return	-Finding locker at public transport hub -Scanning QR -Returning stroller -Completing feedback	-Return locker -in-app navigation -email confirming successful return	Quick, frictionless return before flight/train	Airport rush -> need fast return Carrying bags+kids->need easy access	-Placement of lockers -In-app directions & walking direction -Drop at any locker flexibility -Automated deposit release
Loyalty	-receiving follow up email -redeeming credits for next trip - Telling friends	-loyalty programme -email newsletters -referral programme	feel rewarded & valued -> come back next trip	-forgetting brand name -thinking rental is expensive -not sure if services exist in next destination	-Loyalty points -cross airport locations availability -Strollaway travel guide - seasonal Campaign

Appendix B - Stroller fabric pros/cons

Dimension	**Traditional cleaning**	**StrollAway's model**	**Result**
Water, energy and chemical use	- daily laundering of textiles - large quantity of water + detergents - energy intensive washing + drying ⇒ high carbon footprint per rental	- non-absorbent silicone liners - liners cleaned by parents with a single wipe - deep cleans only 3-4 times per year ⇒ significantly lower carbon footprint per rental	⇒ 90-95% reduction in water use ⇒ almost zero detergents ⇒ no high-energy dryers ⇒ no chemical storage at airport
Materials	**Textile liners** - tearing and degrading possible	**Silicone** - lasts years - does not degrade - can be washed & reused hundreds of times	⇒ replacing disposable consumables with durable, reusable materials
Daily operations	- UV-C lamps - steam cleaning devices - dryers/ washing machines - heavy machinery needed	- low energy (preferred by airports) - cleaned with a single swipe Cleaning is manual and consumer-driven → zero operational energy	Reduces: ⇒ energy consumption ⇒ equipment footprint ⇒ maintenance waste ⇒ risk of electrical disposal/ overheating

Required behaviour	- No behaviour required from parents, just basic of keeping a minimal of hygiene - Everything gets cleaned by the business	- parents involved in a simple wipe-down process - lower demand for professional cleaning labour - avoids unnecessary travel, water usage, chemicals - higher user awareness of hygiene + sustainability	⇒ reduced resource consumption ⇒ equalized cleanliness level

Appendix C - interview questions

Topic	**Questions**
Profile	- Who are you? - How many kids do you have? - Have you often travelled by plane with young children?

Real-world context	- Can you describe the last time you travelled by plane with your young child(ren)?
	  - What went well?
	  - What was frustrating?
	- Which specific aspects of travelling with a stroller cause the most stress for you?
	  - Why?

Current Behaviour	- What do you currently do with your stroller when travelling?
	- Have you ever considered renting a stroller at the airport or somewhere else?
	  - If yes, how was the experience?
	  - If not, what stopped you?

Solution validation	- If a rental service for high-quality strollers at the airport existed, how would you expect it to work? - What would make you trust such a rental service? - What would you reasonably be willing to pay per day for this service? - What would you consider to be too expensive?

	- Are there any occasions/ trip types where this service seems more or less valuable to you? - What would make you decide not to use our rental service? / What would make you keep bringing your own stroller? - If you had a chance to improve the current process of managing strollers during travel, what features or service would you add or change?

Appendix D - Survey

Travelling Parents - survey

Dear participant,

Have you ever travelled with your kids and felt that the trip was more work than vacation? We understand your challenges, and this survey will help us learn how we can make traveling with children easier and more enjoyable.

We are five Entrepreneurial Business Engineering students from Aalborg University, Denmark. As part of a project, we are exploring the challenges and possible solutions for families traveling with young children. Our business idea, StrollAway, focuses on making family travel easier, lighter, and more enjoyable.

We invite you to take part in this research, which will take no more than 5 minutes of your time. You'll be asked a few simple questions about your travel habits, needs, and opinions related to traveling with children. There are no right or wrong answers — we are simply interested in your personal views.
By starting the survey, you confirm that you:
(a) are 18 years of age or older,
(b) participate voluntarily in this study, and
(c) understand that you can withdraw from participation at any time (by simply closing your browser).
Furthermore, you give your consent for your completely anonymous data to be processed and reported for academic purposes only.

Thank you very much for your time and valuable input! If you have any questions, please feel free to contact us at: jdebou25@student.aau.dk
vkadam25@student.aau.dk
mgunas25@student.aau.dk
rburui25@student.aau.dk
jplato25@student.aau.dk

Kind regards,
Jezherel, Ruxanda, Muruhaiya, Varun & Julie
Aalborg University, Denmark

1. Start the survey
    - I confirm that I have read the information above and agree to participate.
    - I decline to participate.
2. Do you currently have children under the age of 6 years old
    - Yes
    - No
3. Do you or have you ever travelled by air with children under 6 years old?
    - Yes
    - No
4. What is the age of your youngest child?
    - Under 1 year
    - 1-2 years
    - 3-4 years
    - 5-6 years
    - Does not apply
5. How often do you travel by air with (a) child(ren) (under 6 years old) in a typical year?
    - Less than once a year
    - 1-2 times
    - 3-5 times
    - 6 times or more
6. What types of trips do you typically undertake when travelling with your young child(ren)? (select all that apply)
    - Visiting family/friends
    - Holiday/leisure trip
    - Business travel combined with family
    - City breaks or short getaways
    - Other:
7. Thinking about travelling with young children, which of the following are your biggest challenges? (Select all that apply)
    - Managing luggage + stroller
    - Navigating the airport (security, boarding, waiting) with child(ren)
    - Moving around the destination city/country with child(ren)
    - Ensuring child comfort and safety during travel
    - Unexpected delays/ problems (lost stroller, damaged luggage, etc.)
    - Other:
8. Have you ever experienced problems specifically with your stroller when travelling by air?
    - Yes
    - No
9. What problems have you experienced with your stroller while travelling by plane? (Select all that apply)
    - Stroller too large for carry-on/ cabin
    - Stroller damaged in cargo hold
    - Had to purchase or rent a second travel-sized stroller
    - Baggage claim or airport logistics inconvenient
    - Additional cost due to stroller (e.g. extra baggage fee)
    - Other:

10. If you could avoid bringing your own stroller by renting a high-quality one at the airport…

	Not at all appealing	Not appealing	Neutral	Appealing	Extremely appealing
How appealing would you find that option?					

11. What features or aspects would make you trust a stroller-rental service at the airport? (Select all that apply)

- Cleanliness/hygiene of stroller
- Recognised high-quality stroller brands (e.g. Bugaboo, Cybex)
- Easy online/ app booking and pre-reservation
- Clear, affordable pricing
- Customer reviews/ ratings of the service
- Airport/ official partner endorsement or accreditation
- Immediate availability on arrival
- Other:

12. What would you expect to pay per day for a high-quality stroller rental at the airport?

- 0 - 35 DKK/day (~€0 - €4)
- 36 - 70 DKK/day (~€4,01 - €9)
- 71-105 DKK/day (~€9,01 - €14)
- 106 - 150 DKK/day (~€14,01 - €20)
- +150DKK/day (~ +€20)

13. How would you prefer to rent the stroller?

- Pre-book online (before arrival)
- Rent on arrival at the airport
- No preference
- Other:

14. Which airports do you most often depart from or arrive at when travelling with children?

- Copenhagen Airport
- Aalborg Airport
- Oslo Airport
- Stoch-kholm Arlanda Airport
- Schiphol (Amsterdam)
- Charles De Gaulle (Paris)
- Barcelona Airport
- Madrid airport
- Palma de Mallorca Airport
- Malaga Airport
- Frankfurt Airport
- Rome Fiuminico Airport
- Lisbon Airport
- Munich Airport
- Vienna International Airport

- Zurich Airport
- Athens International Airport
- Berlin Brandenburger Airport
- Malpensa Airport (Milan)
- Other:

15. What is your home country?
    - Denmark
    - Norway
    - Sweden
    - Finland
    - Germany
    - Spain
    - Netherlands
    - Austria
    - Portugal
    - Czech Republic
    - Belgium
    - Italy
    - Switzerland
    - Greece
    - France
    - Other:
16. Would you be open to a 5-minute follow-up interview about your answers?
    - Yes
    - No, thank you
17. Please leave your email below if you are open to a 5-min follow-up interview

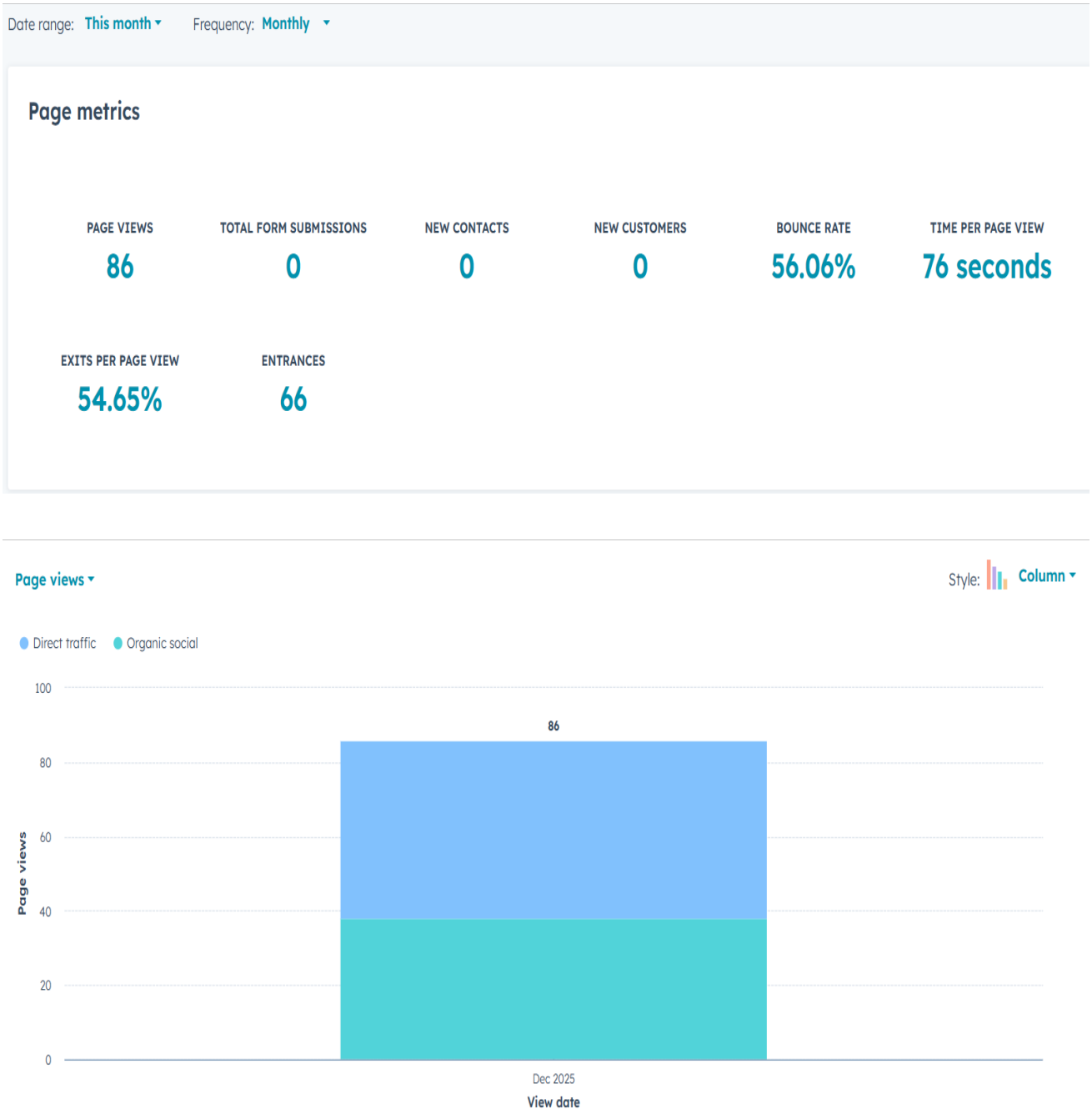
Appendix E - Survey answers

https://docs.google.com/spreadsheets/d/1AUSlMNSz2HcGglsBcGYpG3JbccoxR03a/edit?usp=sharing&ouid=101769180005598421565&rtpof=true&sd=true

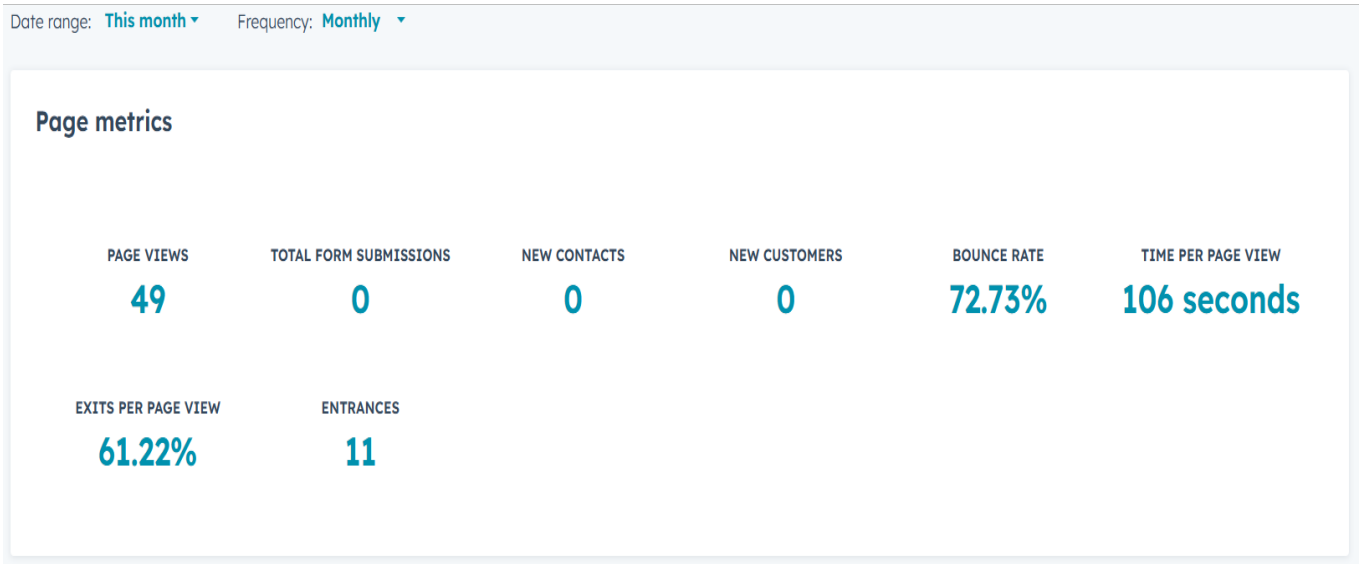
Appendix F - Landing page layout

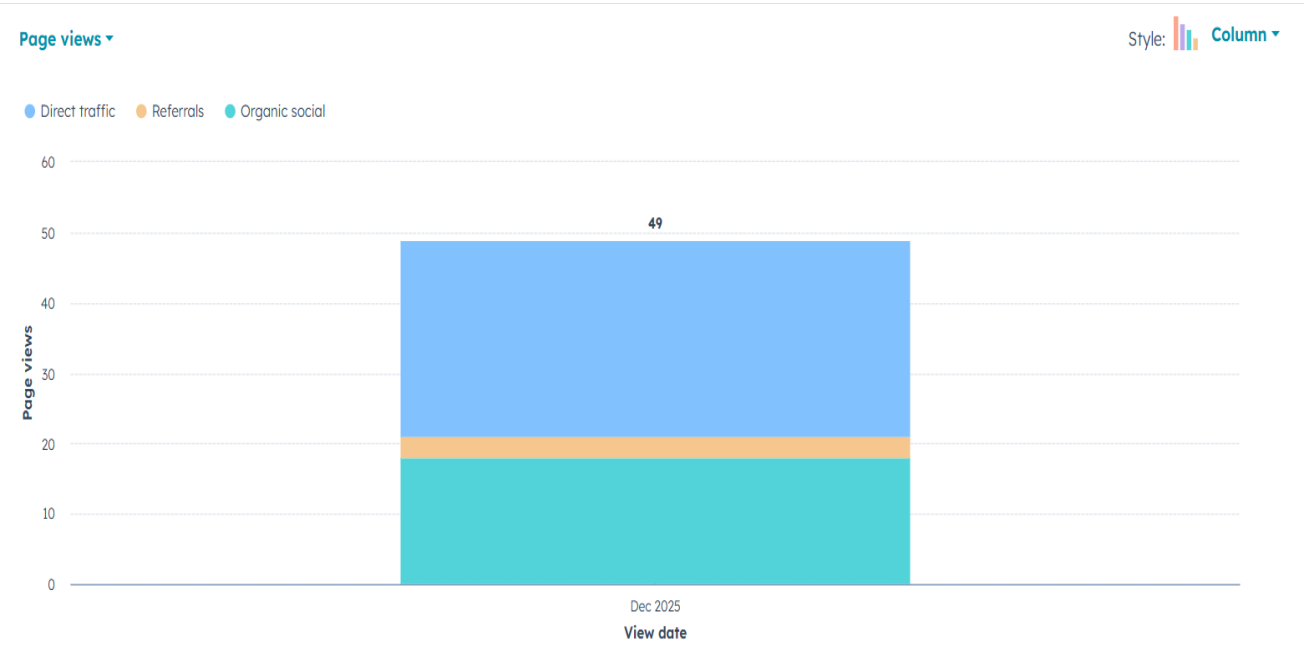
Link to the landing page: https://147347373.hs-sites-eu1.com/strollaway

Main Page Metrics



Second page Metrics

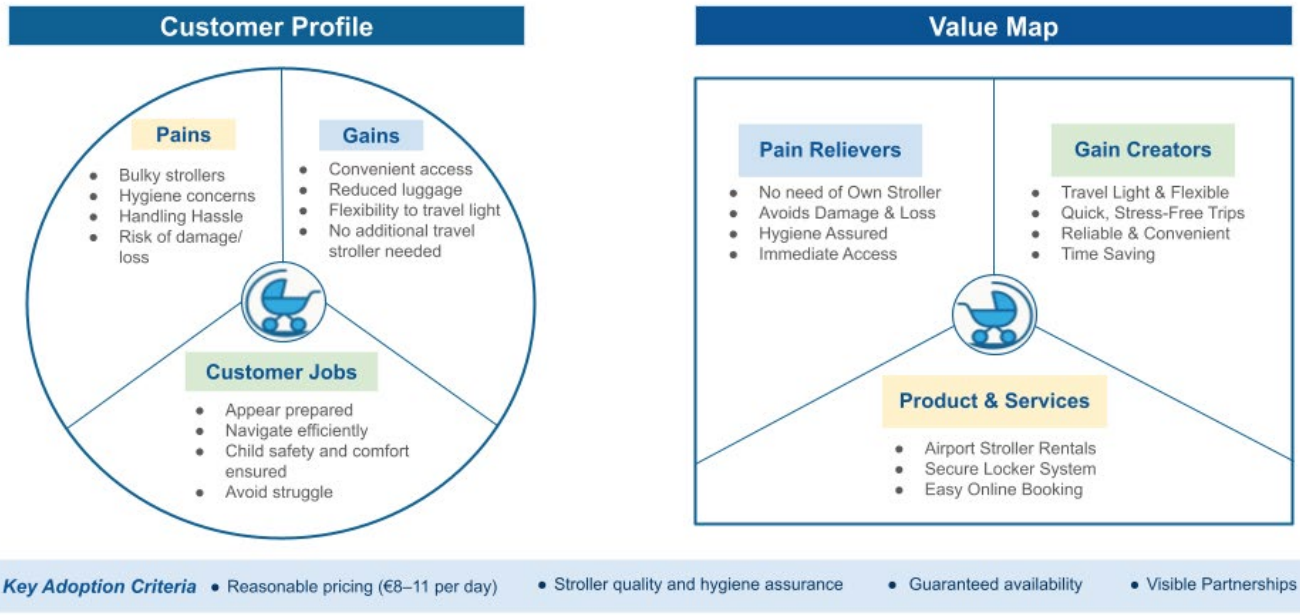




Appendix G - Value Proposition Canvas

StrollAway's Value Proposition Canvas

Target Customer: *Parents travelling with children (≈ 1 to 5 years), primarily on short stay travel via airports.*



Key Adoption Criteria • Reasonable pricing (€8–11 per day) • Stroller quality and hygiene assurance • Guaranteed availability • Visible Partnerships

Appendix H - StrollAway Business Plan

Business Plan

Company Name	StrollAway LLC
Business Type	Mobility-as-a-Service (MaaS)
Location	Aalborg, Denmark
Presented to	Evaluation board of Aalborg Business School (AAUBS)
Prepared by	Founders team
Date	December 2025

Executive Summary

The proposed project will develop an innovative **Mobility-as-a-Service (MaaS) system - StrollAway** - based on Bluetooth- and IoT-enabled smart lockers to:

- Enable contactless rental and return of baby strollers at airports and transportl hubs,
- Enhance convenience and reduce travel stress for families with young children, and
- Extend stroller lifespan through shared use, thereby lowering both capital and environmental costs as secondary benefit.

The potential impact of StrollAway could be significant for family mobility in air travel. Our assessment of the current landscape indicates that the greatest barrier to full-scale adoption of stroller rental services is the absence of a unified, digital, and hygienic on-demand infrastructure within airports. Current alternatives include personal strollers, hotel concierge rentals, or disposable travel strollers all of which often prove costly or inconvenient in short-term.

StrollAway bridges this gap by integrating IoT technology, contactless payments, Hygiene controlled operations and airport partnerships into a scalable and reliable network.

The project partners bring complementary strengths:

- **Technology Partner** – IoT system integration, app development, and data management.
- **Operations & Logistics Partner** – fleet management, hygiene, and airport coordination.
- **Marketing & Partnerships Partner–** Potential collaborations with airlines and Transportation Hubs, with a primary focus on airport based integration.

The proposed market entry strategy involves:

1. **Pilot-Scale** deployment illustrated through Copenhagen Airport as a reference case using about 100 strollers to explore the business and technical model.
2. **Optimization phase** based on user feedback and operational insights.
3. **Scale-up** to 20 major European airports (Amsterdam, Paris, Barcelona, etc.) through strategic partnerships and licensing.

While the market share for this emerging segment is still evolving, analysis of the European air travel market (1.1 billion passengers annually, 20–25% traveling families) reveals substantial growth potential. The preliminary financial projection suggested a potentially favorable risk-reward ratio, with indicative **revenues of upto €39 million by Year 5**, an **EBITDA margin of 73 %**, and a **ROI per stroller exceeding 280%** subject to successful validation and scaling.

By merging **digital convenience, sustainability** and **mobility innovation**, **StrollAway** aims to contribute to a shift toward more convenient, shared, stress-reducing mobility solution for families travelling through airports.

1. Project Founding Members

Jezherel Platon-Reenberg
CEO/Founder

Muruhaiya Gunasekaran
Finance

Varun Sudhakar Kadam
Technology

Julie Debou
Operations & Sales

Ruxanda Buruiana
Marketing

2. Idea Description

Project description

Traveling with small children can be particularly stressful in certain travel contexts, especially during arrivals and short-term trips where mobility constraints are most pronounced. Parents often struggle with carrying children, bulky carriers, or purchasing expensive travel strollers that are rarely reused. Our solution is a contactless stroller rental system. Through a user-friendly mobile app, parents can rent a stroller from secure Bluetooth-enabled lockers, use it throughout their trip, and return it conveniently at any designated station.

Overview of competitive technologies

State of the art

Currently, parents rely on three main alternatives:

- Bringing their own stroller (bulky, inconvenient for travel).
- Purchasing an additional lightweight travel stroller (used only a handful of times, short usable lifespan).
- Renting through concierge or hotel services (limited availability, costly, non-scalable).

Key issues

- High capital and operating costs for parents (owning multiple strollers).
- Environmental impact: strollers are only used 2–4 years, contain mixed materials (plastics, metals, foams), and are difficult to recycle.
- Short usage span of travel strollers, often resulting in premature disposal.

Challenges

- Lack of convenient, on-demand rental infrastructure.
- Ensuring stroller hygiene and safety between uses.

Rental Technology

Our solution integrates mobility-as-a-service principles into childcare. Key differentiators include:

- Bluetooth& IOT-enabled lockers: ensuring secure, easy access at airports, transport hubs, and tourist locations.
- Contactless rental app: allowing seamless booking, payment, and return.
- Sustainability: shared use extends stroller lifespans, reducing landfill waste.

Project objectives:

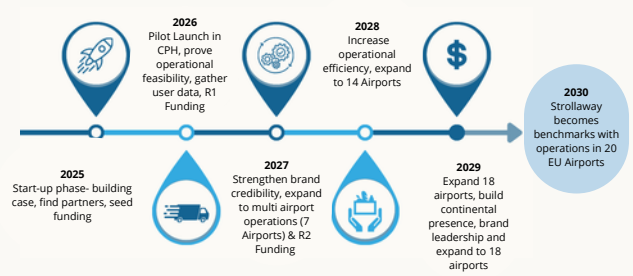
- Develop a scalable digital platform for stroller rentals.
- Deploy locker stations at high-traffic airports
- Establish maintenance and sanitation protocols.
- Partner with airports, hotels, and travel operators for integration.
- Build customer trust through reliability, cleanliness, and ease of use.

Patents and trademark

The rental locker system and app integration can be patented. The service brand will be trademarked to strengthen recognition and market positioning.

3. Business stage section

The business is in the ideation stage. We are conceptualizing and testing the hypotheses. We are also in the process of looking for partnerships and funding.



4. Market Analysis

Industry Overview

Air travel in Europe has rebounded strongly, reaching 1.1 billion passengers in 2024 (+8.7 % vs. 2023, Eurostat), while global traffic hit 4.7 billion (IATA). Leisure travel drives this growth, and families account for roughly 20–25 % of European tourism, with air as the preferred mode for foreign holidays. Reports from Booking.com and ABTA confirm rising family travel intent and spending. At the same time, airports are investing in sustainability and family-friendly services. Strong passenger volumes, growing family travel, and demand for convenient, sustainable solutions create favourable conditions for an airport-based stroller rental that meets parents' need for comfort and ease while traveling.

Market Attractiveness and Competitive Pressure

Porter's Five Forces highlights that airport stroller rental operates in an attractive market with low supplier power, limited rivalry, and significant entry barriers due to airport concession requirements. These barriers protect early movers and create defensibility once partnerships are secured. The key substitution risk is families using their own strollers or airline allowances, but this is offset by growing demand for convenient, stress-free, and sustainable travel solutions. Overall, the model underlines strong potential for profitability and scalability with a clear first-mover advantage.

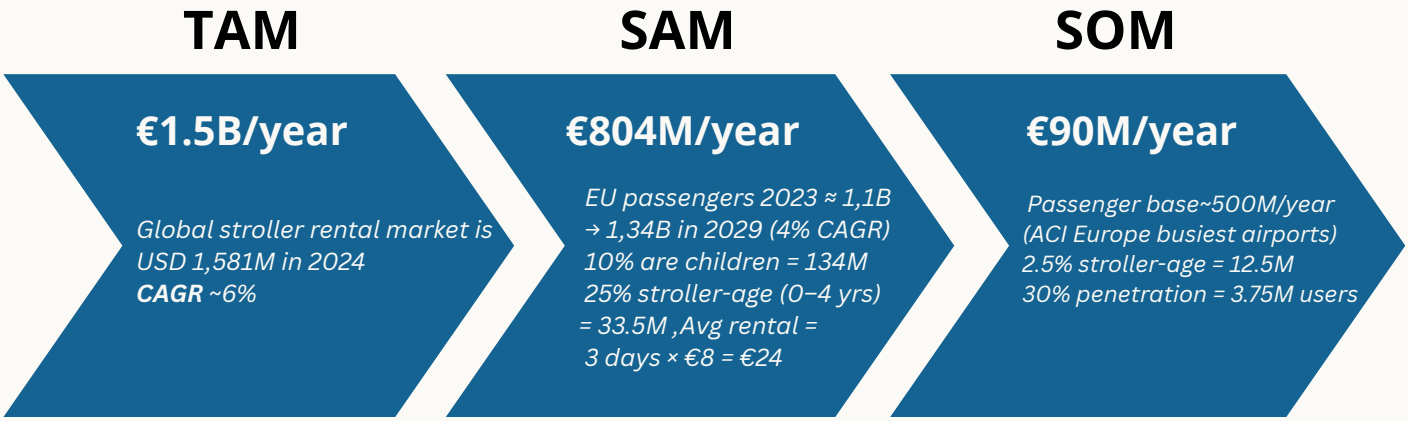
S **Strengths**: Unique first-mover concept, solves a real pain point for families, aligns with sustainability and convenience trends, scalable across airports.

W **Weaknesses**: Reliance on airport partnerships and approvals, operational challenges with cleaning and logistics, limited awareness at launch.

O **Opportunities**: Growth in family air travel, increasing demand for stress-free travel solutions, rising interest in shared-use/circular economy services, potential to expand to add-on gear and other hubs.

T **Threats**: Families bringing their own strollers or relying on airline allowances, availability of cheap travel strollers, risk of competitors or airports copying the model.

Market Size



5. Marketing Plan

1. Situation Analysis

- **Market:** More than 1,1B Passengers use Air Travel in EU every year
- **Problem:** Families face hassle bringing strollers on trips.
- **Solution:** ~60 DKK stroller rental at airports.
- **Competitors:** Private Rentals and Hotels
- **Strength:** Convenience + affordability.

2. Objectives (12 months)

- Acquire 10,000 customers.
- Build brand awareness to 30% of parents traveling with kids.
- Achieve 50% repeat usage.
- Secure 6-10 airport/airline partnerships by end of Y1

3. Strategy

- **Target Market:** Families with children (0–5 years) traveling
- **Positioning:** "Travel light, safe & affordable."
- **Pricing Model** (Loyalty-driven): €8-10/day entry price
- **Discount Mechanics:** book for min. 4 days - get a day free; book a week - get @€50 flat and 15% off for the next trip→ increases retention & LTV.
- **Distribution:** App-based reservations + airport lockers.

4. Tactics

- Social media ads (SoMe, parenting groups).
- **Google Ads:** "rent stroller Copenhagen airport."
- **Influencers:** family travel bloggers.
- Posters & flyers in airports.
- Partnerships with travel agencies/tour operators.

5. Action

- Launch pilot in Copenhagen Airport first with 100 strollers
- Secure airport approval/partnerships.
- Build simple booking app/website.
- Run 3-month test campaign on digital ads Scaling - Enter 20 large EU Airports in 5 years.

6. Control

KPI dashboard:

- CAC (target < €30).
- LTV (target €250+ over 3 years).
- Conversion rate from ads (target 5–7%).
- Repeat customer % (target 40% by Year 2).
- Tools: Google Analytics, Meta Ads Manager.
- Review monthly; pivot budget to best-performing channel.

Assumptions (for 3-Year Horizon)

- Rental price: € 8 ≈ 60 DKK/day
- Average rental length: 3 days
- Revenue per rental: € 24 ≈ 180 DKK
- Frequency: 2 rentals per customer per year
- Customer lifespan: 3 years

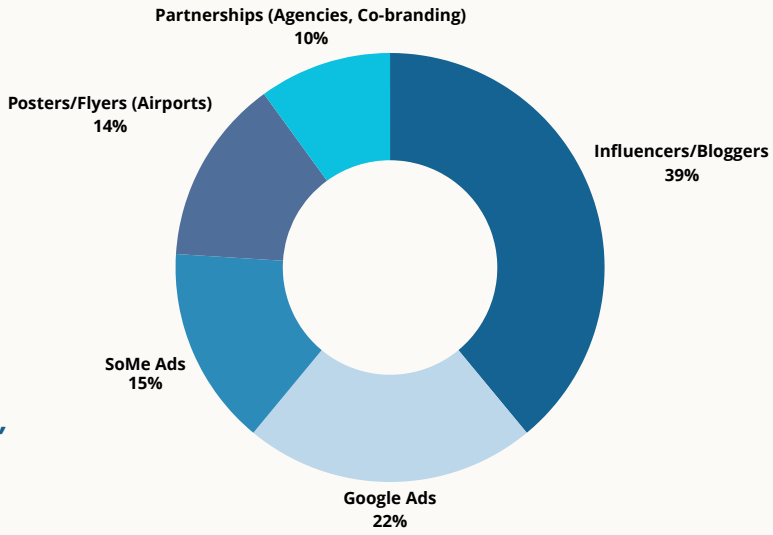
LTV (3-Year Customer Lifetime Value)

- Annual revenue per customer = 2 rentals × € 24 = € 48
- 3-year revenue per customer = € 48 × 3 = € 144
- LTV = € 144 per customer

MaaS Marketing Spend Strategy

Rule of thumb (SaaS best practice):
CAC should not exceed 1/3 of LTV → sustainable ratio.
With LTV = € 144 → target CAC ≤ € 48

Hence, we can burn through capital more aggressively in Year 1 to acquire customers, because they will generate revenue over 3 years.



Channel	Annual Budget	% of Spend	Est. Customers	CAC
Social Ads (FB/IG/TikTok)	**€18,7k** *~140k DKK*	39%	~390	**€48** *~359 DKK*
Google Ads	**€10,7k** *~80k DKK*	22%	~220	**€49** *~364 DKK*
Influencers/Bloggers	**€7,4k** *~55k DKK*	15%	~150	**€49** *~366 DKK*
Posters/Flyers (Airports)	**€6,7k** *~50k DKK*	14%	~135	**€49** *~370 DKK*
Partnerships (Agencies, Co-branding)	**€4,7k** *~35k DKK*	10%	~105	**€45** *~333 DKK*
Total	**€48,2k** *~360k DKK*	100%	~1,000	**€48 avg. CAC** *~360 DKK*

LTV / CAC Basic formulas used

Revenue_per_rental = Price_per_day × Avg_days
Total_revenue_per_customer = Revenue_per_rental × Rentals_per_customer
LTV_gross = Total_revenue_per_customer × Gross_margin
CAC_target = LTV_gross ÷ 3 (aim for LTV:CAC ≥ 3)

6. Sales Plan

Pricing Model

- Rental fee: €8/day (60DKK)
- Discount: €50/week (380DKK)
- App-based payment (credit card, PayPal, Apple Pay)

Distribution

The strollers are in lockers at the airport, where people can find them in the designated area and take out their stroller with a code/ QR-code

Conversion tactics

- Free first day for new users (for a 3-day trip).
- Push notifications for app users at travel hubs

Customer Retention

- Loyalty program: earn credits with every rental. (get a day for free after 20 days)
- Email marketing with travel tips & seasonal offers.

Loyalty-Driven Over Price Pack Strategy

- It lowers the barrier for first-time users, making adoption faster.
- Families are more likely to return and book again, which increases LTV (lifetime value).
- Offering a discount on the next booking builds trust and strengthens retention, a key differentiator from competitors.
- While short-term margins are slightly lower than the price pack model, the long-term growth and repeat usage provide a more sustainable revenue stream.

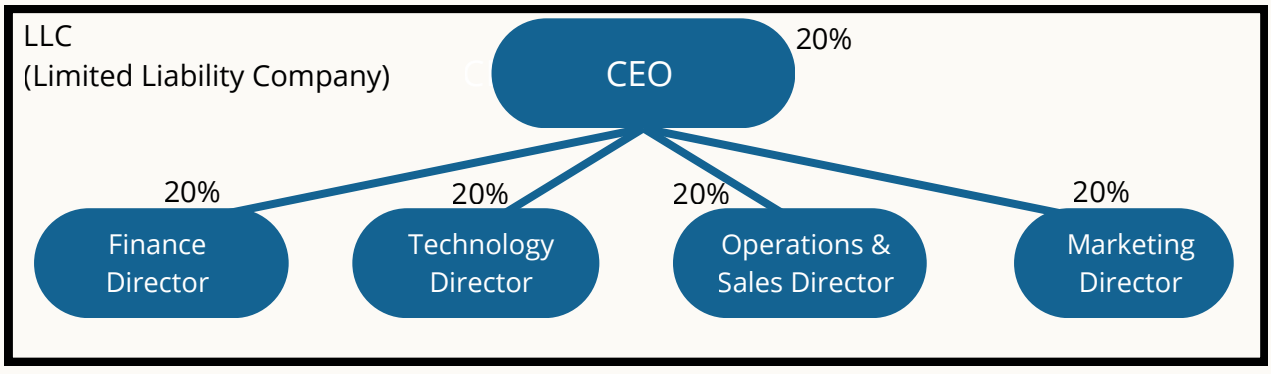
Growth phases

Pilot launch in one of the airports (Copenhagen or Aalborg).

Expand to major European travel hubs (Asterdam, Paris, Barcelona,..+17).

Integrate with airlines, Booking.com, Airbnb, and international hotel Chains

7. Business Management Structure



8. Operational Plan & Technology

1. Operational Plan

Inventory Management:
- IOT Enabled Fleet of standardized, durable, foldable travel strollers: starting with 100 strollers
- Easy to clean fabric and has a long material life cycle
- Tagging for tracking usage, maintenance cycles, and location.

City Mini GT2.1 - Baby Jogger

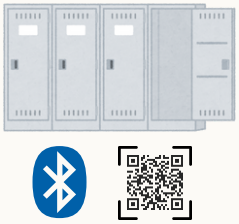
Maintenance & Cleaning:
- Regular inspection and cleaning after aprox. 4 -5 rentals
- Local service partners or cleaning staff contracted at each airport.
- End-of-life: Retire after ~5 years or heavy damage.
- Frames recycled, fabrics upcycled or donated

Logistics:
- Initial distribution at one airport (Copenhagen) to test out and control ourselves in the beginning.
- Further logistics should be worked out in a later stage

2. Technology

Reservation & locker access available via an App

Stroller availability (spotting) on maps



IOT enabled lock technology with QR-code system and sensors to detect and use strollers

IOT enabled strollers & GPS modules: To reduce theft risk, especially in high-value locations.

Credit card, PayPal, Apple Pay, and integration with travel partners' booking systems.
Deposits: Automatic holds on card, released upon safe return

9. Business model

The proposed business operates under a **Mobility-as-a-service (Maas)** framework, providing sustainable and convenient stroller rentals to traveling families. The business model is structured around the following key components:

- **Value Proposition:** Parents and caregivers gain stress-free mobility during travel without the burden of carrying, purchasing, or disposing of rarely used travel strollers. The service also contributes to sustainability by extending stroller lifespans and reducing landfill waste.
- **Customer Segments:**
  - ***Primary customers:*** Parents of infants and toddlers traveling through airports.
  - ***Secondary customers:*** Airlines seeking to enhance their family-friendly offerings.
  - ***Future customers:*** Car Rentals, Train travelers, and tourists in city centers or transport hubs, Hotels.
- **Channels:** The service is accessible through a dedicated mobile app and website for pre-booking, as well as on-site rentals via smart lockers at airports and high-traffic locations.
- **Customer Relationships:** A self-service model supported by digital booking and payment systems, with optional customer support for troubleshooting. Trust is reinforced through safety, hygiene protocols, and convenience guarantees.
- **Key Activities:** Development and management of the digital rental platform, operation and monitoring of smart lockers, stroller cleaning and maintenance, and strategic partnerships with airports and airlines
- **Key Resources:** Fleet of durable, travel-ready strollers, IOT & Bluetooth-enabled lockers, digital infrastructure *(app and backend)*, trained operational staff, and intellectual property related to branding and software.
- **Key Partners:** Airports and airlines *(for placement and co-promotion)*, stroller manufacturers *(for supply and co-branding opportunities)*, and service providers for cleaning and maintenance.

Cost Structure:

- **Fixed costs:** procurement of lockers and strollers, technology development, insurance, and customer services.
- **Variable costs:** cleaning and maintenance, payment processing, marketing and airport commissions.

10. Revenue model

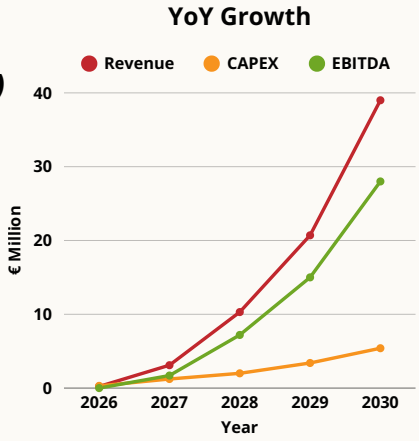
The business generates income primarily through **daily stroller rental fees**, charged via a contactless booking and payment system. Customers can pre-book through an app or website or rent on-site at the airport, with a flat daily rate and discounted pricing for multi-day use. Additional revenue opportunities include **optional insurance add-ons for damage coverage**, **theft, liability** and **third-party insurance**. Future **partnership agreements with airports or airlines**, where the service is promoted as an official family-friendly solution in exchange for a revenue share. Over time, the model can be scaled by offering **add-on rentals such as child carriers or car seats**, and by expanding the service to **other high-traffic pick-up points such as train stations or transport hubs,** creating new income streams while leveraging the same logistics and brand visibility.

11. Financial Plan

Revenue Model

€8/day rental fee → avg. €24 per transaction (3-day rental)

Add-ons: insurance, bundles, upsells, partnerships.
Scaling fleet: 100 strollers (Y1) → 18,000 strollers (Y5).



Top-Down

TAM = €1.9B → SAM = €804M → SOM = €40M

(*SOM Conditions:* *Y5 Target with 1,8M Rentals)*

Bottom-Up

18,000 Strollers Fleet → 104rentals per year per Stroller → €39M revenue (Y5)

(*Each Stroller rented twice a week for 3 days- Ensuring max Utilisation of available fleet)*

5 - Year Financial Highlights

Year	Rentals (€)	CAPEX (€)	Revenue (€)	Gross Margin (%)	OPEX (€)	EBITDA (€)
Y1 - 2026	10K	267K	220K	80	165K	-
Y2 - 2027	150K	1,23M	3,1M	80	700K	1,7M
Y3 - 2028	500K	2M	10,3M	79	943K	7,2M
Y4 - 2029	1M	3,4M	20,7M	78	1M	15M
Y5 - 2030	**1,8M**	5,4M	**39M**	**78**	1,1M	**28M**

CAPEX Build out

- **Stroller:** 18000 Strollers Fleet at €520/unit with IOT = **€9.36M**
- **IOT Lockers**: 18000 Lockers at €150/unit with Installation = **€2.7M**
- **App Development:** With scalable features **= €200k**
- **Office:** Computers and desks for employees **= €25k**

All the CAPEX are built over a time period of 5 years with a net value of **€12,28M (**adjusted to NPV)

Team hires and Payroll

Founders: 5 People at €56k/yr from Y2
Engineers: 3 FTE at €69k/yr (1in Y1, 1in Y2 & 1 in Y4)
Sales: 2FTE at €69k/yr (1in Y2 & 1 in Y3)
Admin: 3FTE at €62,5k/yr (1in Y2, 1 in Y3 & 1 in Y4)
Finance: 2FTE at €69k/yr (1 in Y2 & 1 in Y3)

Financing & ROI

Total Funding required = €2.5M → *€500k(seed) + €1M (Round 1) + €1M (Round 2)*

Founders Equity = 20% each initially with ***€800 (6000DKK)/Person***

EBITDA Margin = *73%* *in Y5*

Annual ROI Per Stroller = *289%* *in Y5*

Appendix

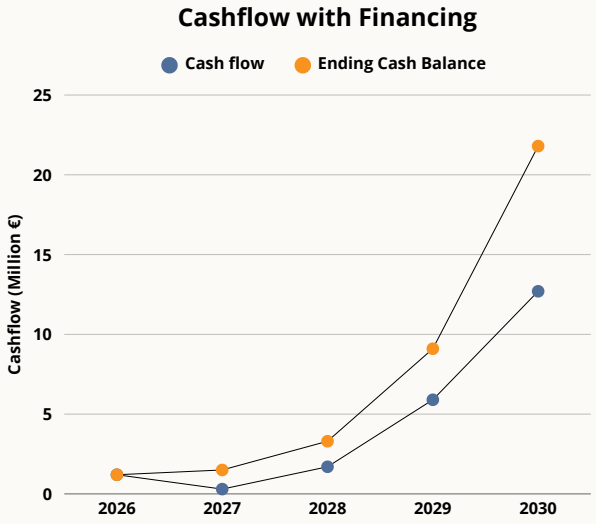
Projected Financial Statements

1.Income Statement

	Annual Projections				
	Year 1	Year 2	Year 3	Year 4	Year 5
	Jan 2026	Jan 2027	Jan 2028	Jan 2029	Jan 2030
Revenues	227,674	3,104,640	10,348,800	20,697,600	38,808,000
COGS	(44,629)	(629,880)	(2,173,087)	(4,498,290)	(8,729,494)
Gross Profit	183,044	2,474,760	8,175,713	16,199,310	30,078,506
Gross Margin	80%	80%	79%	78%	78%
Operting Expenses	(165,250)	(705,220)	(943,531)	(1,078,435)	(1,150,935)
EBITDA	17,794	1,769,540	7,232,182	15,120,875	28,927,570
Depreciation/Amortisation	(20,167)	(214,333)	(550,833)	(1,109,167)	(2,002,500)
Operating Profit (EBIT)	(2,372)	1,555,206	6,681,349	14,011,708	26,925,070
Financing Expenses	0	0	0	0	0
Profit before Tax	(2,372)	1,555,206	6,681,349	14,011,708	26,925,070
Taxes	(13,955)	(342,145)	(1,469,897)	(3,082,576)	(5,923,515)
Profit after Tax (Net Income)	(16,327)	1,213,061	5,211,452	10,929,132	21,001,555

2.Cashflow Statement

	Annual Projections				
	Year 1	Year 2	Year 3	Year 4	Year 5
	Jan 2026	Jan 2027	Jan 2028	Jan 2029	Jan 2030
Beginning Cash Balance	*20,000*	*1,256,840*	*1,558,050*	*3,318,846*	*9,168,717*
Operating					
Revenues	227,674	3,104,640	10,348,800	20,697,600	38,808,000
COGS	(44,629)	(629,880)	(2,173,087)	(4,498,290)	(8,729,494)
Operating Expenses	(165,250)	(705,220)	(943,531)	(1,078,435)	(1,150,935)
Change in Net Working Capital	0	(843,184)	(1,976,490)	(2,838,428)	(4,987,233)
Taxes	(13,955)	(342,145)	(1,469,897)	(3,082,576)	(5,923,515)
Total Operating	3,840	584,210	3,785,796	9,199,871	18,016,821
Investing					
Capital Assets	(267,000)	(1,283,000)	(2,025,000)	(3,350,000)	(5,360,000)
Other Investments	0	0	0	0	0
Total Investing	(267,000)	(1,283,000)	(2,025,000)	(3,350,000)	(5,360,000)
Financing					
Equity Funding	1,500,000	1,000,000	0	0	0
Change in Debt	0	0	0	0	0
Interest Payments	0	0	0	0	0
Total Financing	1,500,000	1,000,000	-	-	-
Cash Flow	1,236,840	301,210	1,760,796	5,849,871	12,656,821
Ending Cash Balance	1,256,840	1,558,050	3,318,846	9,168,717	21,825,538



3.Balance Sheet

	Annual Projections				
	Year 1	Year 2	Year 3	Year 4	Year 5
	Jan 2026	Jan 2027	Jan 2028	Jan 2029	Jan 2030
Assets					
Cash	1,256,840	1,558,050	3,318,846	9,168,717	21,825,538
Fixed Assets	251,875	1,369,083	3,340,500	6,139,667	10,390,500
Depreciation	(5,042)	(53,583)	(550,833)	(1,109,167)	(2,002,500)
Accounts Receivable	0	765,528	2,551,759	5,103,518	9,569,096
Inventories	0	103,542	357,220	739,445	1,434,985
Total Assets	1,503,673	3,742,620	9,017,491	20,042,180	41,217,620
Liabilities					
Debt	0	0	0	0	0
Accounts Payable	0	25,885	89,305	184,861	358,746
Total Liabilities	-	25,885	89,305	184,861	358,746
Equity Value	1,503,673	3,716,734	8,928,186	19,857,318	40,858,873
Equity and Total Liabilitie	1,503,673	3,742,620	9,017,491	20,042,180	41,217,620

Appendix

Financial Assumptions

- **Rental fee: €8/day** → Avg. rental €24 (3 days)
- **Avg. rentals per stroller:** 104/year
- **Gross margin:** ~78–80%
- **Stroller cost:** €520/unit
- **Locker cost:** €150/unit
- **Cleaning per rental:** ~ €2
- **Marketing CAC target:** €48 vs LTV €144
- **Fleet expansion:** 100 → 18,000 strollers (Y1–Y5)
- **Funding need:** €2.5M in 3 rounds

Data and Reference Sources

Eurostat (2025) *Tourism Database.* *https://ec.europa.eu/eurostat/web/tourism/database*
Eurostat(2025) *Air Passenger Transport Statistics.* *https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Air_passenger_transport_statistics*
International Air Transport Association (IATA) (2025) *World Air Transport Statistics (WATS).* *https://www.iata.org/en/services/data/market-data/world-air-transport-statistics*
Rental softwares & mobility *https://www.provab.com/index.html*
App development & IT Solutions https://www.hyperbolic.dk/en/
Airports Council International (ACI Europe) 2024 *Airport Industry Connectivity Report 2024* *https://www.acieurope.org/downloads/publications/ACI%20EUROPE%20Airport%20Industry%20Connectivity%20Report%202024.pdf*
Dobruszkes, F. and Allroggen, F. (2024) *Airport level and market concentration in Europe.* *https://www.sciencedirect.com/science/article/pii/S2941198X24000071*
Mmldigi. (2025, 23 January). Stroller lifespan guide: How long do strollers last? River Baby Group. https://www.riverbabygroup.com/how-long-do-strollers-last/
Stroller rental market *https://reports.valuates.com/market-reports/QYRE-Auto-37C10392/global-stroller-rental?utm_source=chatgpt.com*
Competitors and business inspiration
https://www.babonbo.com/en/search/copenhagen/DK/strollers
https://www.easygoing.dk/en/deliveryandreturn
https://www.babyquip.com/h/copenhagen/strollers
MaaS example(mobility as a service) *https://www.cobloom.com/blog/saas-pricing-models#*
Marketing Spend Planning *https://www.etropo.com/blog/marketing-budgeting/average-marketing-budget-by-industry?utm*
https://www.relevantaudience.com/digital-marketing-en/how-to-plan-your-digital-marketing-budget-for-2025/
Open AI

References

airBaltic. (n.d.). *Travelling with infants*. https://www.airbaltic.com/en/before-you-fly/travelling-with-infants

Amazon. (n.d.). *UPPAbaby Minu V2 lightweight stroller*. https://www.amazon.com/dp/B0DWPB9LYC

Baines, T. S., Lightfoot, H. W., Evans, S., Neely, A., Greenough, R., Peppard, J., Roy, R., Shehab, E., Braganza, A., Tiwari, A., Alcock, J. R., Angus, J. P., Bastl, M., Cousens, A., Irving, P., Johnson, M., Kingston, J., Lockett, H., Martinez, V., … Wilson, H. (2007). State-of-the-art in product-service systems. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 221(10), 1543–1552. https://doi.org/10.1243/09544054JEM858

Babonbo. (n.d.). *About us*. Babonbo. https://www.babonbo.com/en/about

Baby Jogger. (n.d.). *Baby Jogger Europe*. Baby Jogger. https://www.babyjogger.eu/

Baby Jogger. (n.d.). *City Elite 2: Product specifications*. https://www.babyjogger.eu

Babylux. (n.d.). *YOYO² 6+ stroller (Babyzen)*. https://www.babylux.be/nl/yoyo-2-6m-buggy-babyzen.html

BabyQuip. (n.d.). *BabyQuip: Rent baby gear for travel*. BabyQuip. https://www.babyquip.com/

BarnevognsHuset. (n.d.). *Baby Jogger, reservedele.* https://barnevognshuset.dk/collections/baby-jogger-reservedele

Blank, S., & Eckhardt, J. (2024). *The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company.* K&S Ranch Press. https://www.startupownersmanual.com/

Britax Römer. (n.d.). *B-Motion 4 Plus product details*. https://www.britax-roemer.eu

Britax Römer. (n.d.). *Pushchairs and strollers*. Britax Römer. https://www.britax-roemer.com/pushchairs/strollers

British Airways. (n.d.). *Family travel: Baggage information*. https://www.britishairways.com/content/en/us/information/family-travel/baggage

Bugaboo. (n.d.). *Bugaboo Netherlands*. Bugaboo. https://www.bugaboo.com/nl-nl

Buggy Pitstop. (n.d.). *Baby Jogger services*. https://buggypitstop.co.uk/pages/baby-jogger-services

Care.com. (n.d.). *How old is too old for a stroller?* https://www.care.com/c/how-old-is-too-old-for-a-stroller/

Christensen, C. M., M., Hall, T., Dillon, K., & Duncan, D. S., S. (2016). Know Your Customers' "Jobs to Be Done". Harvard Business Review.

Craft Child. (n.d.). Stroller weight limit: What parents need to know. https://www.craft-child.com/blog/stroller-weight-limit/

Cube Lockers. (n.d.). *Home*. Cube Lockers. https://www.cube-lockers.be/nl/home

Cybex. (n.d.). *Strollers and buggies*. Cybex. https://www.cybex-online.com/nl/be/strollers-buggies.html

Daft, R. L., Murphy, J., & Willmott, H. (2010). Organization Theory and Design (10th ed.). South-Western, Cengage Learning. 475.

Dreambaby. (n.d.). *Dreambee Essentials buggy – Grey mélange*. https://www.dreambaby.be/products/dreambee-essentials-buggy-grey-melange

Drenik, G. (2021). How renting baby equipment is saving time, money, and the environment. Forbes.

European Conference of Ministers of Transport (ECMT). (2005). *Airports as multimodal interchange nodes* (ECMT Round Table No. 126). OECD Publishing. https://doi.org/10.1787/9789282103418-en

European Union (2014). *Directive 2014/23/EU of the European Parliament and of the Council on the award of concession contracts*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008R1008

Eurostat. (2025). *Air passenger transport statistics*. European Commission. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Air_passenger_transport_statistics

Flughafen Berlin Brandenburg GmbH. (n.d.). *Contacts – Rental and centre management.* Berlin Airport. *https://corporate.berlin-airport.de/en/business-partners/rental-and-centre-management/kontakt.html*

Gallouj, F., & Djellal, F. (Eds.). (2010). The handbook of innovation and services: A multi-disciplinary perspective. Edward Elgar Publishing

Geels, F. W. (2004). From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory. Research Policy, 33(6–7), 897–920. https://doi.org/10.1016/j.respol.2004.01.01

Greenwood Davis, H. (2019, July 26). *Flying with kids? Follow these tips for a stress-free flight.* National Geographic. https://www.nationalgeographic.com/travel/article/tips-advice-for-flying-with-little-kids-stress-free

Hsu, C.-I., & Chao, C.-C. (2005). *Space allocation for commercial activities at international passenger terminals.* Transportation Research Part E: Logistics and Transportation Review, 41(1), 29–51. https://doi.org/10.1016/j.tre.2004.01.001

Hughes, T. P. (1987). The evolution of large technological systems. In W. E. Bijker, T. P. Hughes, & T. J. Pinch (Eds.), The social construction of technological systems: New directions in the sociology and history of technology (pp. 51–82). MIT Press.

International Air Transport Association. (2025). *World air transport statistics (WATS)*. https://www.iata.org/en/services/data/market-data/world-air-transport-statistics

iNudgeyou. (2021). *Nudging hospital visitors' hand hygiene compliance.* iNudgeyou – The Applied Behavioural Science Group. https://inudgeyou.com/

Joolz. (n.d.). *Joolz Aer buggy*. https://www.joolz.com/be/nl/buggy/joolz-aer/310019.html

Kaiser+Kraft. (n.d.). *Lockerkasten*. Kaiser+Kraft. https://www.kaiserkraft.be/kasten/lockerkasten/c/62887_2-KK/

Kerdlap, P., Gheewala, S. H., & Ramakrishna, S. (2020). *To rent or not to rent: A question of circular prams from a life cycle perspective.* Sustainable Production and Consumption, 26, 331–342. https://doi.org/10.1016/j.spc.2020.10.008

KLM Royal Dutch Airlines. (n.d.). *Special baggage for children*. https://www.klm.dk/en/information/baggage/special-baggage#special-baggage-for-kids

KRINKO (Commission for Hospital Hygiene and Infection Prevention). (2024). *Hygiene requirements for cleaning and disinfection of surfaces*. *Journal of Hospital Infection, 140*, 1–15.

Kumar, P. (IJFMR). *(2024). Market segmentation: Concepts, bases and approaches.* International Journal for Multidisciplinary Research*, 6(2).* *https://www.ijfmr.com/papers/2024/2/17565.pdf*

Mathews, S. (2022, July 30). *The Baby Jogger City Elite Stroller Review.* https://childhood.in/baby-jogger-city-elite-stroller-review/

McDonald, M., Reid, M., Lin, J., & Singh, S. (2024, October 21). *Intellectual property rights for tech startups*. DLA Piper.

Mintzberg, H., Raisinghani, D., & Théorêt, A. (1976). The structure of “unstructured” decision processes. Administrative Science Quarterly, 21(2), 246–275. https://doi.org/10.2307/2392045

National Health and Medical Research Council. (2024). *Staying healthy: Preventing infectious diseases in early childhood education and care services* (6th ed.). NHMRC. https://www.nhmrc.gov.au/

OfficeCity. (n.d.). *Lockers*. OfficeCity. https://www.officecity.be/lockers.html

Sarasvathy, S. D. (2001). *Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency.* https://doi.org/10.5465/amr.2001.4378020

San Francisco International Airport (2025). *Doing business with SFO* https://www.flysfo.com/business/doing-business-sfo

Security World Market (2016) *Is airport style security on railways a challenge too far?* https://www.securityworldmarket.com/uk/Newsarchive/is-airport-style-security-on-railways-a-challenge-too-far

SmartCarte. (n.d.). *Aviation solutions*. SmartCarte. https://smartecarte.com/markets/aviation/

Smith WR. *Product differentiation and market segmentation as alternative marketing strategies*. Marketing Management. 1995;4(3):63. https://www.proquest.com/scholarly-journals/product-differentiation-market-segmentation-as/docview/194213543/se-2.

Srigley, J. A., Miller, L., Derylo, M., Lapinsky, S. E., & Daneman, N. (2024). Outcome of multimodal nudging interventions on hand hygiene compliance in healthcare settings. *Journal of Healthcare Quality and Safety, 36*(3), 145–156.

Taghian, M., & Shaw, R. N. (2010). *Market fit and business performance: an empirical investigation*. Journal of Strategic Marketing, 18(5), 395–415. https://doi.org/10.1080/0965254X.2010.497844

Taran, Y., IKE Research Group, AAU Business School, Aalborg University, Jones and George, & Colman, Andrew. (z.d.). DECISION MAKING PROCESSES.

Transport Focus. (2021). *Cleanliness on public transport: Passenger perceptions and expectations.* Transport Focus. https://www.transportfocus.org.uk/

TripTots. (n.d.). *TripTots: Baby equipment hire for travelling families*. TripTots. https://www.triptots.co.uk/

Tucker, S. (2004). *The role of services in manufacturing.*
International Journal of Operations & Production Management, 24(4), 335–352.
https://doi.org/10.1108/01443570410524663

Tukker, A. (2004). Eight types of product–service system: Eight ways to sustainability? Experiences from SusProNet. Business Strategy and the Environment, 13(4), 246–260. https://doi.org/10.1002/bse.414

UCSF California Childcare Health Program. (2024). *Preventive health and safety in the child care setting: A curriculum for the training of child care providers* (6th ed.). University of California, San Francisco. https://cchp.ucsf.edu/

UITP (International Association of Public Transport). (2021). *Public transport: A cleaner future?* UITP. https://www.uitp.org/

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68(1), 1–17. https://doi.org/10.1509/jmkg.68.1.1.24036.

Volotea. (n.d.). *Travelling with babies and children*.
https://www.volotea.com/en/contact/article/7406089088401

von Hippel, E. (1986). *Lead users: A source of novel product concepts*. Management Science, 32(7), 791–805.

Zare, M., Ghomi, E. R., Venkatraman, P. D., & Ramakrishna, S. (2021). Silicone-based biomaterials for biomedical applications: Antimicrobial strategies and 3D printing technologies. *Journal of Applied Polymer Science*, *138*(38), 50969. https://doi.org/10.1002/app.50969

AI Tools have been used for language clarity and structuring ideas. All arguments, interpretations, and references were independently verified by the authors.