ROBOTICS COMPANY ANALYSIS

OVERVIEW

In this group assignment, you will be doing a deep dive into a small or mid-sized robotics startup, with the goal of analyzing their business model, and presenting both a positive and negative case about their chances of success.

INSTRUCTIONS

This is intended to be a serious, deep look at the company you've selected, in the industry vertical you've selected. You'll have freedom to select a company that you are interested in learning about. I'm fine with you using a company that you've interned at, assuming it's in the assigned industry, and that you are aware of and respect any NDAs or other disclosure limits you're bound by because of your employment with them.

Your deliverable is a 20-minute presentation. **Each team member must contribute to the presentation and present a portion of the slides during class.** Your presentation must have the following major elements, and I've included things for you to think about and address in each section.

- **Company overview and background**. Who started the company? What are their backgrounds? What do you think of the composition of their leadership team vs. the goals of the company? How much funding have they raised? Where has it come from?
- **Primary Technology**. What is their technical secret sauce? How would you evaluate it in terms of appropriateness for the business model? Is it protectable? Do they have a real technical advantage of some kind?
- **Markets**. What markets are they addressing? Describe the markets they are addressing and what those markets look like. If you understand the concepts of Total Addressable Market (which you won't be taught until 16-698), feel free to provide an estimate of that – but it's not required.
- **Value Proposition**. What is the core value proposition? I'm really looking for that 'ah-ha!' nugget of insight as to why their business model makes or doesn't make sense. Do you believe their value proposition as stated? What do you think it really is, if not what the company states? Will it resonate with their primary customers?
- **Existing Traction**. Who are their current customers? Try to estimate customer base and / or revenue. What stage are they at? Paying customers? Free trials?
- **Competition**. Who is their competition? Be broad about this. Try to understand existing ways of doing things, entrenched competition, and other startups / new technologies that could be competition. Is the competition addressing the same markets? Analyze the strengths / weaknesses of your company against their competition.
- **Pro Argument:** What are the arguments that this company will ultimately succeed? I'm using a broad definition of success – i.e., continued growth, having a viable product / service, successful exit, etc.
- **Con Argument:** What are the arguments that this company will fail? Fail means going out of business / having a product or service that won't be adopted by their primary customers.
- **Conclusion:** Where do you come down on pro vs. con and why?

POINTS AND GRADING

This assignment is worth 200 points (1/3rd of your grade)

The rubric for this assignment is on canvas.

In addition, I'll be timing presentations. The goal is 20 minutes, and if you exceed 21 minutes, I'll be deducting points as follows:

- 21:00 to 22:59 over: 5% deduction.
- 23+ minutes over: 10% deduction

Practice your timing!!

Company Analysis Rubric

Criteria	Ratings		
Overview (20 points)	**10 to >8.0 pts** **Best** Does additional research (LinkedIn, etc) on founders, looks at background and success of funders, analyzes background of leadership team vs. what's needed to be successful.	**8 to >6.0 pts** **Better** Does additional research (LinkedIn, etc) on founders, and more analysis of funders and who they normally fund	**6 to >0 pts** **Poor to OK** Provides a basic background, as taken from company website
Technology (10 points)	**10 to >8.0 pts** **Best** Full analysis of technology - including comparing competitors' technology. Overview of what is protectable (either as patents or secrets), and whether the "secret sauce" matters for the application.	**8 to >6.0 pts** **Better** Technology overview with some comparison against competitor technology	**6 to >0 pts** **Poor to OK** Basic technology overview from website with minimal additional background or analysis
Markets (30 points)	**30 to >24.0 pts** **Best** Market analysis with an estimate of market size. Key assumptions documented. Analysis of why the company is / is not attractive to VCs	**24 to >18.0 pts** **Better** Includes analysis of target company's position in the market, barriers to entry and positive factors.	**18 to >0 pts** **Poor to OK** Basic market overview from website with minimal additional background or analysis

Criteria	Ratings		
Value Proposition (30 points)	**30 to >24.0 pts** **Best** Deeper analysis into value proposition. Include elements of their market segment and whether they offer value in that segment. Identify other possible segments they could address. Really looking for some insight into whether it's a novel proposition, or a copy of someone else.	**24 to >18.0 pts** **Better** Value proposition with a clear analysis of strength or weakness	**18 to >0 pts** **Poor to OK** Gives a value proposition with no analysis or discussion
Existing Traction (20 points)	**20 to >16.0 pts** **Best** Analysis of the validity of the traction, and how predictive they are of future customer adoption. I.e., answer the question of "does this traction matter?"	**16 to >12.0 pts** **Better** Analysis of the validity of the traction.	**12 to >0 pts** **Poor to OK** Provides a listing of customers/traction areas from publicly available sources
Competition (50 points)	**40 to >32.0 pts** **Best** Substantial competitor analysis, including their strengths and weaknesses relative to the target company. Which are the strongest competitors? What could the target company do to address competition? Really show you understand which competitors are the biggest threat, what they are doing that makes them a threat, and whether you think the target company is addressing that threat.	**32 to >24.0 pts** **Better** Competitor analysis that includes deeper analysis of competitor strengths and weaknesses.	**24 to >0 pts** **Poor to OK** Basic listing of competitors, with minimal analyses of strengths or weaknesses

Criteria	Ratings		
Pro Argument (10 points)	**10 to >8.0 pts** **Best** Pro argument with reasoning for each "pro" and why it matters and is potentially predictive of company success.	**8 to >6.0 pts** **Better** Pro argument with some level of justification or analysis	**6 to >0 pts** **Poor to OK** Provide a simple list of pro arguments, with no justification or analysis
Con Argument (10 points)	**10 to >8.0 pts** **Best** Con argument with reasoning for each "con" and why it actually matters and is potentially predictive of company success.	**8 to >6.0 pts** **Better** Con argument with some level of justification or analysis	**6 to >0 pts** **Poor to OK** Provide a simple list of con arguments, with no justification or analysis
Conclusion (20 points)	**20 to >16.0 pts** **Best** A thoughtful argument on whether Pro or Con is stronger. Recommendations on what company should be doing - based on your analysis of business model, market segments, and competitor analysis.	**16 to >12.0 pts** **Better** Some level of analysis on pro vs. con	**12 to >0 pts** **Poor to OK** A basic "I think pro/con" will come out ahead, with minimal analysis as to why.

Total Points: 200

Here's some tips on how to complete this assignment:

Company Overview and Background

- Search Crunchbase for funding history, investors, and basic company timeline
- Review LinkedIn profiles of founders and key executives
- Check company press releases and news articles (TechCrunch, Reuters, etc.)
- Look for founder interviews or conference presentations on YouTube

Primary Technology

- Review the company's patents (Google Patents search)
- Read technical blog posts on company website
- Search for technical conference presentations or papers by company engineers
- Compare technical approaches to similar solutions in the market

Markets and Value Proposition

- Identify customer "pain points" the company is solving. What's the big problem they're addressing?
- Find customer testimonials or case studies on company website
- Look for trade show demonstrations or product launches
- Search industry reports for market size estimates (you have access to Robotics Business Review and other industry trade reports through CMU libraries)
- Review competitor websites to understand how they describe the same market

Existing Traction

- Look for customer logos on the company website
- Search for press releases announcing customer wins
- Check job postings for hints about growth and expansion
- Google "[Company Name] [pilot/field] trials"

Competition Analysis

- Start broad: How do customers solve this problem today?
- Search "[Company Name] vs" on Google to find competitors
- Review "similar companies" on Crunchbase
- Check industry analyst reports if you can find any through CMU libraries
- Look at which companies attend the same trade shows

Pro/Con Analysis

- Consider market timing - why now?
- Evaluate team strengths relative to the challenge – do they have the right people?
- Look for revenue or customer growth indicators
- Assess technical differentiation
- Consider market size and growth potential
- Look for adoption barriers or market resistance (things that will make it hard for them to enter the market they're trying to enter)

General Tips

- Try to reach out to people at the company (manager-level and above) via LinkedIn. For smaller companies, try CEOs or other C-level executives. For larger companies, look for product or division leads.
- Set up Google Alerts for company and competitor news
- Use Wayback Machine to see how company messaging has evolved
- Check social media (Twitter, LinkedIn) for company updates
- Look for employee reviews on Glassdoor
- Search YouTube for product demos and presentations
- Review regulatory filings if applicable