

FEASIBILITY STUDY

MASAR - Smart Waste Management and Recycling Platform

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Academic Year

2026

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1. Executive Summary

MASAR is a proposed digital platform that helps small and medium-sized businesses organize recyclable-waste collection through one simple system. Businesses can register, request collection, choose a suitable time, follow the service status, and receive a monthly report showing their collection activity.

The project is designed around a partnership model. MASAR operates the digital platform and coordinates with collection and recycling providers rather than purchasing a large fleet at the beginning. This reduces initial capital requirements and allows the project to scale gradually.

The financial case assumes an initial investment of SAR 285,000. Under the base scenario, the project targets 150 active customers in Year 1 and grows to 900 active customers by Year 5. Revenue comes from monthly subscriptions and service commissions. Based on the assumptions in this study, the project can reach profitability in the first year and generate stronger cash flow as the customer base grows.

Overall assessment: The project is considered feasible under the base assumptions, but management should begin with a controlled pilot, validate customer willingness to pay, and secure reliable collection partners before committing to rapid expansion.

2. Project Idea and Problem Definition

2.1 Project idea

MASAR is a mobile-friendly web and application platform connecting commercial customers with recycling and waste-collection providers. The service focuses initially on recyclable materials such as cardboard, paper, plastic and selected metals.

2.2 Problem

- Businesses may use different collectors and have no single booking process.
- Collection times can be inconsistent, creating operational inconvenience.
- Small businesses may have limited information about the amount of recyclable material they generate.
- There is often no simple digital report that summarizes collection activity.

2.3 Proposed solution

MASAR provides one account, one booking process and one record of collection activity. The customer can request a pickup, the operations team assigns a suitable provider, and the customer receives a status update and monthly report.

2.4 Objectives

- Reach 150 active business customers during the first year.
- Build a reliable network of collection partners.
- Achieve positive operating profit during Year 1 under the base scenario.
- Develop a scalable digital service that can expand to additional cities.
- Give customers a simple way to document their recycling activity.

3. Market Feasibility

3.1 Target market

Segment	Need	MASAR offer
Restaurants and cafés	Regular packaging waste and convenient pickup	Scheduled collection + records
Retail stores	Cardboard, plastic and packaging	Pickup booking + monthly report
Offices	Paper and packaging waste	Recurring collection service
Small warehouses	Higher volume recyclable materials	Planned pickups + tracking

3.2 Customer value

The customer is not only paying for collection. The service is positioned as a convenience and organization tool. A recurring subscription can save staff time spent searching for providers and arranging individual pickups. The reporting feature also provides a record that can be used internally for sustainability initiatives.

3.3 Competition

Alternative	Strength	MASAR advantage
Independent collectors	Flexible local service	Digital booking and reporting
Traditional waste companies	Established operations	Focused SME experience and simpler digital interface
Internal business handling	No subscription fee	Lower coordination effort and documented service
Other digital platforms	Technology experience	Specialized focus on recyclable commercial waste

3.4 Initial demand assumption

The study uses a deliberately limited first-year target of 150 active customers. This is a feasibility assumption, not a claim that 150 customers are guaranteed. Before launch, the company should test the concept with at least 30–50 potential customers and convert a portion of them into pilot users.

4. Technical Feasibility

4.1 Main system functions

- Customer registration and business profile.
- Subscription and billing management.
- Pickup request and preferred time window.
- Provider assignment and service status.
- Collection history and basic material records.
- Customer notifications.
- Monthly environmental activity report.
- Administrative dashboard and performance monitoring.

4.2 Operating process

Step	Process
1	Business registers and selects a subscription.

Step	Process
2	Business creates a pickup request.
3	MASAR checks availability and assigns a collection partner.
4	Partner collects the material and confirms completion.
5	MASAR records the transaction and updates the customer.
6	Monthly report summarizes activity for the business.

4.3 Staffing plan

Position	No.	Annual cost assumption (SAR)
Operations manager	1	144,000
Sales and customer success	2	192,000
Operations coordinator	1	72,000
Technical support	1	60,000
Administration/finance	1	48,000
Total	6	516,000

The staffing table is a planning view. The broader operating-cost budget includes allowances and other employment-related costs; management can adjust salaries, outsourcing and staffing as the customer base develops.

5. Marketing and Business Model

5.1 Revenue model

- Monthly subscription: SAR 350 per active business customer.
- Average service/platform commission: SAR 140 per active customer per month.
- Average recurring revenue per active customer: SAR 490 per month.

5.2 Customer acquisition

- Direct sales to restaurants, cafés, retail stores and small warehouses.
- Partnerships with business associations and commercial-service providers.
- Digital advertising targeted at business owners and operations managers.
- Referral incentive for existing customers.

5.3 Launch plan

Phase	Timing	Main action
Pilot	Months 1–3	Recruit first 25–40 customers and test operations.
Launch	Months 4–6	Increase sales and add collection partners.
Expansion	Months 7–12	Target 150 active customers and improve retention.
Scale	Year 2 onward	Enter additional areas after validating unit economics.

5.4 Key performance indicators

- Active paying customers.
- Monthly recurring revenue.
- Customer retention and churn.
- Average acquisition cost.
- Completed collections per month.
- Customer satisfaction and complaint rate.

6. Financial Feasibility

All amounts are in Saudi Riyals (SAR). The following numbers are planning estimates prepared for academic feasibility analysis. They should be validated with actual quotations before any real investment.

6.1 Initial investment

Item	Cost (SAR)
Platform design and initial development	95,000
Branding, website and launch materials	15,000
Office setup and equipment	35,000
Legal, registration and professional services	12,000
Initial marketing launch	35,000
Working-capital reserve	93,000
Total initial investment	285,000

6.2 Year 1 operating budget

Expense	Monthly	Annual
Salaries and allowances	38,000	456,000
Office, utilities and communications	4,500	54,000
Technology hosting/software	4,000	48,000
Marketing and sales	8,000	96,000
Professional/admin/insurance	2,500	30,000
Miscellaneous/contingency	3,000	36,000
Total	60,000	720,000

6.3 Year 1 revenue calculation

Average recurring revenue per customer = SAR 350 subscription + SAR 140 service commission = SAR 490 per month. With 150 active customers: $150 \times 490 \times 12 = \text{SAR } 882,000$ annual revenue.

Estimated Year 1 operating profit = SAR 882,000 revenue – SAR 720,000 operating costs = SAR 162,000 before financing, tax and other statutory adjustments.

7. Five-Year Financial Projection

Year	Active customers	Revenue	Operating costs	Operating profit
1	150	882,000	720,000	162,000
2	300	1,764,000	900,000	864,000
3	480	2,822,400	1,150,000	1,672,400
4	680	3,998,400	1,500,000	2,498,400

Year	Active customers	Revenue	Operating costs	Operating profit
5	900	5,292,000	1,900,000	3,392,000

Interpretation: The model shows strong operating leverage: technology and core administration costs do not rise as quickly as customer numbers. However, the projection is sensitive to customer acquisition, churn and service-provider costs. Management should therefore review the model monthly rather than treating the five-year forecast as guaranteed.

7.1 Simplified cash-flow view

Year	Initial investment	Operating profit	Cumulative position
Start	(285,000)	—	(285,000)
1	—	162,000	(123,000)
2	—	864,000	741,000
3	—	1,672,400	2,413,400
4	—	2,498,400	4,911,800
5	—	3,392,000	8,303,800

On the base-case assumptions, the initial investment is recovered during Year 2. This simplified calculation excludes financing costs, taxes and changes in working capital.

8. Break-Even Analysis

The estimated fixed operating cost is approximately SAR 60,000 per month. The average monthly revenue per active customer is SAR 490. Using a simplified contribution approach and assuming the majority of this revenue contributes toward fixed costs, the basic break-even customer count is:

$$60,000 \div 490 \approx 123 \text{ active customers.}$$

Therefore, the business needs roughly 123 active customers at the assumed average revenue level to cover the simplified monthly operating budget. Because some service costs vary with collections, management should treat 123 as a planning benchmark rather than an exact accounting break-even point.

Break-even implication: The Year 1 target of 150 active customers provides a modest margin above the simplified break-even level. This is why customer retention and controlled marketing expenditure are critical.

9. Risk Analysis

Risk	Probability	Impact	Mitigation
Slow customer acquisition	Medium	High	Pilot first; direct sales; referral program; monitor acquisition cost.
Unreliable collection partners	Medium	High	Use service-level agreements and maintain multiple providers.
High customer churn	Medium	High	Improve service reliability, reporting and customer support.
Technology failure	Low/Medium	High	Use reputable hosting, backups and outsourced technical support.
Operating costs higher than planned	Medium	Medium	Monthly budget review and staged hiring.
Competition	Medium	Medium	Focus on SME convenience, reporting and service quality.
Regulatory requirements	Low/Medium	High	Confirm licensing and environmental requirements before launch.
Cash-flow pressure	Medium	High	Maintain working-capital reserve and avoid rapid expansion.

Risk priority

The two most important risks are customer acquisition and service reliability. A digital platform has little value if customers cannot obtain reliable collection service. The pilot stage should therefore measure both sales conversion and completed pickups before significant expansion.

10. Decision and Recommendation

Decision: Proceed with a controlled pilot.

The project is recommended for further development because it addresses a practical business problem, has a clear target customer, can be launched without owning a large fleet, and has a recurring revenue model. The financial base case indicates that the initial investment can be recovered during Year 2 if customer growth and operating assumptions are achieved.

The recommendation is conditional. Management should not immediately commit to the full five-year scale. The first stage should validate three points: willingness to pay, reliability of collection partners, and customer retention.

Go / No-Go checkpoints

- Go if at least 25–40 pilot businesses show real usage and acceptable retention.
- Go if average customer acquisition cost remains within the planned marketing budget.
- Go if collection completion and customer satisfaction reach acceptable internal targets.
- Delay expansion if the service requires heavy discounting or if partner reliability is poor.

11. Presentation and Organization

The report is organized to match the main evaluation criteria for a feasibility-study competition:

Evaluation criterion	How the study addresses it
Idea and problem clarity	Defines the business problem, target user and MASAR solution.
Market feasibility	Identifies customers, competitors, value proposition and demand assumptions.
Technical feasibility	Explains platform functions, operating process, partners and staffing.
Financial feasibility	Provides investment, operating costs, revenue model, five-year projection and break-even benchmark.
Risk analysis and decision	Lists major risks, mitigation actions and a conditional investment decision.
Quality and organization	Uses a clear sequence, tables, assumptions and a conclusion linked to the analysis.

The report uses a practical structure so that the reader can move from the problem to the market, then to operations, finance, risks and the final decision.

12. Conclusion

MASAR presents a feasible concept for a digital service that organizes recyclable-waste collection for commercial customers. Its main strengths are a clear customer problem, a partnership-based operating model, recurring revenue, and the ability to scale without a large initial fleet.

The financial model indicates that an initial investment of SAR 285,000 can support the launch, with a Year 1 revenue target of SAR 882,000 and an estimated operating profit of SAR 162,000 under the base assumptions. The simplified break-even benchmark is approximately 123 active customers, while the first-year target is 150 customers.

The final recommendation is to launch a small pilot, validate demand and service quality, and then expand gradually. This approach reduces risk and allows the financial assumptions to be replaced with actual operating data before major investment.

Note: This academic feasibility study uses estimated figures and assumptions for educational purposes. Actual implementation would require current market research, supplier quotations, legal review, tax/accounting treatment and verification of applicable environmental and commercial requirements.