



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

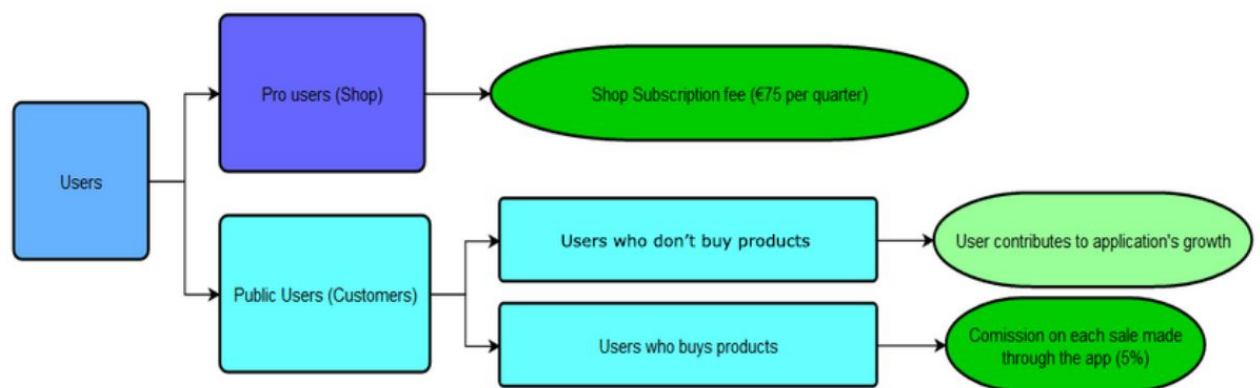
Observation: In case we don't get the initial investment, in the what-if scenario (pessimistic) represents the taxes and fees for a loan made through a bank with a payment time of 3 years.

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 €)	1.257,15€ / mes TIN: 8,2 % TAE: 10,23 % Comisión de apertura 2,3 % (920,00 €)
Con domiciliación de nómina Sí	Con domiciliación de nómina No
Teniendo cuenta BBVA Sí	Teniendo cuenta BBVA Yes
Inicia solicitud	Inicia solicitud
Sumando capital, intereses y gastos, devolverás: 45.720,35 €	Sumando capital, intereses y gastos, devolverás: 46.408,08 €

II. Flowchart and monetization strategy



Considerations:

- Company is opened as a “Limited Society” without offices.
- The idea is to start the application in the local shops of Lleida. (Years 1-3)
- In Year 4 we expand 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.



III. Structure of Income

Variables to consider:

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

Income Formula:

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

IV. 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

AWS Pricing Calculator

>

My Estimate

My Estimate

Info

Add service

Add support

Add group

Clear estimate

Action

Save and share

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

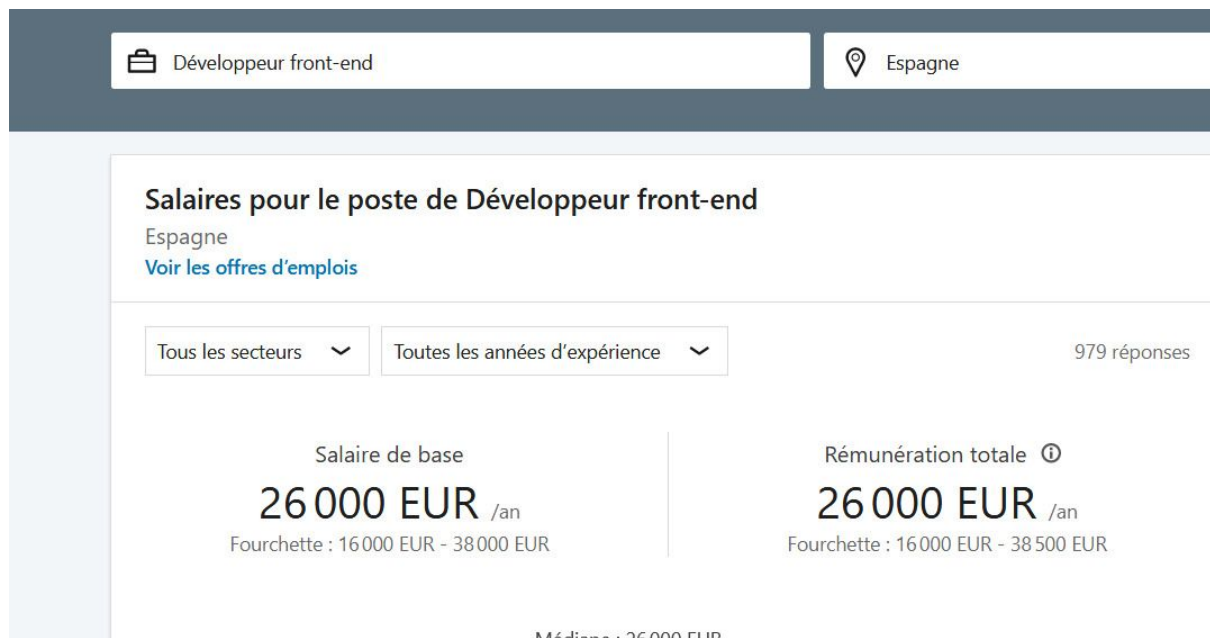
c. API services (Google map, Stripe) €500 / year

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 3 for maintenance, on Year 4 starts implementing new features): € 30,000 /year
5. Sales manager (Starting year 4): € 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)
- (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) + Sales salary (€45000)

- (2) Cost of maintenance: servers (€10000) + API services (€500) + Advertising (€40,000) + equipments (€20000)

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

A. Payback

Scenario: Realistic

Irregular Cash Flow Each Year

Result

Payback Period: **2.611 years**

Discounted Payback Period: **2.767 years**

Cash Flow Return Rate: **159.13% per year**

	Cash Flow	Net Cash Flow	Discounted Cash Flow	Net Discounted Cash Flow
Year 0	\$-40,000.00	\$-40,000.00	\$-40,000.00	\$-40,000.00
Year 1	\$30,500.00	\$-9,500.00	\$27,727.27	\$-12,272.73
Year 2	\$-28,660.00	\$-38,160.00	\$-23,685.95	\$-35,958.68
Year 3	\$62,440.00	\$24,280.00	\$46,912.10	\$10,953.42
Year 4	\$1,303,440.00	\$1,327,720.00	\$890,267.06	\$901,220.48

Payback Period	2.611 years
	31.32 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

NVP	
Investment	€ (40,000.00)
Year 1 cashflow	€ 30,500.00
Year 2 cashflow	€ (28,660.00)
Year 3 cashflow	€ 62,440.00
Year 4 cashflow	€ 1,303,440.00
Interest %	1.05
Total	€ 1,407,720.00
NPV	€ 49,109.29

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	€ (40,000.00)
Year 1 cashflow	€ 30,500.00
Year 2 cashflow	€ (28,660.00)
Year 3 cashflow	€ 62,440.00
Year 4 cashflow	€ 1,303,440.00
Revenues	€ 1,760,940.00
Expenses	€ 497,500.00
ROI	30.586

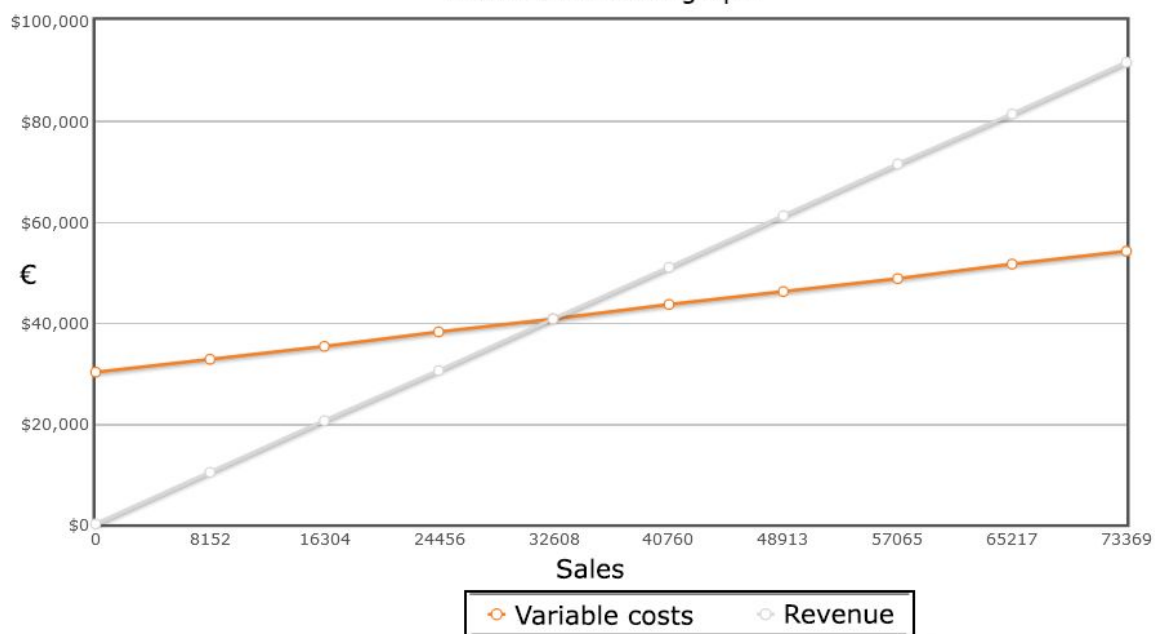
The ROI for an activity or product is a function of money invested and revenue produced. In this case we applied this model to our global cashflow.

ROI Formula: (Net income - Investment) / Investment

D. Break-even

Scenario: Realistic

Break-even sales graph



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).

E. Internal Rate of Return

Scenario: Realistic

Internal Rate of Return	176.58%
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Calculator used: <https://www.calculatestuff.com/financial/irr-calculator>