2023-07-05

(This was made by four people in order to help you the most)

Q1. When we talk about "the third Mission of the University", what are we referring to?
1. Persuade researchers and professors to provide consultancies also outside the university.
2. Improving post-lauream education with technology-oriented Innovation courses.
3. Bring the outcome of research into the market and the real society.

Answer:

Answer: (3)

Q2. During the course we have considered Steve Blank six categories of startups. Would you please list them and say where you think a small shoe repair shop belongs to?
Answer:

Answer: Taken from my notes

A startup is always inside the valley for death, dying and growing for finding a repeatable business model. More in general, they can be grouped into 6 categories:

- *Designed to be scalable* (and to do it *quickly*)
    - Scalable startups tend to group together in innovation clusters
        i. Silicon Valley, Shanghai, New York, Boston, Israel, etc.
    - They make up a small percentage of the six types of startups, but because of the outsize returns, they attract all the risk capital (and press), with goal of expanding
    - Examples: Facebook / Tesla / TikTok / Amazon AWS/ Airbnb / Uber / Netflix
        - made from the start to always improve and grow
        - tend to group together in innovation clusters

- *Family business* (Small business)
    - They work as hard as any other entrepreneur and hire local employees or family
    - Most are barely profitable. Small business entrepreneurship is not designed for scale, the owners want to own their own business and "feed the family"
    - Examples: home based food services, plumbing, restaurant, small niche markets
    - Other example discussed: UNOX – build professional ovens
        i. goal of maintaining the family

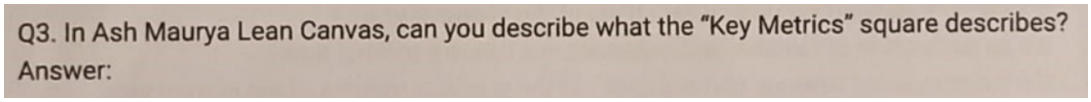
- *Lifestyle business* (also called Lifestyle venture)
    - A business run by its founders primarily with the aim of sustaining a particular level of income and no more
        i. or to provide a foundation from which to enjoy a particular lifestyle
    - A lifestyle business's goal is *to provide a great quality of life to its owners*
        i. It's meant to be a business which adjusts to the lifestyle - so that the founder can live their life as they like – also, try to survive is a goal
        ii. Typically with limited scalability
    - e.g., Moderna – the ones with the vaccines, working in lab with very little money

    i. typical entrepreneur, with goal to make the most money
    ii. the first to sell it as fast as possible and expands among existing businesses
    iii. it requires time and infrastructure to do that on the market

- *Startups designed to be sold quickly*
    - Their goal is not to build a billion dollar business, but to be sold to a larger company
    - The goal of the management is different than that of building a profitable business
    - Examples: pharma, hi-tech, entertainment-related companies, software/game devs

- *Social startups*
    - Usually they are charitable initiatives, their goal is to make the world a better place, not to take market share or to create wealth for the founders
    - Expanding and offering things to the market receiving donations, sponsorships, etc.
    - Saving people, dealing with diseases, handicaps, third/unindustrialized countries
    - Profits are thanks to charities or donations

- *Spin-off from existing companies* (Startup from large companies)
    - Company generated from a very big one, shaping as a small company
    - There is a proposal to go away from big company, abandoning the wage and getting help from the main company
    - The company could easily buy back the idea if the idea succeeds
    - Changes in customer tastes, new technologies, legislation, new competitors, etc., can create pressure for more disruptive innovation
        i. requiring large companies to create entirely new products sold to new customers in new markets
    - They are "transformational innovation projects" of large companies
    - Some reasons
        i. failure → there is always the risk to do that
        ii. branding → spoil the main brand with a product to not detach reputation
        iii. speed and flexibility
    - Main reasons
        i. *speed* → not dependant to the times of big companies for time and resources
            1. things are always done to not freeze practices
            2. works with processes and shares themselves
        ii. *motivation* → you either die or succeed
            1. because of less resources and salaries



Key Metrics allow you to track and evaluate the success of a specific business process. A Key Metric could be daily visitors to your site, the number of company emails opened by consumers per hour or the monthly sales of a specific feature.

Q4. What does Steve Blank's "Get out of the building!" sentence refer to?

1. Don't look for answers in the computer, go talk to people!
2. Don't spend too much time in front of the computer of your will get exhausted, get out and enjoy.
3. Don't spend too much time in the university but find a job as soon as possible.

Answer:

Answer: (1)

Q5. What is the key element that comes into play when passing from the Problem/Solution Fit phase to the Product/Market Fit one?

Answer:

Answer: Money (not MVP – it's in both phases and this in the main goal)

Q6. What does the Lean Startup Methodology deal with?

1. It deals with implementing Toyota Lean Production methods into a startup.
2. It deals with implementing rapid, iterative market checks to validate a product idea.
3. It deals exclusively with Agile software development.

Answer:

Answer: (2)

Q7. Considering three different types of investors, please put them in the order you expect them to interact with a startup going from its first days to its scale-up phase:

1. Venture Capital
2. Business Angels
3. FFF

Sequence:

Answer: (3) – (2) – (1)

Q8. What is a key success factor of platform business models?

1. The Web Effect.
2. Being more "actual" (while traditional pipeline models are "old").
3. The Network Effect.
4. The higher speed of the Internet.

Answer:

Answer: (3)

Q9: How would you describe a specific "Budget", in a startup?

1. It's the cumulated revenue and expenses of the previous year.
2. It's an estimation of revenue and expenses in a future period of time.
3. It's the cumulated revenue and expenses of the previous months of the current year.

Answer:

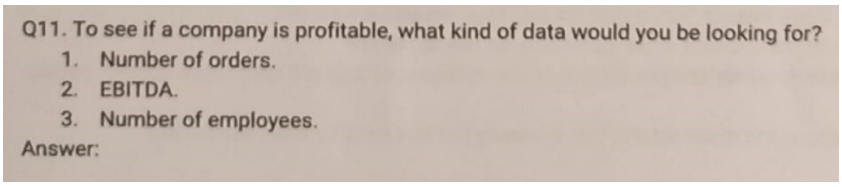
Answer: (2)

Q10: Why are stock options such a valuable tool for companies?

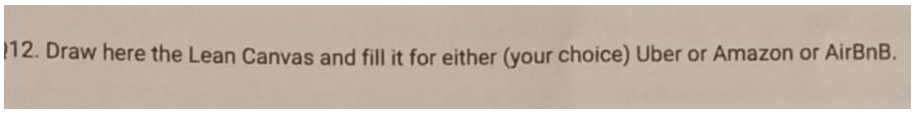
1. It is an additional way for the company to generate revenues.
2. It is a way to distribute the company shared to small investors.
3. It is a way for a company to keep valuable employees linked and committed to the company.

Answer:

Answer: (3)


Q11. To see if a company is profitable, what kind of data would you be looking for?
1. Number of orders.
2. EBITDA.
3. Number of employees.
Answer:

Answer: (2) – EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization


Q12. Draw here the Lean Canvas and fill it for either (your choice) Uber or Amazon or AirBnB.

For the sake of simplicity, I'll adopt a text-like layout (using some good'ole GPT as support) doing the LC of Uber first.

- *1. Problem*

Limited taxi availability: Prior to Uber, securing a taxi was often problematic in many cities.

Inconsistent pricing and experience: Customers frequently faced issues such as fare discrepancies and varied quality of service.

Payment inconvenience: Traditional taxis typically required cash or card payments at the end of the ride, which could be cumbersome.

- *2. Customer Segments*

Urban commuters: People residing in urban areas who require quick and reliable transportation.

Travelers: Those in need of convenient transport options from airports and hotels.

Tech-savvy individuals: Customers comfortable with using smartphones and apps for service access.

- *3. Unique Value Proposition*

"Your personal driver": Uber positioned itself as a luxury yet affordable service that offers a personal driving experience.

Convenience and reliability: The app enables users to book rides anytime and track their rides in real-time.

- *4. Solution*

Mobile app: A user-friendly app that connects drivers with passengers based on location.

Driver rating system: Ensures quality and safety by allowing users to rate their experience.

Dynamic pricing model: Prices increase with demand to ensure availability.

- *5. Channels*

Mobile application: The primary channel through which customers interact with the service.

Social media and online marketing: For promotion and user engagement.

Word of mouth: Strong user experiences that lead to personal recommendations.

- *6. Revenue Streams*

Percentage of fare: Uber takes a percentage of each fare from the drivers.

Surge pricing: Higher charges during peak demand times increase revenue.

Partnerships and business travel accounts: Collaborations with businesses to manage corporate travel.

- *7. Cost Structure*

Technology development: Continuous investment in app development and new features.

Marketing and promotions: Costs to acquire new users and retain existing ones.

Operational costs: Expenses related to staff, legal compliance, and office maintenance.

- *8. Key Metrics*

Active riders and trips: Measures growth through the number of users and frequency of use.

Driver retention rate: Critical for maintaining a reliable service.

Customer satisfaction: Measured by ratings and feedback.

- *9. Unfair Advantage*

Brand recognition: Uber became synonymous with ride-sharing, creating a strong brand.

First-mover advantage: As one of the first to market, Uber established a large user base and significant data to optimize its operations.

We do the same for Amazon, looking at its early days as a bookstore:

- *1. Problem*

Limited access to physical bookstores: Many people had limited access to bookstores with broad selections, especially in smaller towns or internationally.

Inconvenience of buying books offline: Traditional shopping required commuting, browsing, and sometimes returning empty-handed if the desired book wasn't in stock.

High overhead costs of physical bookstores: These often led to higher prices due to the costs associated with maintaining a storefront and inventory.

- *2. Customer Segments*

Book readers: Individuals looking for convenient access to a wide variety of books.

Students and researchers: Those in need of textbooks or specialized literature that might not be available locally.

Collectors and niche audiences: People searching for rare, out-of-print, or specialized books.

- *3. Unique Value Proposition*

“Earth’s biggest bookstore”: Amazon positioned itself as a one-stop-shop offering a greater selection than any physical bookstore could provide.

Convenience: Users could search for, find, and order books from the comfort of their homes.

Competitive pricing: Reduced overhead costs allowed Amazon to offer competitive pricing, including discounts on best-sellers and other popular titles.

- *4. Solution*

Online marketplace: An easy-to-navigate website that allowed users to browse an extensive catalog of books, view recommendations, and place orders online.

Customer reviews: Amazon introduced customer reviews early on, helping other buyers make informed decisions based on peer insights.

Efficient logistics and distribution: Leveraging strong logistics to deliver books quickly and efficiently across vast geographical areas.

- *5. Channels*

Website (Amazon.com): The primary channel through which customers interact with the service.

SEO and online marketing: Utilizing search engine optimization and online ads to attract traffic.

Partnerships: Early on, Amazon established relationships with publishers and authors to ensure a wide catalog and promotional deals.

- *6. Revenue Streams*

Sales of books: Revenue generated directly from book sales.

Shipping fees: Initially, Amazon charged for shipping, which was later transformed into a revenue stream via the Amazon Prime subscription.

Third-party sellers: Amazon later expanded to allow third-party sellers on its platform, taking a cut of their sales.

- *7. Cost Structure*

Warehousing and logistics: Significant investments in inventory and logistics infrastructure.

Technology development: Continuous investment in developing and maintaining the e-commerce platform.

Marketing and customer acquisition costs: Significant spending on advertising and promotions to attract and retain customers.

- *8. Key Metrics*

Customer acquisition and retention rates: Critical for growth and long-term viability.

Sales volume and turnover: Tracking the number of units sold and the speed of inventory turnover.

Customer satisfaction and feedback: Measured through reviews and customer service interactions.

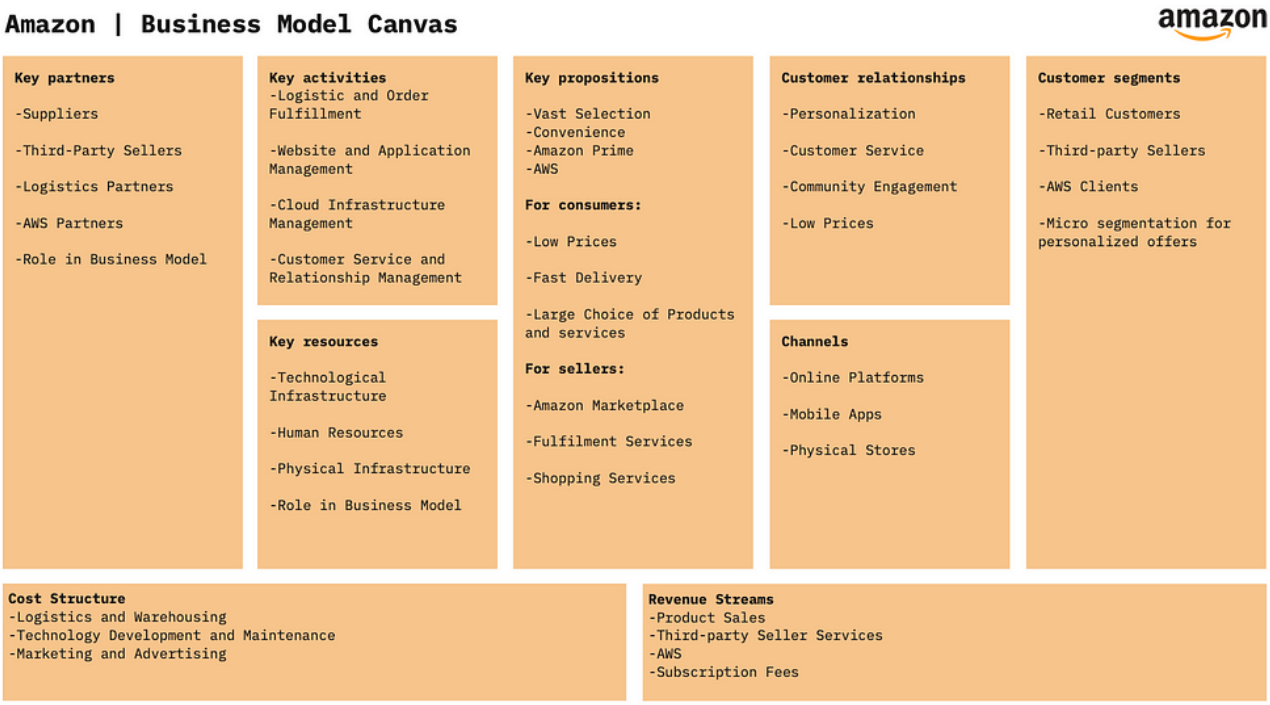
- *9. Unfair Advantage*

Scale and data: Amazon's ability to scale quickly and use data to optimize operations and customer experience became a competitive moat.

Brand recognition and trust: As Amazon grew, its brand became synonymous with online shopping, engendering trust and customer loyalty.

First-mover advantage in online book sales: Amazon was one of the first to market in a massive way, allowing it to set standards in online retail and collect valuable customer data.

Another example from here:



RoboCutter

Sheila and David are friends who studied at the same Engineering department and worked on a novel way to optimize wood cutting by applying a Vision-based AI algorithm to minimize wood cutting process wastes and performing high quality cuts maximizing the value of wood natural features. Their algorithm works well in a laboratory environment, simulated by Matlab. Now they are thinking to leave the university and launch a startup offering this technology to wood cutting machinery manufacturers.

Q13. If you suggested them to start looking for a first limited investment, how would you use such an investment?

1. Look for money! You have to run and industrialize the product as soon as possible!
2. Do an Advertising Campaign to have orders as soon as possible!
3. Go and perform some interviews to validate your product ideas as soon as possible!

Answer:

Answer: (3)

At a fair, Sheila and David meet Mark, an old friend working as a sale agent for a big company distributing wood cutting machinery. Very useful link! They talk to Mark about their idea and Mark gives them big insights on the industry, confirming their ideas: nobody is currently offering that feature yet!! Sheila and David decide to propose to Mark to join them and build a startup. Mark accepts. Since he is already working, he will dedicate to the company just a day every week. Sheila and David, instead, will work full time – Sheila will take the role as the CEO and will follow sales and market development, while David, who has always been the "software wizard", will act as the CTO and develop the algorithm. As far as the initial investment which they need, Mark accepts also to help putting in the company € 15.000, which is the only money they have! They three meet and decide to split the equity in 55%, 30% and 15%.

Q14: How would you assign the stocks and why?
Answer:

Given the impact Sheila has on the company, she will definitely have a 55%. While Mark put 15.000 in cash in the company, he has lesser commitment in terms of time compared David, which works full time. So, it makes sense to give David the other 30% and then to Mark the other 15% remaining.

RoboCutter is born. Sheila, David and Mark quickly consume the initial € 15.000 but the more they go on with their plan, the more it becomes evident they have "something". At a startup competition they present the idea and they meet Eric, a guy with good personal wealth and a personal passion for startups. Eric approaches them and offers them to buy the 20% of RoboCutter for € 44.000, but asking the three friends to subscribe to an acceleration program (the acceleration program asks € 4.000 in cash plus 5% of the startup company).

Q15: by looking at Eric profile and investment amount would you classify him as:

- A Business Angel
- A Venture Capital
- FFF

Answer:

Answer: (1)

Q16: what is the pre-money evaluation of the startup given by Eric
Answer:

Q17: what is the post-money evaluation of the startup given by Eric
Answer:

$$Post\_money\ evaluation = \frac{Investment\ for\ equity}{Percentage\ for\ equity} = \frac{44.000}{0.20} = 220.000€$$

$$Pre\_money\ evaluation = Post\_money - Investment = \ 220.000 - 44.000 = 176.000€$$

Including the acceleration program (given it's in pre, including 5%)_

$$Post\_money\ evaluation = \frac{Investment\ for\ equity}{Percentage\ for\ equity} = \frac{44.000}{0.25} = 176.000€$$

Q18: what is the value in € of the acceleration program?
Answer:

We first need to calculate the equity value here using the post-money evaluation:

$$Equity\ Value = Post\_money\ evaluation\ * Equity\ percentage\ = 220.000\ * 0.05 = 11.000€$$

Total value of the acceleration program is as follows:

$$Total\ Value\ of\ Acceleration\ Program = Cash\ Value + Equity\ Value = 4.000 + 11.000 = 15.000€$$

Q19: Write RoboCutter Cap Table after Eric entry and the participation to the Accelerator program:

Shareholder	*Quota %*
Sheila	
David	
Mark	
Eric	20%
Accelerator	5%
Total	**100%**

In a few months the cash runs low but RoboCutter idea looks more and more promising. Sheila already presented a demo at a wood cutting equipment fair. Eric introduces the three friends to a Business Angel network, where they obtain an investment plan by RCI (part of the Business Angel Network), in two steps: a first step of € 100.000 for the 10% of the company, and a second step of € 100.000 for a further 10%, provided that RoboCutter (a) completes the product and obtains the certifications and (b) the first commercial contract is signed. RCI also requests, at the end of step 2, to convert RoboCutter in a SpA with 200.000 shares, reserving the 10.000 shares for stock options.

About the table, we have 75% of stocks remaining after the split. So, we should do a percentage of a percentage; so, for instance, taking the previous assignment of 55%, 30%, 15% of 75%. This is done multiplying the percentages together:

- Sheila → $0.75 * 0.55 = 0.4125 = 41.25\%$
- David → $0.75 * 0.30 = 0.2250 = 22.50\%$
- Mark → $0.75 * 0.15 = 0.1125 = 11.25\%$

Q20: Write RoboCutter Cap Table after step 1.

Shareholder	*Quota %*
Sheila	
David	
Mark	
Eric	
Accelerator	
RCI	10%
Total	**100%**

Basically, this RCI acquires a 10% stake in the company and so we need to readjust the proportions correctly. Simply subtracting 10% from remaining shares would not work because it disproportionately reduces each shareholder's stake by an absolute 10%, rather than scaling down each stake relative to the new total.

The correct method involves reducing each shareholder's stake by a factor that reflects the addition of the new shareholder's stake to the total. The formula is the following one:

$$New\ Share\ \% = Old\ Share\ \% * (1 - RCI\ Share\ \%)$$

So, again, it's a percentage of a percentage, using the previously found ones.

- Sheila → $41.25\% = 0.4125 * 0.90 = 37.125\%$
- David → $22.5\% * 0.90 = 20.25\%$
- Mark → $11.25 * 0.90 = 10.125\%$
- Eric → $20 * 0.90 = 18\%$
- Accelerator → $5 * 0.90 = 4.5\%$
- RCI → 10%

Shareholder	*Quota%*
Sheila	37,125 %
David	20,25 %
Mark	10,125 %
Eric	18 %
Accelerator	4,5 %
RCI	10%
Total	**100%**

Q21: And after step 2.

Shareholder	*Quota %*	*Shares*
Sheila		
David		
Mark		
Eric		
Accelerator		
RCI	20%	
Stock Options		10.000
Total	**100%**	**200.000**

To calculate the *quotas*: we take as reference step 19, where Eric and Accelerator take comprehensively 25% (20+5). So, we multiply said 75% per the quota of the reference step 19, so to have the original values between stakeholders.

- Sheila → $41.25\% * 75\% = 0.4125 * 0.75 = 30.9375\%$
- David → $22.50\% * 0.75 = 16.875\%$
- Mark → $11.25\% * 0.75 = 8.4375\%$
- Eric → $20\% * 0.75 = 15\%$
- Accelerator → $5\% * 0.75 = 3.75\%$
- RCI → Takes another 10%, so 20%
- Stock options → 5%

But there are also the *shares*: here use the percentage of quotas on 200.000 shares (sum is correct):

- Sheila → $30.9375\% * 200.000 = 0.334125 = 61.875$
- David → $16.875\% * 200.000 = 33.750$
- Mark → $8.4375\% * 200.000 = 16.875$
- Eric → $15\% * 200.000 = 30.000$
- Accelerator → $3.75\% * 200.000 = 7.500$
- Stock options → $5\% * 200.000 = 10.000$
- RCI → $20\% * 200.000 = 40.000$

Shareholder	*Quota%*	*Shares*
Sheila	30,9375%	61.875
David	16,875%	33.750
Mark	8,4375	16.875
Eric	15%	30.000
Accelerator	3,75%	7.500
RCI	20%	40.000
Stock Options	5%	10.000
Total	**100%**	**200.000**

Q22: What is RoboCutter value after step 2?
Answer:

I suggest using the formula of post-money evaluation, considering both of the investments, for a total value of 200.000€, so to have:

$$Post\_money = \frac{Total\ investment}{Percentage\ of\ company\ acquired} = \frac{200.000}{0.20} = 1.000.000€$$

Q23: What is the value of a single RoboCutter share?
Answer:

To get the value of the shares, we simply divide the post-money by the total number of shares; 10000 shares of stock options are already considered within the previous 200000, so:

$$\frac{1.000.000}{200.000} = 5€\ per\ share$$

RoboCutter does really well and closes very important contracts on the market. RCI and Eric, thanks to their network, approach a Venture Capital firm which is open to give RoboCutter the important funding needed to scale. Sheila needs to setup a very important pitch to convince the Venture Capital firm to join.

Q24: What kind of pitch would you suggest to setup?

1. The same pitch that RoboCutter used to convinced Eric to join! After all, if it worked with Eric at the beginning of RoboCutter history, why should it fail now?
2. A very numeric pitch dealing with the economic results of the last years and projecting the results of the following 3-5 years, with a very clear forecast of the increase of the number of customers, sales, revenues, EBITDA, a milestone plan and so forth.
3. A very technology-oriented pitch talking about how superior RoboCutter technology is, how it compares to similar products on the market, surpassing all of them.

Answer:

Answer: (2)

The Venture Capital firm invests! They buy the 20% of RoboCutter on new stocks for 1.5M€, asking the liquidation preference with full participation.

Q25: Write the new Cap Table (shares only):

Shareholder	*Quota %*	*Shares*
Sheila		
David		
Mark		
Eric		
Accelerator		
RCI		
Stock Options		
Venture Capital firm		50.000
Total	**100%**	**250.000**

To calculate *shares*, we multiply the quotas of previous step by the shares not used by VC:

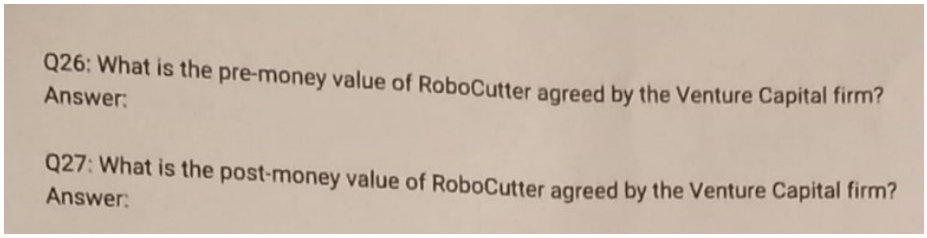
- Sheila → $30.9375\% * 200.000 = 0.309375 * 200.000 = 61.875$
- David → $13.5\% * 200.000 = 33.750$
- Mark → $8.4375\% * 200.000 = 16.875$
- Eric → $152\% * 200.000 = 30.000$
- Accelerator → $3.75\% * 200.000 = 7.500$
- RCI → $20\% * 200.000 = 40.000$
- Stock options → $5\% * 200.000 = 10.000$

As for the *quotas* (even if not requested, but to exercise, since material is very few), we calculate those as what takes the VC = $20\%\ (0.2)\ =\ 1 - 0.2\ =\ 0.8$ per the previous quota, sp:

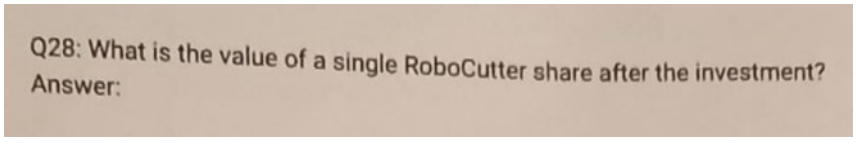
- Sheila → $30.9375\% * 0.8 = 24.75\%$

and so on.

Shareholder	*Quota%*	*Shares*
Sheila	24,75%	61.875
David	13,5%	33.750
Mark	6,75%	16.875
Eric	12%	30.000
Accelerator	3%	7.500
RCI	16%	40.000
Stock Options	4%	10.000
Venture Capital Firm	20%	50.000
Total	**100%**	**250.000**



The VC invests and the post money evaluation is $\frac{1.500.000}{0.20} = 7.500.000€$ while the pre-money is $7.500.000 - 1.500.000 = 6.000.000€$.



We simply divide the previous post-money by the number of shares, so: $\frac{7.500.000}{250.000} = 30€\ per\ share$

One of the clauses that the Venture Capital firm requested in the investment contract is a Bad Leaver option to Sheila and David – if the Bad Leaver clause triggers for one of them, he/she will have to sell all of the shares to the other shareholders at a fixed price of 1€/share. Unfortunately, after some months since the entry of the VC firm, Sheila experiences a severe health issue and needs to retire.

Q29: Rewrite the Cap Table after this happening (and considering IF the Bad leaver clause applies):

Shareholder	*Quota %*	*Shares*
Sheila		
David		
Mark		
Eric		
Accelerator		
RCI		
Stock Options		
Venture Capital firm		50.000
Total	**100%**	**250.000**

Given that it cites "if" the Bad Leaver happens, so reasonably it does not apply, again citing delivery does not apply, citing IF capitalized even

Ascertained that it is therefore a Good Leaver instead.

Good leaver	Bad leaver
Retirement	Commit gross misconduct
Serious ill health or death	Are convicted of a crime
Being made redundant through no fault of their own, e.g. as a result of a merger, or because the role is no longer necessary.	Break a noncompete clause or violate the terms of a shareholders' agreement
When decision is made to transition away from the business *(only if founder/co-founder)*	Voluntarily resign, or before reaching a certain milestone, e.g. before all their shares have fully vested.

Citing this site, it confirms that it is it. I also find this:

Leaver Treatment

Depending on the triggering event, different rules apply:

- *If a bad leaver event occurs during the vesting period, 100% of the bad leaver's shares are subject to the special purchase right.*
- *If a good leaver event occurs during the vesting period, 100% of the good leaver's shares that have not yet vested at that time are subject to the special purchase right.*

Where Special Right to Purchase indicates:

To purchase a certain number of shares (depending on the leaver event) if a leaver event occurs during the vesting period ("Special Right to Purchase").

If Sheila's shares are to be sold under the terms for a Good Leaver, and assuming the fair market value of €30 per share is used:

- *Sale of Shares*: Sheila's 61,875 shares are potentially bought by the remaining shareholders or the company at €30/share, totaling €1,856,250.
- *Redistribution of Shares*: These shares may then be redistributed among the remaining shareholders. The method of redistribution (whether proportional to existing stakes, through a specific buyout arrangement, or another method) would depend on the agreement's terms.

Shareholder	*Quota%*
Sheila	24,75%
David	13,5%
Mark	6,75%
Eric	12%
Accelerator	3%
RCI	16%
Stock Options	4%
Venture Capital Firm	20%
Total	**100%**

(We are not sure on this answer and the following part)

Here we calculate the number of shares of each stakeholder, considering his quota on the total number of shares (250000).

$$David = 250.000 * 17.04\% = 250000 * 0.1704 = 42.600$$

For all the others, we get:

42600 + 25725 + 38850 + 16350 + 48850 + 18850 + 58850 =
250.075

After Sheila's departure RoboCutter management starts to become very unclear and the company stalls. Both RCI and the Venture Capital firm find it difficult to hire a CEO with Sheila's vision and capabilities but by chance the Venture Capital firm finds an industry interested to purchase the company and its whole shares for a final global value of 6.7M€.

Q30: Please write the money going to each Shareholder after the sale of RoboCutter.

Shareholder	*Money*
Sheila? (you decide based on q29)	
David	
Mark	
Eric	
Accelerator	
RCI	
Stock Options	
Venture Capital firm	
Total	**€ 6.700.000**