



Sprint 1

MINF UDL 20-21

TI Project Management

Team ProxyPrizes

Financial factors

Content:

1. Cashflow (4 years) and What-if analysis
2. Flowchart and monetization strategy
3. Structure of income
4. Structure of costs
5. Payback, NPV, ROI, Break-even

INNVIERTE program reference:

https://www.investinspain.org/invest/es/canal-de-informacion/servicios-de-acceso-a-informacion/buscador-de-ayudas-e-incentivos/index.html?plantilla=detalles_resumen.php&codConvocatoria=394&lang=es&visita=1

I. Cashflow (4 years) and What-if analysis:

https://udlcat-my.sharepoint.com/:x:/r/personal/dls5_alumnes_udl_cat/_layouts/15/doc2.aspx?sourceid=7Bec14aa05-f822-44cb-bda3-8cfadf771bcd%7D&action=edit&activeCell=%27Planilha1%27!N21&wdrcid=5fbe3ecc-e4a0-4bd7-8e97-a61f70e7a74c&wdrlidc=1

Observation: In case we don't get the initial investment, in the what-if scenario (pessimistic) represents the taxes and fees for a loan made through a bank with a payment time of 3 years.

Observation 2: Following the feedback that we needed a way to deal with the negative cashflow, we have include a Crowd Funding project, in which we accomplished to gather **60,000 Euros**. We have made research about some crowd funding platforms like Kickstarter, Indiegogo, etc and decided that our project fits the target amount expectation successfully.

Cambia el plazo y modifica tu cuota



Mejor precio

1.238,74 € / mes

TIN: 7,2 % | TAE: 9,13 %
Comisión de apertura 2,3 %
(920,00 €)

Con domiciliación de nómina **Sí**

Teniendo cuenta BBVA **Sí**

Inicia solicitud

Sumando capital, intereses y gastos,
devolverás:
45.720,35 €

1.257,15 € / mes

TIN: 8,2 % | TAE: 10,23 %
Comisión de apertura 2,3 %
(920,00 €)

Con domiciliación de nómina **No**

Teniendo cuenta BBVA **Yes**

Inicia solicitud

Sumando capital, intereses y gastos,
devolverás:
46.408,08 €

Project Projections	Years															
	1				2				3				4			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
INNUEITE program (Spain government help)	€ 40,000.00															
Crowdfunding project	€ 60,000.00															
Num of Shops subscribed					50	70	90	100	500	900	1800	3000	3500	4800	5500	6500
Shop Subscription (€75 per quarter)					€ 3,750.00	€ 5,250.00	€ 6,750.00	€ 7,500.00	€ 37,500.00	€ 67,500.00	€ 135,000.00	€ 225,000.00	€ 282,500.00	€ 360,000.00	€ 412,500.00	€ 487,500.00
Num of Users registered					70	150	300	500	1000	2000	6000	11000	20000	35000	45000	65000
Single user's quarter sales (€90)					€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00
Commission on Shop Sales (5%)					€ 315.00	€ 675.00	€ 1,350.00	€ 2,250.00	€ 4,500.00	€ 9,000.00	€ 27,000.00	€ 49,500.00	€ 90,000.00	€ 157,500.00	€ 202,500.00	€ 292,500.00
Total Income	€ 100,000.00	€ -	€ -	€ -	€ 4,065.00	€ 5,925.00	€ 8,100.00	€ 9,750.00	€ 42,000.00	€ 76,500.00	€ 162,000.00	€ 274,500.00	€ 352,500.00	€ 517,500.00	€ 615,000.00	€ 780,000.00
Open the company (S.L)	€ 3,600.00															
Advertising					€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 5,000.00	€ 5,000.00	€ 6,000.00	€ 6,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00
Scrum Master salary (€35,000/year)					€ 4,375.00	€ 4,375.00	€ 4,375.00	€ 4,375.00	€ 8,750.00	€ 8,750.00	€ 8,750.00	€ 8,750.00	€ 8,750.00	€ 8,750.00	€ 8,750.00	€ 8,750.00
Front-end developer salary (€25,000/year)					€ 3,250.00	€ 3,250.00	€ 3,250.00	€ 3,250.00	€ 6,500.00	€ 6,500.00	€ 6,500.00	€ 6,500.00	€ 6,500.00	€ 6,500.00	€ 6,500.00	€ 6,500.00
Back-end developer salary (€30,000/year)					€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00
Full Stack developer salary (€30,000/year)					€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00	€ 7,500.00
Sales Manager (€45,000/year)									€ 11,250.00	€ 11,250.00	€ 11,250.00	€ 11,250.00	€ 11,250.00	€ 11,250.00	€ 11,250.00	€ 11,250.00
API Services	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00
Equipments	€ 5,000.00				€ 10,000.00				€ 15,000.00				€ 20,000.00			
Web Server	€ 2,000.00				€ 2,000.00				€ 3,000.00				€ 5,000.00			
Database Server	€ 2,000.00				€ 2,000.00				€ 3,000.00				€ 5,000.00			
Total Costs	€ 12,725.00	€ 125.00	€ 125.00	€ 125.00	€ 32,250.00	€ 18,250.00	€ 18,250.00	€ 18,250.00	€ 67,625.00	€ 46,625.00	€ 47,625.00	€ 47,625.00	€ 92,675.00	€ 62,875.00	€ 62,875.00	€ 62,875.00
Cashflow	€ 87,275.00	€ 87,150.00	€ 87,025.00	€ 86,900.00	€ 58,715.00	€ 46,390.00	€ 36,240.00	€ 27,740.00	€ 2,115.00	€ 31,990.00	€ 146,365.00	€ 373,240.00	€ 632,865.00	€ 1,087,490.00	€ 1,699,615.00	€ 2,396,780.00

What if analysis

- Year 2

What-if analysis year 2												
Data	Scenarios											
	Pessimistic				Realistic				Optimistic			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Partner shops	10	20	30	50	50	70	90	100	50	100	150	300
Quarter subscription fees	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00
Total subscription fees(€)	€ 750.00	€ 1,500.00	€ 2,250.00	€ 3,750.00	€ 3,750.00	€ 5,250.00	€ 6,750.00	€ 7,500.00	€ 3,750.00	€ 7,500.00	€ 11,250.00	€ 22,500.00
Public app users	30	100	190	250	70	150	300	500	200	500	700	900
Single user's quarter sales (€)	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 150.00	€ 150.00	€ 150.00	€ 150.00
Total sales (€)	€ 2,250.00	€ 7,500.00	€ 14,250.00	€ 18,750.00	€ 6,300.00	€ 13,500.00	€ 27,000.00	€ 45,000.00	€ 30,000.00	€ 75,000.00	€ 105,000.00	€ 135,000.00
Commission rate (5%)	€ 112.50	€ 375.00	€ 712.50	€ 937.50	€ 315.00	€ 675.00	€ 1,350.00	€ 2,250.00	€ 1,500.00	€ 3,750.00	€ 5,250.00	€ 6,750.00
Total income	€ 862.50	€ 1,875.00	€ 2,962.50	€ 4,687.50	€ 4,065.00	€ 5,925.00	€ 8,100.00	€ 9,750.00	€ 5,250.00	€ 11,250.00	€ 16,500.00	€ 29,250.00
Fixed costs												
Advertising	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00	€ 3,000.00
Servers (Web + Database)	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00	€ 1,000.00
API Services	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00
Variable costs												
Equipments	€ 1,250.00	€ 1,250.00	€ 1,250.00	€ 1,250.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 3,200.00	€ 3,200.00	€ 3,200.00	€ 3,200.00
Bank loan (40k) + Opening tax	€ 5,874.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 5,874.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 5,874.26	€ 4,954.26	€ 4,954.26	€ 4,954.26
Salaries	€ 1,268.75	€ 1,268.75	€ 1,268.75	€ 1,268.75	€ 18,125.00	€ 18,125.00	€ 18,125.00	€ 18,125.00	€ 20,000.00	€ 20,000.00	€ 20,000.00	€ 20,000.00
Total costs	€ 12,518.01	€ 11,598.01	€ 11,598.01	€ 11,598.01	€ 24,750.00	€ 24,750.00	€ 24,750.00	€ 24,750.00	€ 27,325.00	€ 27,325.00	€ 27,325.00	€ 27,325.00
Benefits (per quarter)	€ (11,655.51)	€ (9,723.01)	€ (8,635.51)	€ (6,910.51)	€ (20,685.00)	€ (18,825.00)	€ (16,650.00)	€ (15,000.00)	€ (22,075.00)	€ (16,075.00)	€ (10,825.00)	€ 1,925.00

- Explanations:

- In case of pessimistic scenario we are paying the Bank loan + taxes;
- In case of pessimistic scenario we are spending less on equipments;
- In case of pessimistic scenario our salaries are cut (just the fullstack developer is working half-time);
- In case of realistic scenario all variables are the same as in the cashflow;
- In case of Optimistic scenario, we are spending more on equipment, and on salaries (our salaries fulltime + fullstack fulltime);

- Year 3

What-if analysis year 3												
Data	Scenarios											
	Pessimistic				Realistic				Optimistic			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Partner shops	400	600	1200	2000	500	900	1800	3000	700	1200	2500	3000
Quarter subscription fees	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00
Total subscription fees(€)	€ 30,000.00	€ 45,000.00	€ 90,000.00	€ 150,000.00	€ 37,500.00	€ 67,500.00	€ 135,000.00	€ 225,000.00	€ 52,500.00	€ 90,000.00	€ 187,500.00	€ 225,000.00
Public app users	600	1200	4000	7000	1000	2000	6000	11000	1000	2200	6000	12000
Single user's quarter sales (€)	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 150.00	€ 150.00	€ 150.00	€ 150.00
Total sales (€)	€ 45,000.00	€ 90,000.00	€ 300,000.00	€ 525,000.00	€ 90,000.00	€ 180,000.00	€ 540,000.00	€ 990,000.00	€ 150,000.00	€ 330,000.00	€ 900,000.00	€ 1,800,000.00
Commission rate (5%)	€ 2,250.00	€ 4,500.00	€ 15,000.00	€ 26,250.00	€ 4,500.00	€ 9,000.00	€ 27,000.00	€ 49,500.00	€ 7,500.00	€ 16,500.00	€ 45,000.00	€ 90,000.00
Total income	€ 32,250.00	€ 49,500.00	€ 105,000.00	€ 176,250.00	€ 42,000.00	€ 76,500.00	€ 162,000.00	€ 274,500.00	€ 60,000.00	€ 106,500.00	€ 232,500.00	€ 315,000.00
Fixed costs												
Advertising	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00	€ 5,500.00
Servers (Web + Database)	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00	€ 1,500.00
API Services	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00
Variable costs												
Equipments	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 4,500.00	€ 4,500.00	€ 4,500.00	€ 4,500.00
Bank loan (40k)	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26
Salaries	€ 30,250.00	€ 30,250.00	€ 30,250.00	€ 30,250.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00
Total costs	€ 44,629.26	€ 44,629.26	€ 44,629.26	€ 44,629.26	€ 52,725.00	€ 52,725.00	€ 52,725.00	€ 52,725.00	€ 53,525.00	€ 53,525.00	€ 53,525.00	€ 53,525.00
Benefits (per quarter)	€ (12,579.26)	€ 4,670.74	€ 60,170.74	€ 131,420.74	€ (10,375.00)	€ 24,125.00	€ 109,625.00	€ 222,125.00	€ 6,875.00	€ 53,375.00	€ 179,375.00	€ 261,875.00

- Explanations:

- In case of pessimistic scenario we are paying the Bank loan + taxes;
- In case of pessimistic scenario we are spending less on equipments;
- In case of pessimistic scenario we are spending less on Salaries (just 3 of us + full stack);
- In case of realistic scenario all variables are the same as in the cashflow;
- In the optimistic scenario and realistic, we are spending a little more on salaries (3 of us + fullstack + sales manager, everyone fulltime)

- Year 4

What-if analysis year 4												
Data	Pessimistic				Realistic				Optimistic			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Partner shops	2200	3800	4000	4500	3500	4800	5500	6500	4000	5000	7000	9000
Quarter subscription fees	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 75.00
Total subscription fees(€)	€ 165,000.00	€ 285,000.00	€ 300,000.00	€ 337,500.00	€ 262,500.00	€ 360,000.00	€ 412,500.00	€ 487,500.00	€ 300,000.00	€ 375,000.00	€ 525,000.00	€ 675,000.00
Public app users	10000	25000	35000	50000	20000	35000	45000	65000	25000	35000	39000	50000
Single user's quarter sales (€)	€ 75.00	€ 75.00	€ 75.00	€ 75.00	€ 90.00	€ 90.00	€ 90.00	€ 90.00	€ 150.00	€ 150.00	€ 150.00	€ 150.00
Total sales (€)	€ 750,000.00	€ 1,875,000.00	€ 2,625,000.00	€ 3,750,000.00	€ 1,800,000.00	€ 3,150,000.00	€ 4,050,000.00	€ 5,850,000.00	€ 3,750,000.00	€ 5,250,000.00	€ 5,850,000.00	€ 7,500,000.00
Commission rate (5%)	€ 37,500.00	€ 93,750.00	€ 131,250.00	€ 187,500.00	€ 90,000.00	€ 157,500.00	€ 202,500.00	€ 292,500.00	€ 187,500.00	€ 262,500.00	€ 292,500.00	€ 375,000.00
Total income	€ 202,500.00	€ 378,750.00	€ 431,250.00	€ 525,000.00	€ 352,500.00	€ 517,500.00	€ 615,000.00	€ 780,000.00	€ 487,500.00	€ 637,500.00	€ 817,500.00	€ 1,050,000.00
Fixed costs												
Advertising	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00	€ 10,000.00
Servers (Web + Database)	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00	€ 2,500.00
API Services	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00	€ 125.00
Variable costs												
Equipments	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 3,750.00	€ 5,000.00	€ 5,000.00	€ 5,000.00	€ 5,000.00	€ 5,000.00	€ 5,000.00	€ 5,000.00	€ 5,000.00
Bank loan (40k)	€ 4,954.26	€ 4,954.26	€ 4,954.26	€ 4,954.26								
Salaries	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 41,500.00	€ 52,750.00	€ 52,750.00	€ 52,750.00	€ 52,750.00	€ 52,750.00	€ 52,750.00	€ 52,750.00	€ 52,750.00
Total costs	€ 62,829.26	€ 62,829.26	€ 62,829.26	€ 62,829.26	€ 70,375.00	€ 70,375.00	€ 70,375.00	€ 70,375.00	€ 70,375.00	€ 70,375.00	€ 70,375.00	€ 70,375.00
Benefits (per quarter)	€ 139,670.74	€ 315,920.74	€ 368,420.74	€ 462,170.74	€ 282,125.00	€ 447,125.00	€ 544,625.00	€ 709,625.00	€ 417,125.00	€ 567,125.00	€ 747,125.00	€ 979,625.00

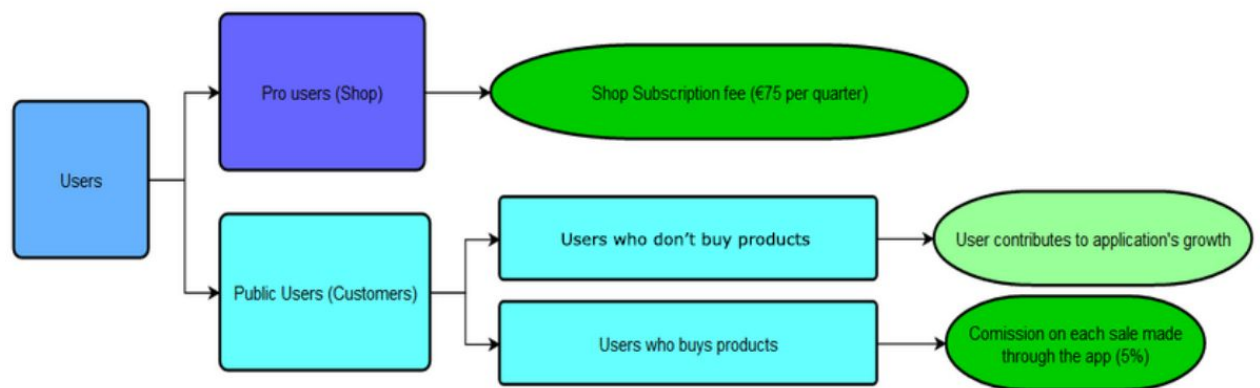
II. Explanations:

- In case of pessimistic scenario we are paying the Bank loan + taxes;
- In case of pessimistic scenario we are spending less on equipments;
- In case of pessimistic scenario we are spending less on Salaries (just 3 of us + full stack + 1 sales manager);
- In case of realistic scenario all variables are the same as in the cashflow;
- In the optimistic scenario and realistic, we are spending a little more on salaries (3 of us + fullstack + 2 sales manager, everyone fulltime)

III. Flowchart and monetization strategy

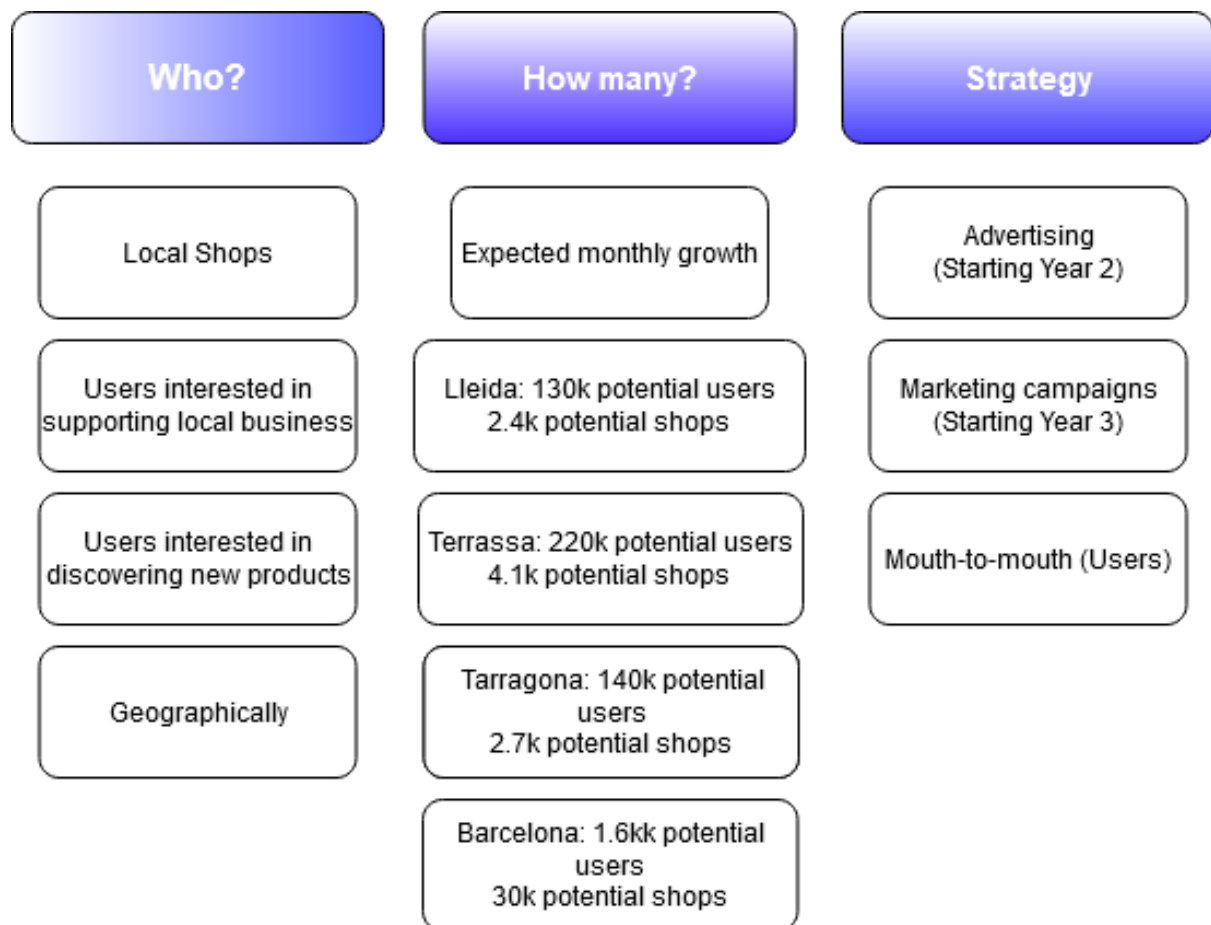
A. Expansion plan:

- Year 2:
 - Lleida (130k potential users, 2.4k potential shops)
- Year 3:
 - + Terrasa (220k potential users, 4.1k potential shops)
 - + Tarragona (140k potential users, 2.7k potential shops)
- Year 4:
 - + Barcelona (1,6kk potential users, 30k potential shops)



Considerations:

- Company is opened as a “Limited Society” without offices.
- The idea is to start the application in the local shops of Lleida. (Year 2)
- In Year 3 we expanded business to Terrassa and Tarragona.
- In Year 4 we expanded business to Barcelona, in this first year, we are on a “adaptation” process so the numbers do not reflect yet all the potential customers of the city.



IV. Structure of Income

Variables to consider:

- Number of users;
- Number of subscribed shops;
- Price per subscription (€75);

Income Formula:

$$\begin{aligned}
 &(\text{Number of subscribed shops} * \text{Price per subscription (€75)}) \\
 &+ \\
 &(\text{Number of users} * \text{User's sale per quarter(€90)}) * \text{Comission (5\%)}
 \end{aligned}$$

V. Structure of costs

a. Database servers (mysql amazon database €1000 / year, paid in one time)

- i. Year 1 €1000
- ii. Year 2 €1000
- iii. Year 3 €2500
- iv. Year 4 €4000

db.t3.large

PLAZO DE 1 AÑO ESTÁNDAR					
Opción de pago	Pago inicial	Mensual*	Efectivo por hora**	Ahorro en comparación con modalidad bajo demanda	Bajo demanda por hora
Sin gastos iniciales	0 USD	81,541 USD	0,112 USD	27 %	0,1520 USD
Pago parcial inicial	466 USD	38,836 USD	0,106 USD	30 %	
Pago total anticipado	913 USD	0,000 USD	0,104 USD	31 %	

b. Web servers (Amazon EC2 €2200/year, paid on one time)

- i. Year 1 €2200
- ii. Year 2 €2200
- iii. Year 3 €3500
- iv. Year 4 €6000

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First 12 months total

2,214.02 USD

Total upfront

1,378.82 USD

Total monthly

69.60 USD

Services (1)

Amazon EC2

Region: EU (Paris)

Edit

Action ▼

Quick estimate

Operating system (Linux), Quantity (2), Pricing strategy (EC2 Instance Savings Plans 1 Year Full Upfront), Storage for each EC2 instance (General Purpose SSD (gp2)), Storage amount (300 GB), Instance type (t4g.xlarge)

Monthly:

69.60 USD

Upfront:

1,378.82 USD

c. API services (Google map, Stripe) €500 / year

d. Advertising: € 12,000 / year 2 | € 22,000 / year 3 | € 40,000 / year 4

e. Equipements (computer / accessories) : €5,000 year 1 | €15,000 year 3 | €20,000 year 4

f. Salaries

1. Scrum master (Starting year 2) : € 35,000 /year (Tom)
2. Front-end expert (Starting year 2): € 26,000 /year (Marcel)
3. Back-end expert (Starting year 2): € 30,000 /year (Danillo)
4. Full Stack developer (Starting year 2 for maintenance halftime, on Year 3 starts implementing new features): € 30,000 /year
5. Sales manager (Starting year 3 & 4, 2 in total): € 45,000 /year

g. Cost of development + cost maintenance

a) Year 1:

- (1) Cost of development: servers (€3200) + equipment (€5000) + API services (€500) + **Cost of opening the company S.L (€3600)**
- (2) Cost of maintenance: 0

b) Year 2:

- (1) Cost of maintenance: servers (€3200) + API services (€500) + Full stack developer (€15,000 halftime) + our salary (€45,500 halftime) + Advertising (€12,000)

c) Year 3:

- (1) Cost of development: Full stack developer (€30,000 fulltime) + our salary (€91,000 fulltime) + Sales manager (€45000)
- (2) Cost of maintenance: servers (€6000) + API services (€500) + Advertising (€22,000) + equipments (€15000)

d) Year 4:

- (1) Cost of development: Full stack developer (€30,000 fulltime) + our salary (€91,000 fulltime) + 2 Sales manager (€90000)
- (2) Cost of maintenance: servers (€10000) + API services (€500) + Advertising (€40,000) + equipments (€20000)

VI. Payback, NPV, ROI, Break-even, Internal Rate of Return

A. Payback

Scenario: Realistic

Irregular Cash Flow Each Year

Result

Payback Period: **1.472 years**

Discounted Payback Period: **1.916 years**

Cash Flow Return Rate: **139.00% per year**

	Cash Flow	Net Cash Flow	Discounted Cash Flow	Net Discounted Cash Flow
Year 0	\$-100,000.00	\$-100,000.00	\$-100,000.00	\$-100,000.00
Year 1	\$86,900.00	\$-13,100.00	\$79,000.00	\$-21,000.00
Year 2	\$27,740.00	\$14,640.00	\$22,925.62	\$1,925.62
Year 3	\$373,240.00	\$387,880.00	\$280,420.74	\$282,346.36
Year 4	\$40,000.00	\$427,880.00	\$27,320.54	\$309,666.89
Year 5	\$2,356,740.00	\$2,784,620.00	\$1,463,350.12	\$1,773,017.01

Payback Period	1.472 years
	17.6 months

This means that the time needed to equate the cashflow with the initial investment is 31 months.

Obtained using calculator: <https://www.calculator.net/payback-period-calculator.html>

B. NPV

Scenario: Realistic

NPV	
Investment	€ (100,000.00)
Year 1 cashflow	€ 86,900.00
Year 2 cashflow	€ 27,740.00
Year 3 cashflow	€ 373,240.00
Year 4 cashflow	€ 2,356,740.00
Interest %	1.05
Total	€ 2,944,620.00
NPV	€ 125,758.01

Projected future cash flows, both positive and negative. Sum of discounted cash flows minus original investment (Of all 4 years).

NPV Formula (Excel): =VNA(Interest %,Year 1 cashflow:Year 4 cashflow) + Investment

C. ROI

Scenario: Realistic

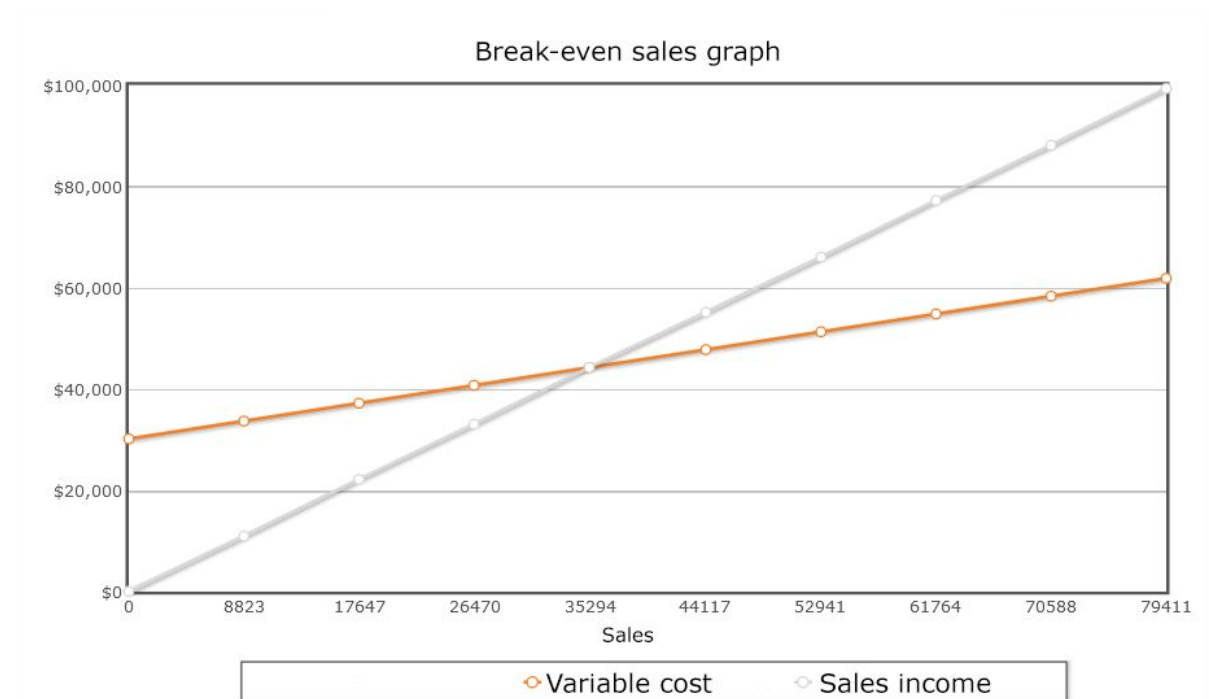
ROI	
Investment	€ (100,000.00)
Year 1 cashflow	€ 86,900.00
Year 2 cashflow	€ 27,740.00
Year 3 cashflow	€ 373,240.00
Year 4 cashflow	€ 2,356,740.00
Revenues	€ 2,847,840.00
Expenses	€ 591,100.00
ROI	55.4185

The ROI for an activity or product is a function of money invested and revenue produced. In this case we applied this model to our global cashflow.

ROI Formula: $(\text{Net income} - \text{Investment}) / \text{Investment}$

D. Break-even

Scenario: Realistic



This graph was made based on the number of sales (User's sales) made through our app needed to surpass the current total costs (In this case the costs are variable).

- 1 sale = 5% commission of a 25 euros product (estimation)

- Cost per unit: 0.40 euros

E. Internal Rate of Return

Scenario: Realistic

169.313%

Internal Rate of Return

Calculator used: <https://www.calculatestuff.com/financial/irr-calculator>