

Thematic Analysis

David Lee | TIM 175

Today

- Finish course logistics
- More on thematic analysis and HW I
- Upcoming deliverables
- Homework I (individual) due SATURDAY at 11:59pm,

Course Logistics

Wk	Lectures and Sections (canvas , recordings , slides)			Assignments (due 11:59pm)	Readings or Videos
	BACKGROUND CONTEXT				
1	4/1	T	Lecture. Course intro, business strategy, gen ai, thematic analysis	Intro survey	A generative AI reset, McKinsey Quarterly
		Th	Lecture/Studio. More on the course structure, homework walkthrough		How to Do a Thematic Analysis of User Interviews, Ditte Hvas Mortensen, Interaction Design Foundation
		Sa		Lab 1 indiv	Michael Porter's Three Great Strategy Contributions, Roger Martin
		M	Section. Preliminaries and connections - (30 mins) Section-wide community-building - (15 mins) Connect with teams - (20 mins) Get setup / technical issues ironed out		
	PROJECT 1: DESIGNING PROMPTS FOR THEMATIC ANALYSIS				
2	4/8	T	Lecture. Prompt engineering : zero shot, few shot, chain of thought	Prelab 2	Prompt design strategies, Google Prompt engineering, OpenAI Prompting techniques
		Th	Studio. Task overview and prompt engineering lab walkthrough		Introduction to Vertex AI Studio, Google Cloud (can skip multi-modal portion from 5:18 to 13:00)
		Sa		Lab 2 indiv	Prompt engineering for small businesses, Adobe
		M	Section. Feedback and team submission - (15 mins) Staff raise major issues observed - (15 mins) Detailed peer review (A -> B -> C -> D -> A) - (35 mins) Work on team submission: turn in a single final version plus a synthesis of the detailed peer review and improvements	Lab 2 team	
3	4/15	T	Lecture. Prompt evaluation : defining metrics, LLM-as-a-judge	Prelab 3	Deploying an application with Generative AI best practices LLM-as-a-judge: a complete guide to using LLMs
		Th	Studio. Task overview and prompt evaluation lab walkthrough		LastMile AutoEval
		Sa		Lab 3 indiv	
		M	Section. Feedback and team submission [same rhythm as week 2]	Lab 3 team	
4	4/22	T	Lecture. Prompt workflows : micro-tasks, APIs	Prelab 4	Concept Induction: Analyzing Unstructured Text with High-Level Concepts Using LLoM
		Th	Studio. Task overview and prompt workflow lab walkthrough		
		Sa		Lab 4 indiv	
		M	Section. Feedback and team submission [same rhythm as week 2]	Lab 4 team	
5	4/29	T	Lecture. LLM website generation : visualize data/concepts	Prelab 5	TBD
		Th	Studio. Task overview and generate demos lab walkthrough	Lab 5 indiv	
		Sa			
		M	Section. Work on team submission for final demo (two demos ok too)	Lab 5 team	
	ASSESSMENT WEEK				
6	5/6	T	Lecture. Describe assessment task, begin task, submit initial thoughts and partial progress at the end of the class, continue at home		
		Th	<i>[David at Consortium]</i> Presentations: Watch Week 5 demos and vote on top ideas	Assessment week submission	
		Sa			
		M	NO SECTION, take a break :)		

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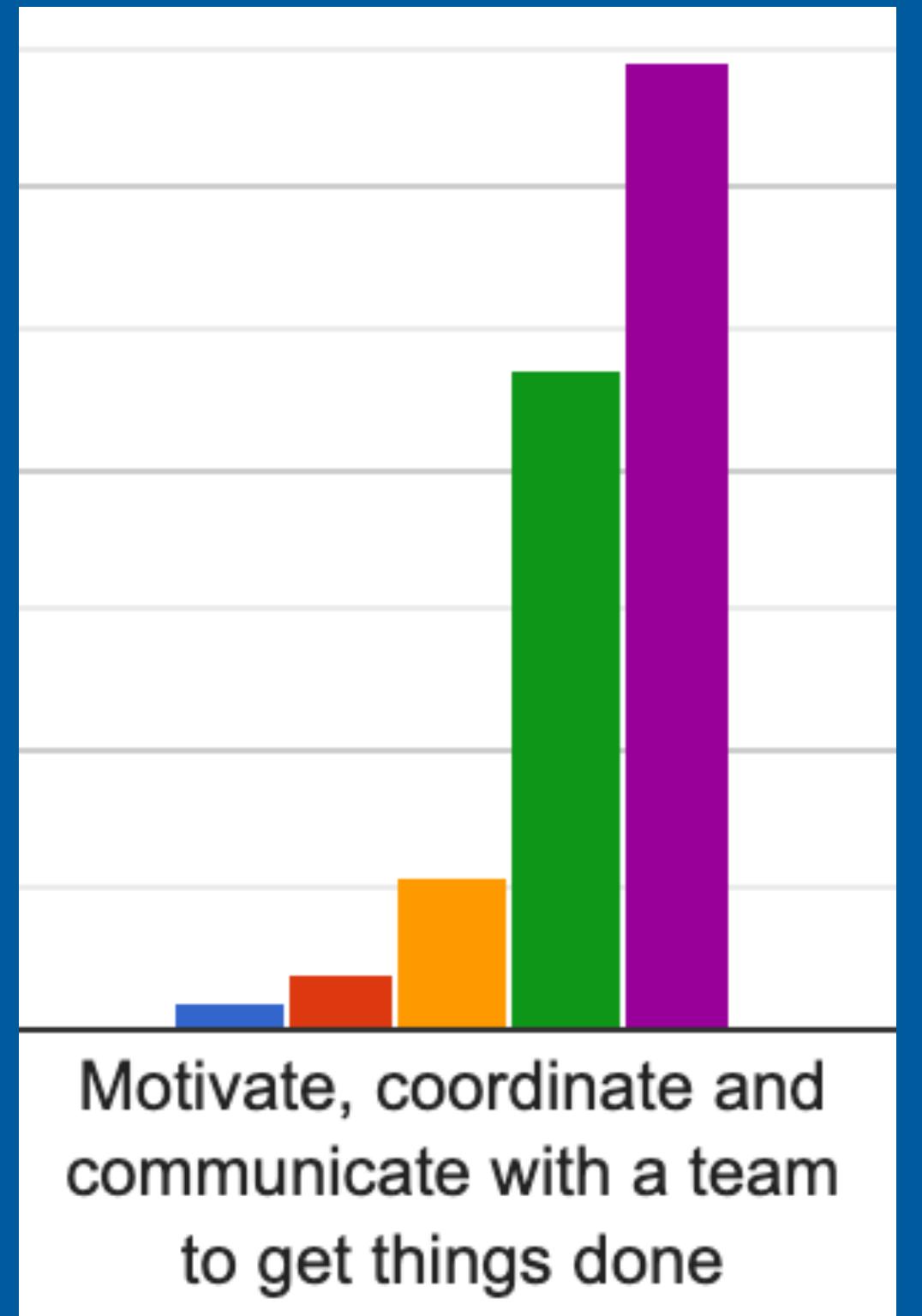
	A	B	C	D	E	F	G	
1	If your name is highlighted, it means we have moved you to a different section from the section you registered in (using your survey response)							
2	Student Name	Assigned Section	Team	Lead	Section Location	Staff	Weekly Check-in	
3	Christopher Carlstrom	Monday 1:20-2:25pm	1	Porter Acad 144	Jasmine Fortez			
4	Lana Maronesy	Monday 1:20-2:25pm	1	Porter Acad 144	Jasmine Fortez			
5	Isaiah Bamishaye	Monday 1:20-2:25pm	1	Porter Acad 144	Jasmine Fortez			
6	Amador Lopez	Monday 1:20-2:25pm	1	Porter Acad 144	Jasmine Fortez			
7	Avichai Cooper	Monday 1:20-2:25pm	1	Porter Acad 144	Jasmine Fortez			
8	Jasper Jones	Monday 1:20-2:25pm	2	Porter Acad 144	Jasmine Fortez			
9	Nebiy Giday	Monday 1:20-2:25pm	2	Porter Acad 144	Jasmine Fortez			
10	Ian Crisostomo	Monday 1:20-2:25pm	2	Porter Acad 144	Jasmine Fortez			
11	Harshada Palanikkumar	Monday 1:20-2:25pm	2	Porter Acad 144	Jasmine Fortez			
12	Pranav Sharma	Monday 1:20-2:25pm	2	Porter Acad 144	Jasmine Fortez			
13	Oscar Amgalanbat	Monday 1:20-2:25pm	3	Porter Acad 144	Jasmine Fortez			
14	Archita Rajesh	Monday 1:20-2:25pm	3	Porter Acad 144	Jasmine Fortez			
15	Blake Otto	Monday 1:20-2:25pm	3	Porter Acad 144	Jasmine Fortez			
16	Ronitt Katkoria	Monday 1:20-2:25pm	3	Porter Acad 144	Jasmine Fortez			
17	Amaya Caldito	Monday 1:20-2:25pm	3	Porter Acad 144	Jasmine Fortez			
18	Derek Simpson	Monday 1:20-2:25pm	4	Porter Acad 144	Jasmine Fortez			
19	Eric Lam	Monday 1:20-2:25pm	4	Porter Acad 144	Jasmine Fortez			
20	Dan Qu	Monday 1:20-2:25pm	4	Porter Acad 144	Jasmine Fortez			
21	Eric Lee	Monday 1:20-2:25pm	4	Porter Acad 144	Jasmine Fortez			
22	Violeta Solorio	Monday 1:20-2:25pm	4	Porter Acad 144	Jasmine Fortez			
23	Jahnvi Reddy	Monday 1:20-2:25pm	5	Porter Acad 144	Aidan Ladenburg			
24	Sumaya Mohamednur	Monday 1:20-2:25pm	5	Porter Acad 144	Aidan Ladenburg			
25	Isys Lam	Monday 1:20-2:25pm	5	Porter Acad 144	Aidan Ladenburg			
26	Vivian Nguyen	Monday 1:20-2:25pm	5	Porter Acad 144	Aidan Ladenburg			
27	Amrit Dhillon	Monday 1:20-2:25pm	5	Porter Acad 144	Aidan Ladenburg			
28	Krish Shah	Monday 1:20-2:25pm	6	Porter Acad 144	Aidan Ladenburg			
29	Sarayu Kocharlakota	Monday 1:20-2:25pm	6	Porter Acad 144	Aidan Ladenburg			
30	Sona Nair	Monday 1:20-2:25pm	6	Porter Acad 144	Aidan Ladenburg			

Check your
assigned
section and
team

Teamwork

The biggest thing people don't like about project-based courses is when other team members don't pull their weight

- You will have to deal with those situations in the workplace
- We'll provide some structure for working with a team
- Consider stepping up to lead in organizing and communicating



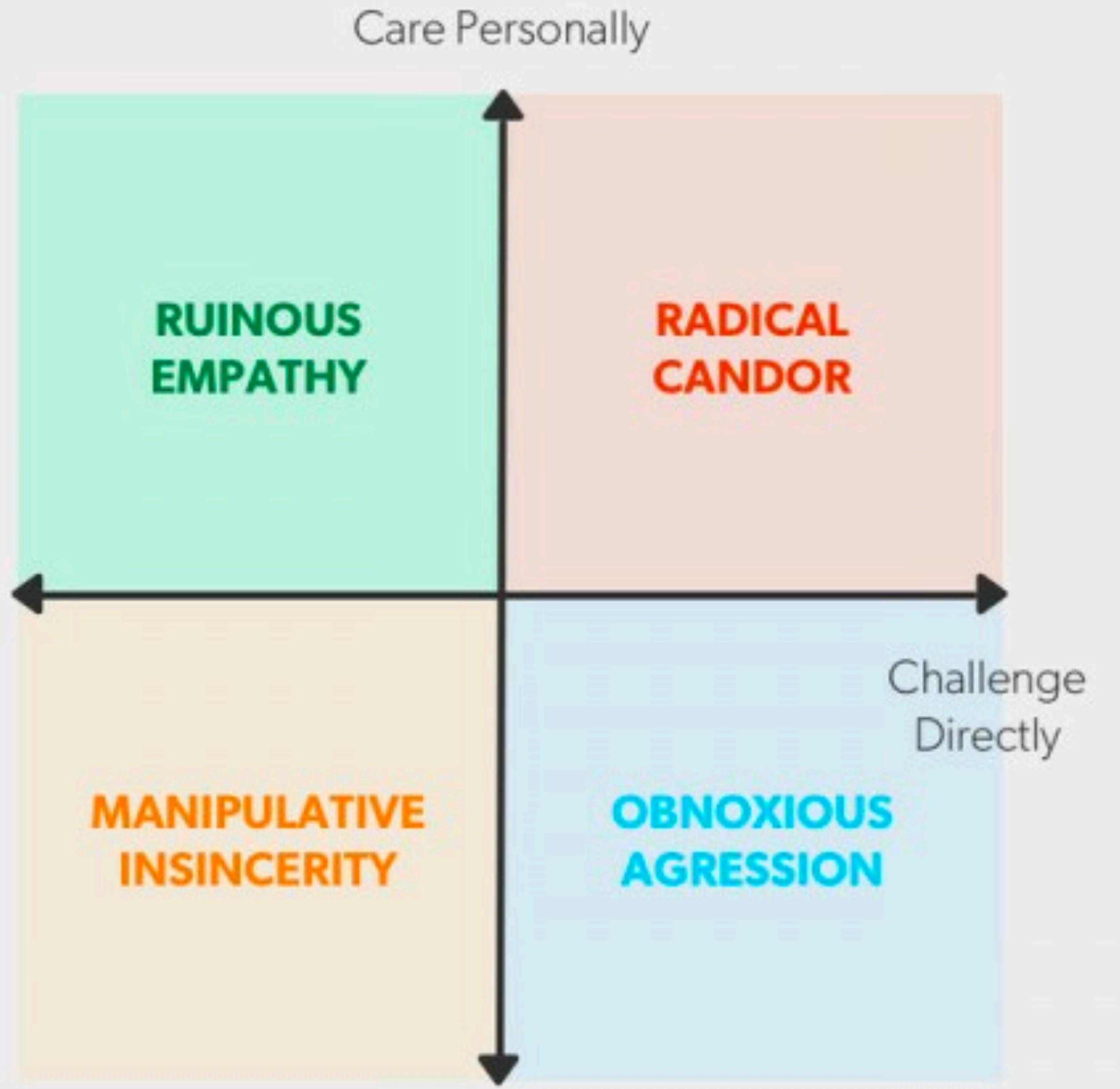
It looks like you guys already have the ability to handle this!

What we're providing

- Clear individual tasks, deadlines and grades
- Mandatory sections for guaranteed face-time
 - These are work sessions for your team, the tutors are just there to support you and check-in (plus brief comments on indiv deliverables)
- Clear penalties for non-contribution
 - If you don't contribute, your team grade = $75\% * \min(\text{individual grade}, \text{team grade})$
 - Consistent non-contributors will get a 0 on peer evaluation grade

What you need to do

- Have the hard conversations early
 - Learn to communicate emotions and to give direct feedback
 - Be intentional about your team culture and expectations
- Honestly mark non-contribution
 - Some teams never mark non-contributors and then complain at the middle/end of the quarter that there's been a pattern of non-contribution...
- Be proactive in organizing and communicating



Kim Scott



Grading

Individual deliverables

- Graded Check+, Check, Check-, Minus+, Minus
 - Check+ (102): outstanding, one of the best in the class
 - Check (95): high quality, though not one of the best
 - Check- (80): completed the work, but needs improvement
 - Minus+ (40): low quality or missing significant portions
 - Minus (0): did not do the work or barely did any work

Late policy

- Automatic extensions for active contributors and engaged teams, 90% after that, 0% after next session (this is when we sometimes may discuss the submission)

	Due	Automatic extension (for active contributors)	90% by this deadline (0% afterwards)
Prelab	Tuesday 11:59pm	Wednesday 11:59pm	Before Thursday lecture
Lab (individual)	Saturday 11:59pm	Sunday 11:59pm	Before Monday section
Lab (team)	Monday 11:59pm	Tuesday 11:59pm	Before Tuesday lecture

Quizzes

- I may add quizzes if lecture attendance is poor and affecting assignment quality
- If I do, it will be easy (mainly to check attendance and that you're following along with core ideas)

Accommodations for special needs

- You have one excused section attendance
 - Can be used for physical health, mental health, family circumstances, etc.
- You have one excused prelab
- For Lab 8 in Week 10, we will have opportunities for extra credit to make up assignments you did but got a low score on or special circumstances
- If you have a long-running sickness or other situation:
 - Consider taking a leave of absence and taking the course another quarter
 - Talk to me about taking an Incomplete

Grade breakdown

- 10% Participation
 - Section attendance and engagement (or quizzes if we add them)
 - Intro survey and submitting peer evaluations (mid-quarter and end-of-quarter)
- 20% Prelabs (individual)
- 30% Labs (individual), including HW 1 and HW 8
- 20% Labs (team), including final team deliverable
- 10% Peer evaluation (5% per project)
- 10% Assessment week assignment (individual)

Feedback and support

Staff support

- Every team is assigned to a specific group tutor
 - They will be at your in-person sections (along with one other tutor)
 - 1-2 sentences feedback on individual submissions
 - Detailed feedback on team submissions through the rubric
 - **20-minute meeting outside of section** with each team for: (1) discussing feedback they have for you, (2) facilitating conversations about team dynamics if they're hearing complaints, and (3) answering questions students have about anything.
- Office hours (via Zoom) have been posted on Canvas
 - Kehua Lei (Thursday 12-1pm), David Lee (Thursday 5-6pm), Hayat Malik (Friday 3-4pm)
- Many Thursdays, I will briefly discuss Prelab and give time to work on and discuss Lab

Who to ask for help

- If it's not a personal question, ask on Slack **in the public #course-questions channel** where others can benefit from the answers too
 - If you send a DM / email, we will ask you to resend it
- As Kehua (TA) for course logistics, Hayat (TA) for homework / content-related questions
- Ask your assigned group tutor for feedback on your specific work (team or individual)

Reflect on the assignment and course so far

To what extent do you agree or disagree with the following statements about your * experience in the course

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I am enjoying the course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am motivated for the course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel stressed in the course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can do the work of the course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am getting the mentorship needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you agree or disagree that you are proficient in your ability to... *

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Analyze qualitative interviews to identify insights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advise organizations on ways they can use generative AI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What did you like or find helpful in the assignment?

Your answer

What did you dislike or find unhelpful / think should be improved?

Your answer

Roughly how many hours did the assignment take for this individual portion of the assignment?

This will help us ensure a manageable workload (for an upper-div capstone course) while also delivering a high-quality project

Short answer text

On Tuesday

This year, our focus in the class is on

**Learning to use generative
AI within organizations**

Two mini-projects

- **Weeks 2-5:** extract and synthesize podcast themes to share career insights and support exploration
- **Weeks 7-9:** develop a career Q&A experience with responses grounded in podcast insights and stories



*Anything that helps you get
from mission to activities*

strategic roadmap

strategic positioning

guiding principles

Strategy is creating something
unique and different

That gives you a sustainable
advantage over competitors



Customer Intimacy

Marketing

Industrywide

—
Particular
Segment Only

Product Leadership

Product

Uniqueness Perceived
by the Customer

Operational Excellence

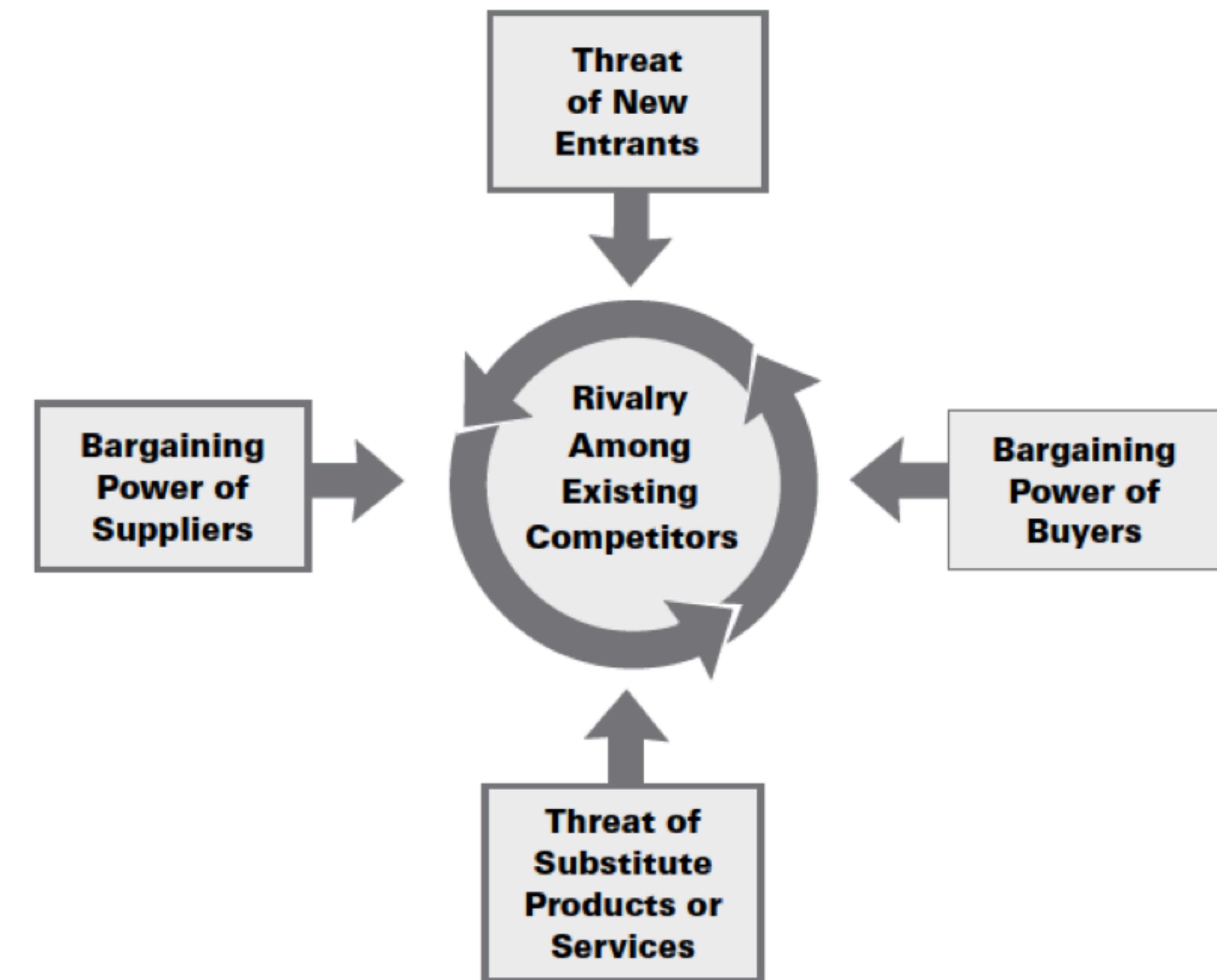
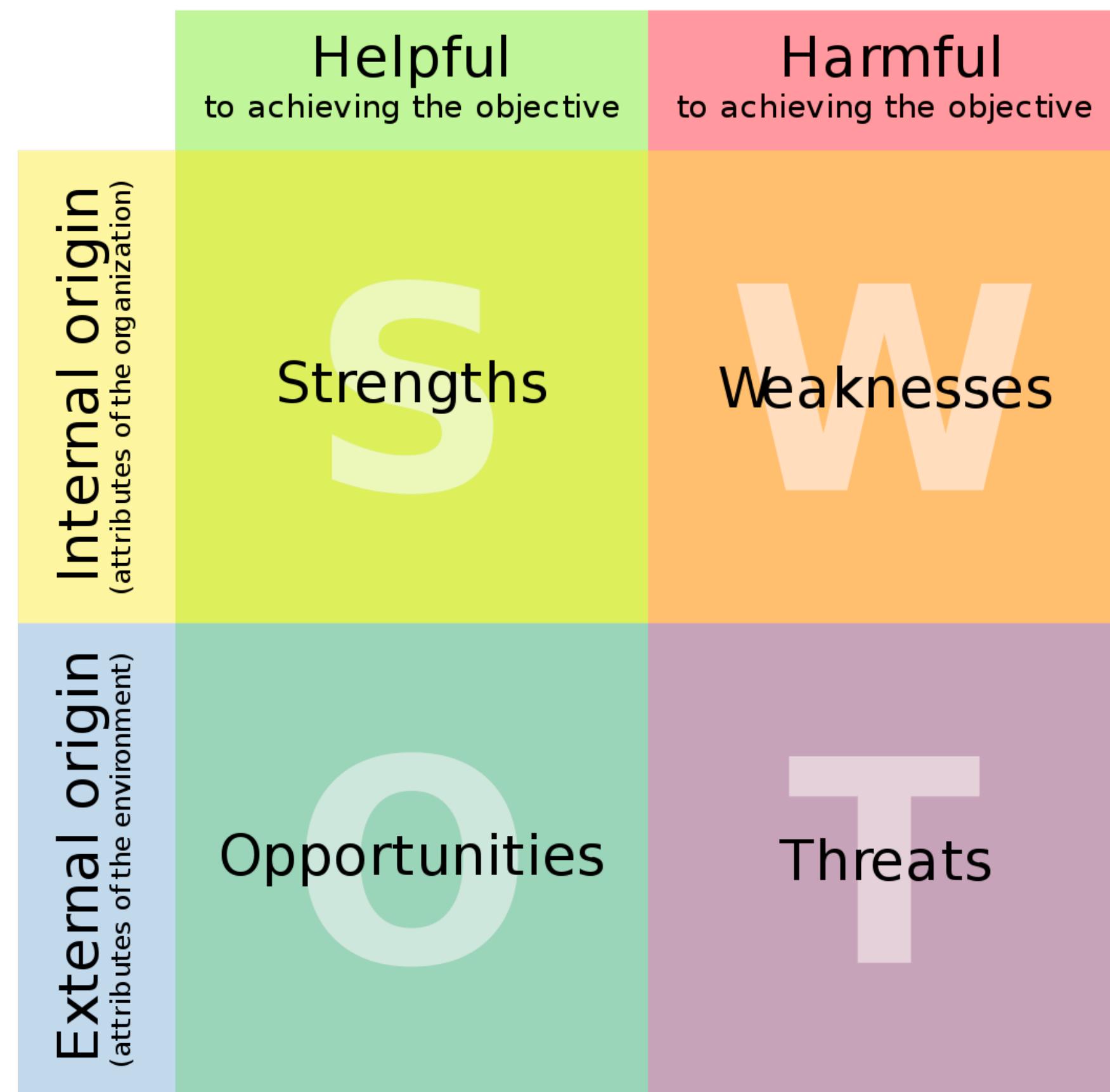
Operations

Low Cost Position

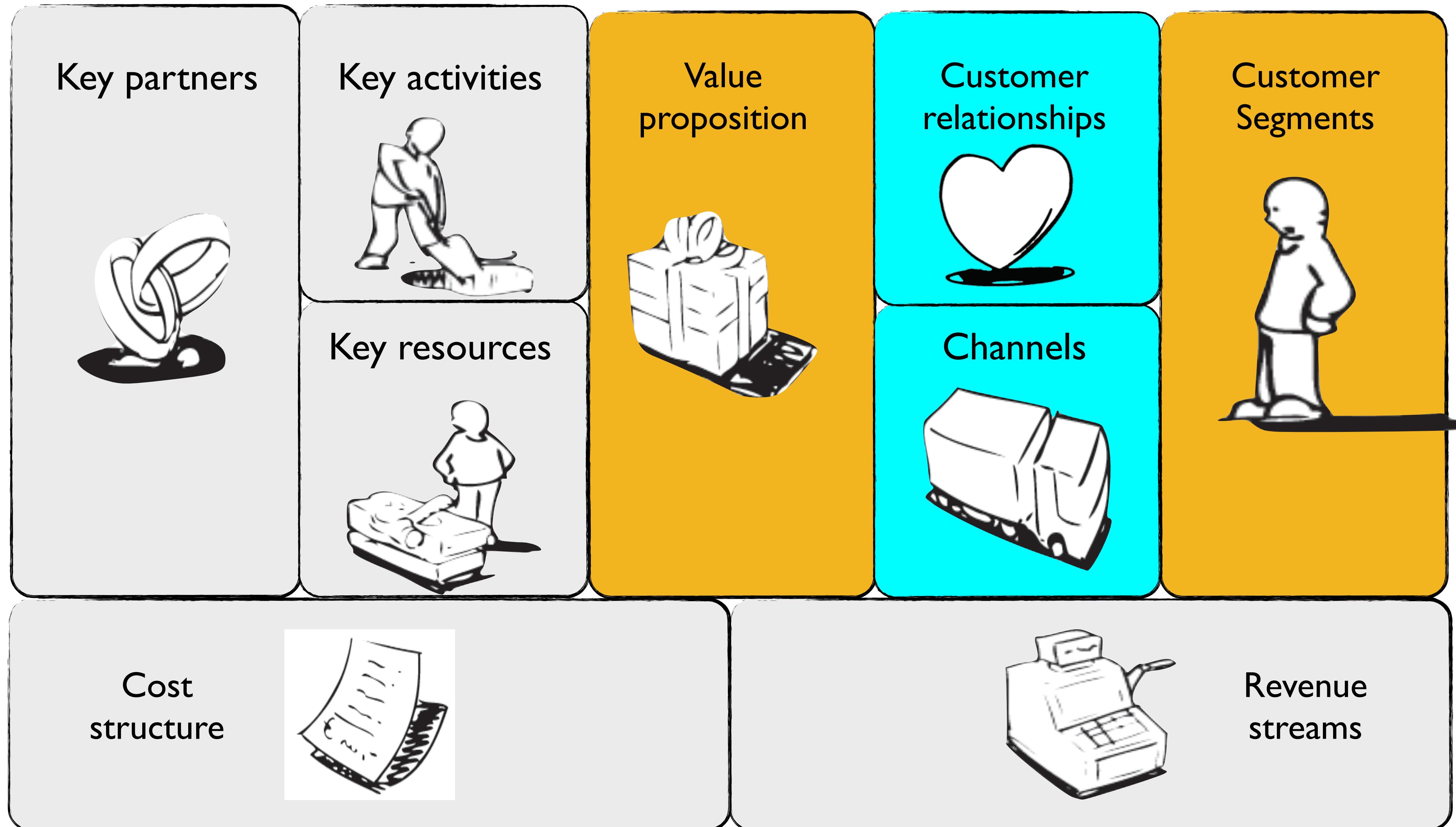
DIFFERENTIATION

OVERALL
COST LEADERSHIP

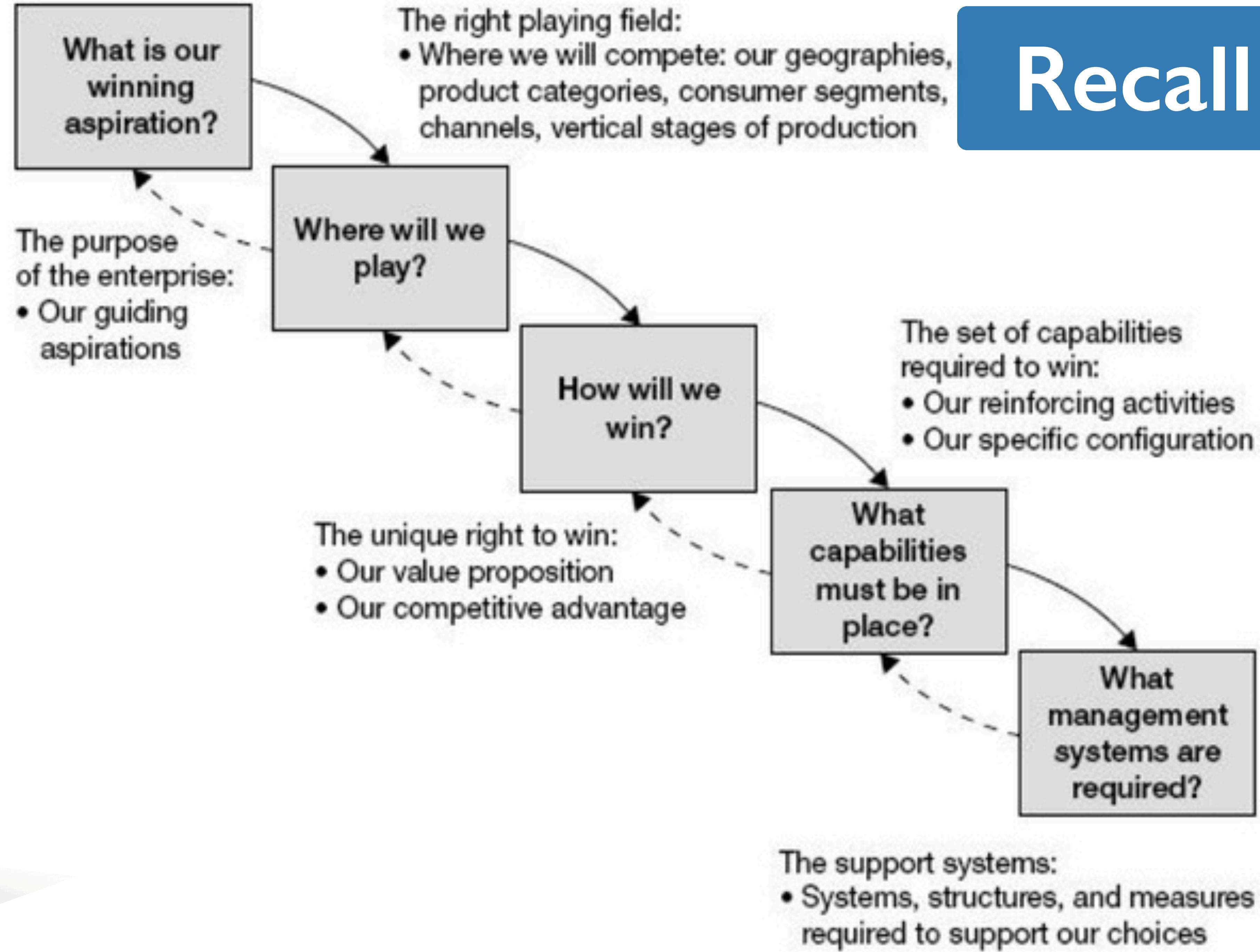
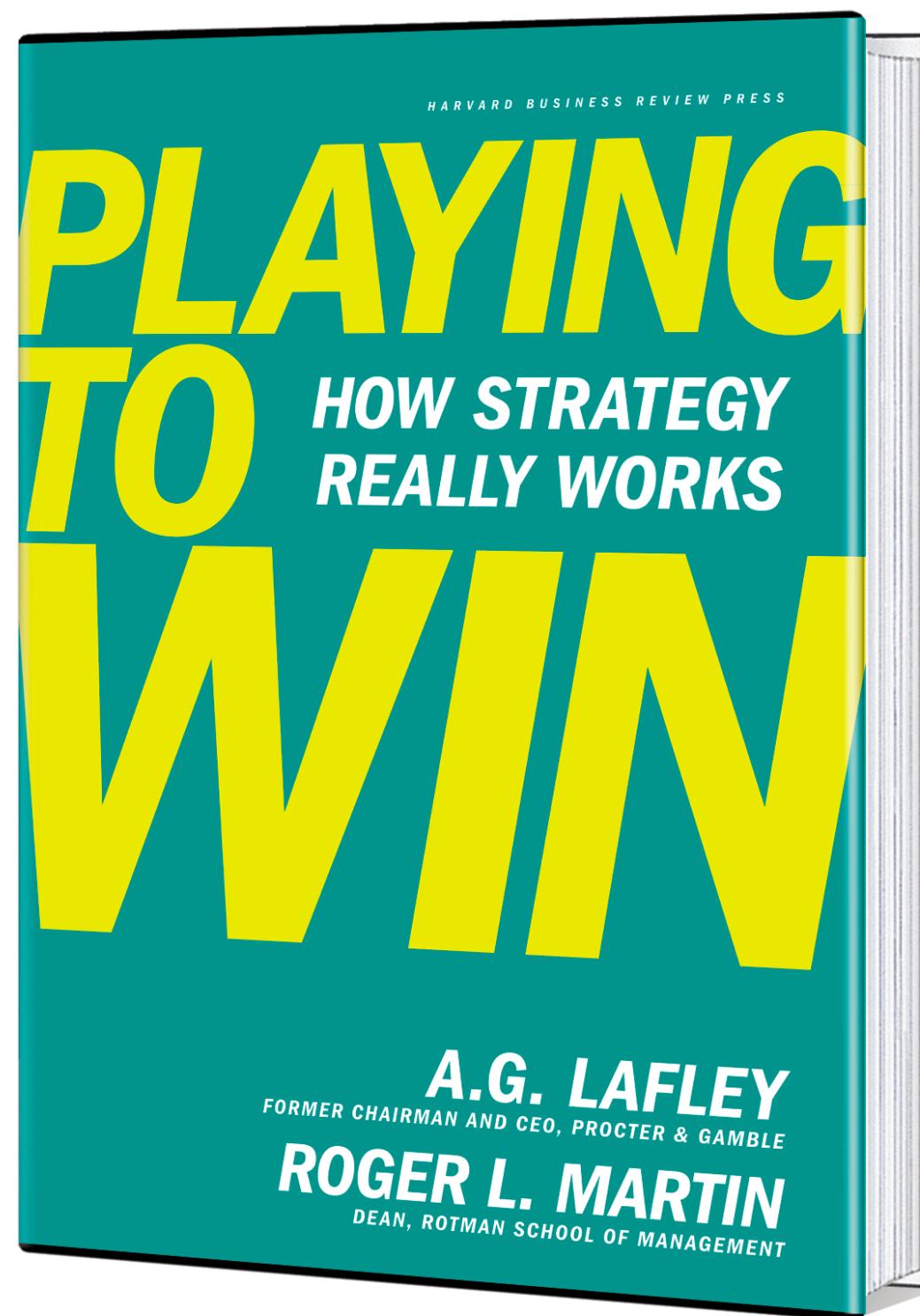
FOCUS



Business Model Canvas



Recall



Thematic analysis and HW I walkthrough

Week I is particularly intense, but will get better (*but also remember, this is an upper-div capstone course*)

Agenda

- Initial coding
 - Lecture + walk through homework
 - 15 minutes to begin + 5 minutes discussion and Q&A
- Theme creation
 - Lecture + walk through homework
 - 15 minutes to begin + 5 minutes discussion and Q&A
- Writing narrative
 - Lecture + walk through homework

Ask → [Collect → Organize → Analyze] → Theory



Question

What career insights, perspectives or tips do professionals have that might be helpful for a young person who is just beginning their career journey?

Initial coding

Make a copy of the podcast transcripts and review the research question. You will be doing thematic analysis for the following two What-To-Be podcast episodes, whose transcripts are linked to below.

Make a digital copy of these transcripts so that you can easily annotate them:

- [!\[\]\(d257b6c8528eb7f0e396ffe01c4f6799_img.jpg\) 078_Kayla Baumgardner Firefighter Paramedic](#)
- [!\[\]\(f9108160801447942436f622c25765d1_img.jpg\) 084_Lauren DelCarlo_CaliforniaHigh PatrolOfficer](#)

You will be looking to answer or share insights around the research question:

“What career insights, perspectives or tips do professionals have that might be helpful for a young person who is just beginning their career journey?”

members of the Art Center, something similar to open studios, because it's hard to get the traffic because people feel like we're so far away. And we're not as well known as we would hope to be.

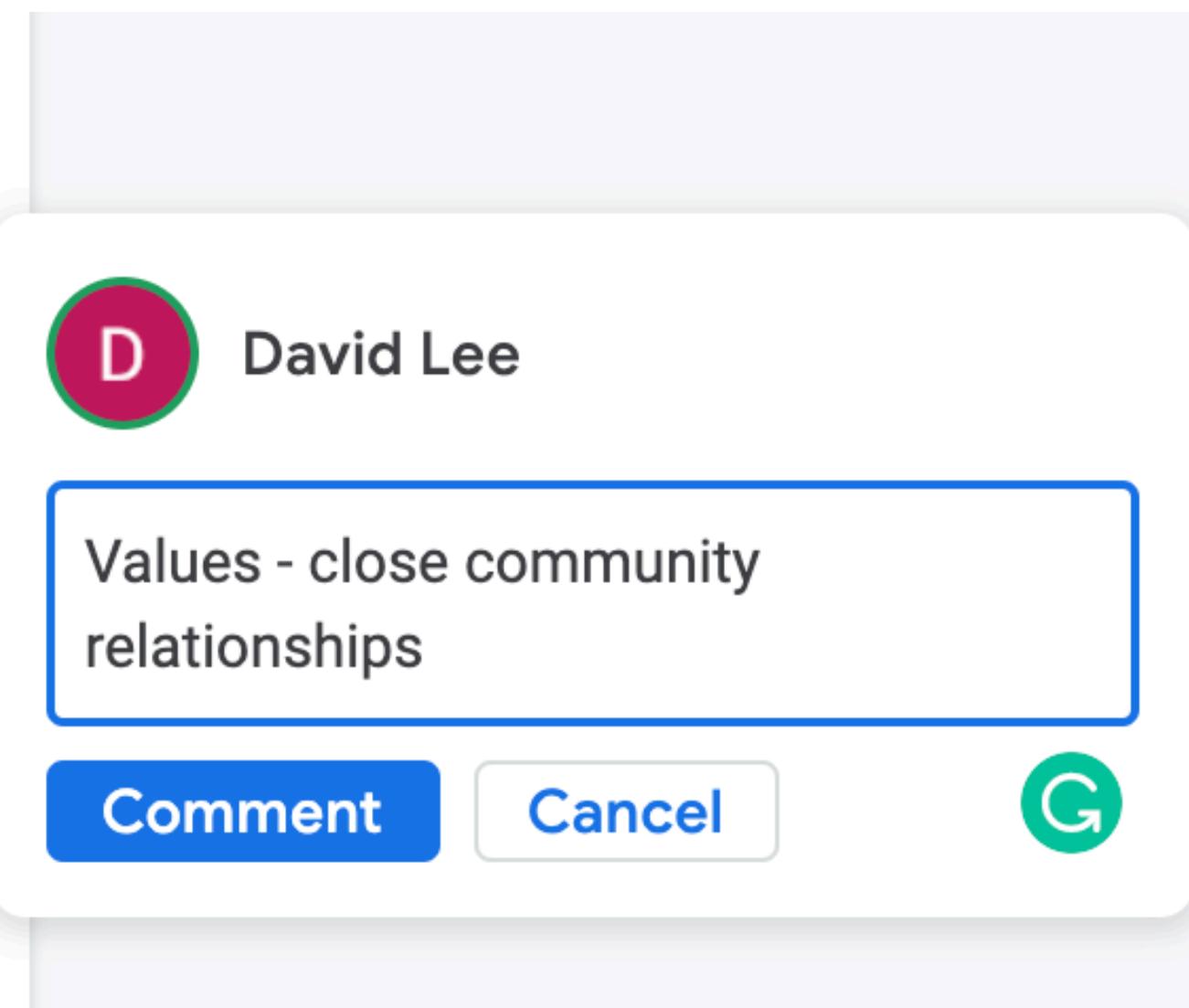
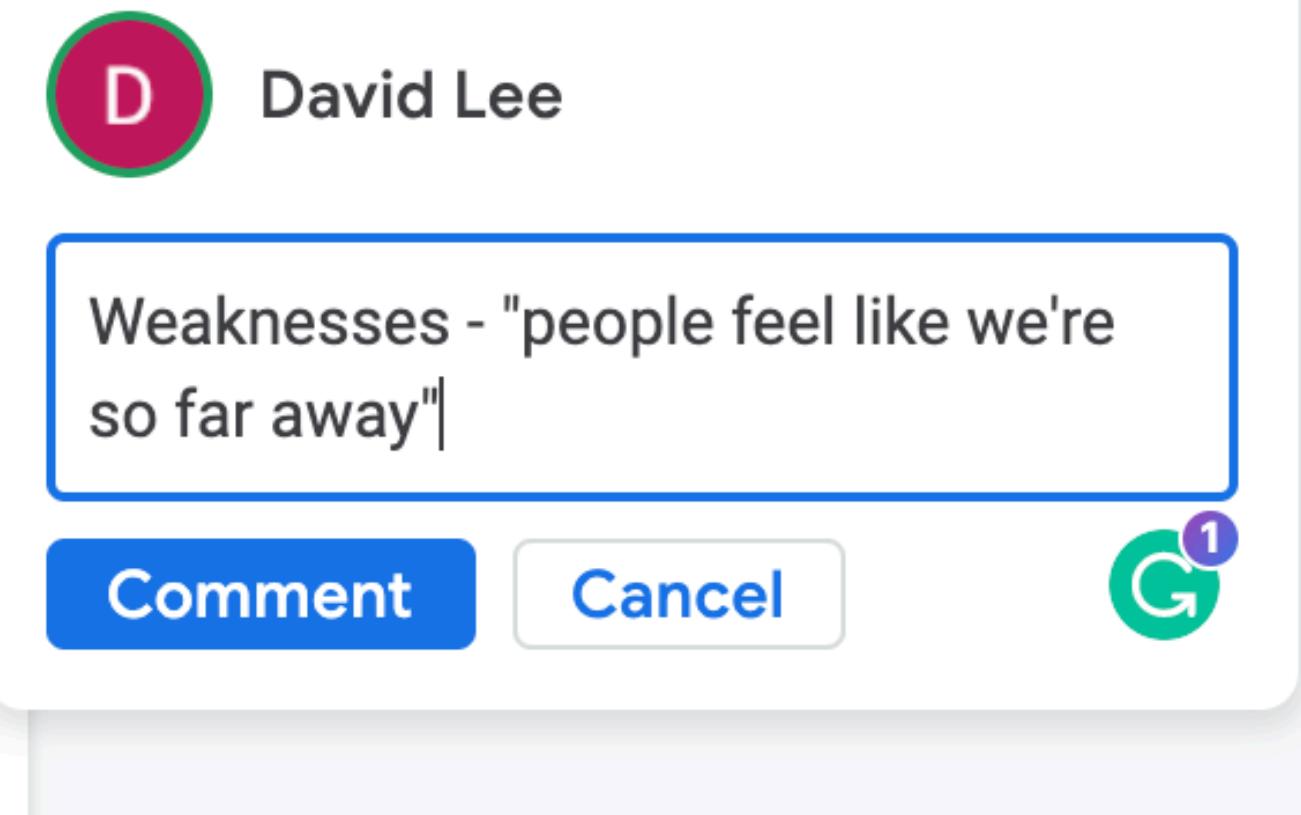
David Lee 15:19
Yeah, yeah.

Tina 15:19
You know that I think that's the biggest, to me, that's the most troublesome is to try to get it out there, the advertising, the encouragement for more people to come and see us.

Chris 39:44
Yeah, so it was like, all of these things going on. And she says, 'I've got this house, nobody's staying there. I'll tell you where the key is help yourself.' And I did. I lived there for about a week and a half until she came back from Oregon. And then somebody offered me another place. And I stayed until I could come home. But um, but you know, people just do stuff like that, you know, we get to know each other, she had taken my class a bunch of times, because she worked. And it was, you know, the time was such that she could take it.

David Lee 40:18
Yeah.

Chris 40:18



Note: only annotate interviewee text!

Do initial coding of the two transcripts to produce codes / themes. Starting one transcript at a time, read through your interviews and use Google Doc's commenting feature to add codes / themes relevant to the research question.

- As you add themes, you may want to begin grouping them together into categories or higher-level/lower-level themes so that you can begin to see the structure
- You should code everything that you observe as relevant to the research question
- Be particularly attentive to any quotes that are particularly salient, evocative, or essence-capturing, i.e. quotes that really make something come to life and help bring people into a scenario or the context. When you communicate your findings, you'll want to use these particularly evocative quotes.

What is high-quality work?

- Annotation
 - Thorough and detail-oriented
 - Understands RQ and context of passages
 - Codes are phrased in a way that supports analysis
 - Add notes as you have analytic reflections or notice particularly evocative / essence-capturing quotes

Work on initial coding
for 10-15 minutes

Theme creation



Search | Back | Forward | 100% | \$ % .0 .00 | Default... | - | 9 | + | B | I | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

D20

	A	B	C	D
1	Add a row for each annotation you made on the raw survey/interviews. The actual quoted text should go in the fourth column and include the interviewee, e.g. "(Interview) Quote Text", and the initial code/theme you wrote should go in the third column. The first and second column can be used to group observations into higher-level themes and subthemes. In both columns one and two, you can either enter new text or select from themes/subthemes/codes you've used earlier. Make sure to cluster together quotes that have the same theme/subtheme.			
2	Larger category/theme(s)	Subtheme	Initial code / theme	Quote
3	Higher-level theme 1	Subtheme 1 in Theme 1	Initial code / theme	(Interviewee) Quote Text
4		Subtheme 2 in Theme 1	Initial code / theme	(Interviewee) Quote Text
5		Subtheme 2 in Theme 1	Initial code / theme	(Interviewee) Quote Text
6		Theme 3 in Theme 1	Initial code / theme	(Interviewee) Quote Text
7	Higher-level theme 2	Theme 4 in Theme 2	Initial code / theme	(Interviewee) Quote Text
8		Theme 4 in Theme 2	Initial code / theme	(Interviewee) Quote Text
9		Theme 4 in Theme 2	Initial code / theme	(Interviewee) Quote Text
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Add

1000

more rows at the bottom

Copy codes/themes and quotes into a spreadsheet. Make a copy of the [themes and codes spreadsheet template](#) for organizing your observations. The template has one editable tab: "All Quotes".

- Transfer all the annotations you made in the transcript to the "All Quotes" tab, with each annotation corresponding to one row. If you added multiple codes/themes for a single quote, you should add multiple corresponding rows for that quote,
- The *actual quoted text* should go in the fourth column and include the interviewee name, e.g. "(Interviewee) Quote Text",
- The *initial code/theme* you wrote should go in the third column,
- Leave the first and second columns blank for now. Those will be where you can write higher-level themes/subthemes.

Organize your set of themes into higher-level themes. Now reflect on your initial codes / themes and reorganize or combine them together into higher-level themes or subthemes so that you can more clearly see the ‘shape’ of your data

- In both columns one and two of the spreadsheet, you can either enter new text or select from themes/subthemes you've used earlier
- Drag-and-drop rows to cluster together quotes that have the same theme/subtheme,
- If you read and followed the “Pro Tips” above, your annotations already reflect partial work trying to categorize your annotations and make sense of the higher-level structure.
- Make your best attempt at categorizing ALL the quotes you annotated into themes or subthemes. It is completely OK if a particular subtheme only has a single quote if you think it might illustrate something that we might find in additional future interviews (since you have only annotated a few transcripts from people in different roles).

Your themes and subthemes should be:

- **coherent**, i.e. quotes for a given theme should represent / support the same observation,
- **distinct**, i.e. it should be clear when a quote belongs in one theme versus another, and
- **grounded**, i.e. the themes should be grounded in the quotes (given your best interpretation of the quote given the context),

Create a table of your themes. Make a copy of the [thematic analysis summary and narrative Google Doc](#). Create a table representing your 1) themes, 2) subthemes, and 3) one illustrative quote per subtheme.

- Choose quotes that are the most evocative, salient, or essence-capturing, or that are most effective at illustrating, showing context, and providing nuance and insight to present a rich picture for readers
- Quotes that I would not use to illustrate the theme are those that: (1) simply state the theme, or (2) are an abstract assessment/judgment of what others *might* think rather than something based on their own experience (it's a lot less interesting to have a quote saying, “I think other teachers experience this problem” compared to someone saying, “I personally observed this for my students when...”).

What is high-quality work?

- Theme creation and theme table
 - Organization reveals the “shape of the data”
 - Themes are distinct, coherent, and grounded
 - Themes phrased in a way that conveys the ideas
 - Detail-oriented precision in inclusion of quotes
 - Selected quotes are rich, evocative, essence-capturing

Recall

Code Name
W1

Quotes

REASONS THEY JOINED

Difficulties in traditional career search

At the time I joined I didn't have a job and I wasn't having success in the job search so I wanted to try and at least make some money while I continued to look for a job.

Monetary - Money to support career search

Pretty soon after, I realized I could probably make more money on MTurk than I would be able to at the jobs I was applying for and was qualified for.

Monetary - "Making pretty decent money on the site"

TASK CHOICE

Hourly wage is the top priority: "I will do almost anything"

I mostly do these tasks because they earn me the highest hourly wage and they're not very aggravating or frustrating to do for me personally.

Maximize hourly wage

I mostly do these tasks because they earn me the highest hourly wage and they're not very aggravating or frustrating to do for me personally.

Avoid frustrating tasks

The rejection rate of the requester and how clear the instructions are for the task are also some minor priorities to consider.

Avoid bad requesters - rejection rate

I don't like to do certain tasks that require writing about personal life experiences, or rating faces, as some examples.

Avoid personally invasive tasks

The rejection rate of the requester and how clear the instructions are for the task are also some minor priorities to consider.

Avoid frustrating tasks - clarity of task instructions

CHARACTERISTICS OF WORKING ON MTURK

Low benefits - Per task payment is low

The hourly wage is the most important factor by far. I don't want to waste my time on something only to earn \$8/hr, even if the actual wage is high (\$5+), because it feels exploitative and annoying.

Low benefits - Many tasks on platform below min wage

The relationships with requesters come from submitting a lot of (hopefully) quality work for them and occasionally emailing them with questions about the work, although I usually don't do that so these are pretty limited relationships.

Power dynamics - strong focus on pleasing requester

I've asked requesters to help clarify instructions on tasks so that I can fine tune my work to what they're looking for.

All consuming - "pretty much the entire day"

It's pretty simple, I don't have many life priorities, so I try to work on MTurk as much as possible really....the really lucrative ones at that point.

Recall

Example: “What are the perceived benefits and limitations of social media-based #DayInTheLife videos for supporting youth career exploration?”

Theme	Subtheme	Illustrative Quote
Benefits for career identity formation	Provides firsthand depiction of how their life works	Yeah, usually like, since they give kind of like a more personal like picture of what's going on? Like usually I use those videos to kind of like understand, like, what would I be getting myself into, like, if I want to pursue it?
	Facilitates reflection, reaffirmation, and reevaluation of goals	But I think like watching these videos, kind of reaffirms that sense, if that makes sense. Like, oh, coz like, I'm still thinking like, what I want to do post grad. And sort of like, I don't know, it's kind of nice to have, like, some reinforcement on what I think are potential paths for me.
Benefits for behavior change	Reduces barriers through causal, digestible formats	It is a one minute max video. So it's not like it's too much of a commitment. It's just you watch the video and you kind of like, get a general vibe.
	Creates entry points for potential further exploration	It gives you an outlook, it gives you an idea and then it just gives you enough to know if you want to continue looking into it deeply.
	Motivates and inspires lifestyle improvements	Okay, yeah so there's this guy whose name is Singh in USA. And he's like, he got an internship at Microsoft and that was the first one I watched. And then after that, it gave me like, kind of motivation to work more, so I can work at Microsoft too
Limitations from Format, Focus, Context, and Representation	Short-form nature and lack of integration insufficient for decision-making	You can only get so much in 60 seconds. I think that's one limit, especially for like complicated careers. I would say. Like for CEOs, I don't know what CEOs actually do, but I imagine it's complicated
	Nature of social media context not conducive for reflection and follow-up	I mean, I don't think there are any benefits of using Tiktok. Because you get distracted a lot. You know, there will be some funny videos coming in, you would start watching them and you know, lose attention. Even if you're working on something very important. Just one video can change your mind. And you can just get distracted, you know.
	Entertainment / influencer dimension takes away from career focus and realism	TikTok is more geared towards entertainment, that I don't find many videos like that, that are like very, like, have like all this explanation about like, what they do. And like, one of the views I saw on there was more geared towards a lifestyle than the actual like, like lifestyle outside of work than what they do during work
	Lacks representation of or personalization to diverse backgrounds and values	it's always for big tech companies. And I don't, even though I'm a CS major, I actually am not the most interested in working at like, any famed company, because they seem kind of, well, I don't know, corporate.

Table 1. The themes and subthemes pertaining to the Benefits and Limitations of #DayintheLife videos for career exploration

Examples from Thematic Analysis of YFIOB

*(With different research
Qs related to strategic
assessment)*

A *Landscape Analysis* for YFIOB:Your Future Is Our Business

Presented by Christopher Lee, Yaroslav Yanin, Maithili Luktuke
on behalf of students in Business Strategy and Information
Systems and the Tech4Good Lab



University of California, Santa Cruz
TECH4GOOD LAB

Baskin
Engineering

YOUR FUTURE
IS OUR BUSINESS



RQ (for Example): What are the core values or qualities of the organization that members want to achieve or maintain regardless of the strategy?

Overview of themes

YFIOB's Core Values



1 *Being student and school centered in everything we do*

- Building close partnerships that are educator-led and focused
- Considering every student's diverse backgrounds and career paths
- Practicing what we preach in providing hands-on learning

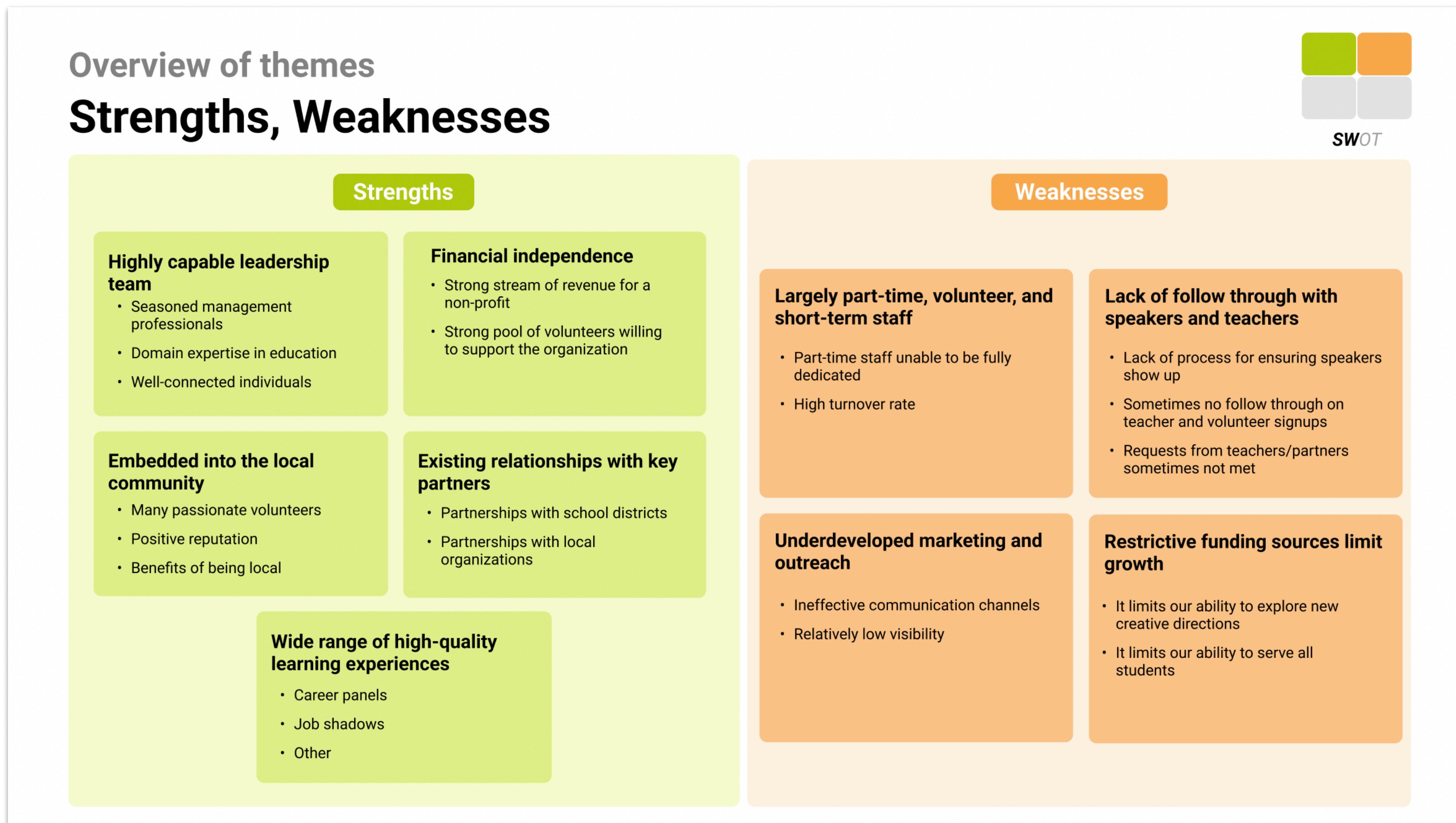
2 *Fostering a culture of community investment*

- Bringing schools and businesses together
- Working closely with local community partners
- Identifying and promoting candid, caring, authentic volunteers

3 *Continuous improvement of our operations and services*

- Growing the scope and quality of our impact
- Establishing strong financial sustainability
- Fostering a strong harmonious leadership team

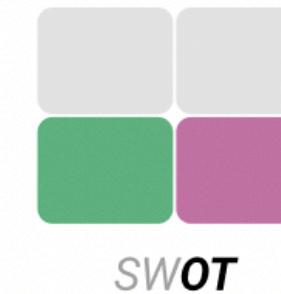
RQ (for Example): What are the organization's unique resources, unfair advantages/strengths, and ways in which its products, services, and brand are differentiated? What are weaknesses of the organization?



RQ (for Example): What opportunities and threats are facing the organization? Are there political, economic, social, or technological factors providing opportunities, posing threats, or affecting strategic planning in any other way?

Overview of themes

Opportunities, Threats



Opportunities

New clients or new needs that we currently do not serve

- Unserved regions, schools, and age groups
- New services like parent education

New or existing relationships whose full potential is untapped

- Higher education like UCSC, Cabrillo
- Government like the public library, county, and city
- Industry groups like Santa Cruz Works and unions

Technology enables new digital services and broad promotion

- Opportunities to engage professionals in remote volunteering
- Opportunities to increase outreach to broader visibility

Growing public funding for Career Technical Education

- Priority for current CA government

Threats

Growing alternatives that diminish the need for YFIOB

- There exist large organizations providing similar free alternatives
- Large schools can run their own career fairs without support
- Pajaro Valley has a new Salesforce-supported CTE works program

Work on theme creation
for 10-15 minutes

Writing narratives
and developing theory

Write a narrative for just ONE theme and add it to the same doc as your table. Write a short narrative (max one-page) that concisely but richly communicates one theme related to *career insights, perspectives or tips of professionals*. Use inline quotes and block quotes for that theme to make your narrative richer.

Please italicize quotes.

- Create a “title” / “section header” for your them, and “subsections” for your subthemes. These titles could just be the theme/subtheme itself, but make sure it’s phrased in a way that makes the answer clear and skimmable so that a reader can quickly get a feel for the challenge/need,
- Within the theme section, clearly and concisely summarize the entire theme,
- Within the subtheme sections, clearly and concisely summarize the subtheme. Whenever possible, use the voice of the user in your summary with inline quotes from the set of quotes you’ve categorized to this subtheme,
- Within the subtheme sections, integrate in blockquotes of your most essence-capturing, evocative, illustrative, or salient quotes for that subtheme,
- For each given subtheme, make sure each interviewee with a quote categorized into that subtheme is represented either in an inline quote (if their quote is relevant, but not very rich) or a blockquote.
- Quotes should be italicized and should have the pseudonym of the person saying the quote, e.g. *“I love teaching” (Gabe)*.
- Use good writing practices, e.g. have a clear thesis statement and write in a way that surfaces the logic of what you are communicating in a clear and compelling way,
- You will likely need to clean/trim down the quotes so that any inline quotes grammatically fit with the summary and so that blockquotes highlight the most insightful parts. Here are some tips on how to clean your quotes:

Ask → [Collect → Organize → Analyze] → Theory



Analytic memos are essential personal reflections

Reflections on “your coding process and choices; how the process of inquiry is taking place; and the emergent patterns, categories, and subcategories, themes and concepts in your data — all possibly leading toward theory”

Example: passage being coded

¹ My son, Barry, went through a really tough time about, probably started the end of fifth grade and went into sixth grade. ² When he was growing up young in school he was a people-pleaser and his teachers loved him to death. ³ Two boys in particular that he chose to try to emulate, wouldn't, were not very good for him. ⁴ They were very critical of him, they put him down all the time, and he kind of just took that and really kind of internalized it, I think, for a long time. ⁵ In that time period, in the fifth grade, early sixth grade, they really just kind of shunned him all together, and so his network as he knew it was gone.

¹ MIDDLE-SCHOOL
HELL

² TEACHER'S PET

³ BAD INFLUENCES

⁴ TWEEN ANGST

⁵ THE LOST BOY

Small codeweaving example

Integrate your codes into a narrative (codeweaving) to interpret how individual components weave together in hierarchies, chronological flows, influences and affects, etc.

15 November 2011

NETWORKS: CODEWEAVING ABOUT MIDDLE-SCHOOL HELL

A codeweaving attempt with this data excerpt to compose an assertion is: “Bad influences can turn teacher’s pets into lost boys, resulting in tween angst in the limbo of middle-school hell.” Another version is: “Middle-school hell is a site of tween angst: teacher’s pets can become lost boys by bad influences.” Peer influence, according to the developmental literature, becomes very strong during these preadolescent years. “His network as he knew it was gone” suggests that when friendships decay, children become lost (my term).

CHALLENGES THROUGHOUT THE UNDERGRADUATE RESEARCH JOURNEY

We encountered challenges across the entire URE journey, from the point where undergraduates discover and apply to a lab, to when they get through initial filters and persevere through obstacles, and finally, to when they find a sustainable rhythm. To explain this process, an undergraduate in our lab took quotes—all of which are italicized below—from each code category of the faculty interviews, and weaved them together into a narrative based on the student journey. This journey is written from an undergraduate’s point-of-view, so as to illustrate how faculty may perceive the student’s URE.

Discovering and Applying to Join a Lab

My mind begins drifting as my professor rambles on about a topic I am already fairly familiar with, focusing just enough to note down anything interesting that was said. I start thinking about graduation and realize that *I need to do something more than classes if I want to go to a good grad school*. I begin to wonder what I could even do or where to begin to improve my college application or who I would ask for a letter of recommendation when the time comes. Luckily, *at the end of that class, [my professor makes] an announcement saying... “if you like this kind of research, and you think you might want to try it for real, here’s how you can apply to my lab*. Similarly, if you are interested in other types of research, keep an eye out for opportunities or ask your professors. I know a colleague who *put up the URL for [their] research lab, which has a page that’s called "Getting Involved,"* another who posted an

even *show up* to try in the first place. Apparently different labs have different approaches to recruit though; some labs simply interview students to gauge interest by asking, *"What thing are you trying to learn [from this lab]?"*, while others look for *some evidence that [we students]... are actually invested in doing research, or... at least curious... and willing to put in some time*.

Logically, this process to get into the lab makes sense: *Start with a small incremental task that isn’t mission critical to the project, that way you can gauge their interest and if they don’t complete the task it doesn’t hurt the overall project*. This is especially true because it must *be challenging to find that space* in a lab when resources are limited. Plus, based on my own experiences, I’m sure *there is more effort than return on average* for a professor taking in undergrads in their research.

Later that day, I set up camp in the library and work away on the task. I’m glad that my professor presented this opportunity because he’s one of my favorite professors, and the material is very interesting! He’s also always been kind in office hours so I want to do my best to stay on his good side, especially if I want to ask him for a letter of recommendation later.

Persevering through Obstacles in Time and Motivation

After *months and months and months* in the lab, my peers slowly start to *finally disappear* even though my professor *already got excited about them and already brainstorm how to get them involved in a project that they will enjoy to do... [and] benefits the grad student*. He told me that he’s been

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At first, I can't believe my luck! I had no idea my professor was taking in undergraduate researchers, and this seemed like a perfect opportunity. But then I started to get scared away. What if *I don't have enough time to dedicate to a research project, and it makes sense that [my] classes take priority over research*. What if I'm not capable of doing good research, just because it's a hard thing. What is a lab? I don't know what the different labs are doing. [I] don't know what [my professor is] doing. I have never thought to go to see what happens in a lab.

However, before I can run away in tears, a student braver than I voiced their concerns to our professor. Relief floods my body as he replied, “anyone who’s interested, I will have come and join. If you’re more interested in other labs though, just remember that other professors might require that you have *programming skills*, are *able to do the [lab] tasks*, or are at least *actually motivated and interested in [the lab project]*.” Excitedly, I apply to join the lab and wait to hear back.

Getting Through Initial Filters

I am sent *some sort of simplest task* and am expected to be *able to do it within the week or two*. I hear from a friend that the deadline is extremely lenient though; it's just put there because after that *usually [students] disappear and [professors] never hear from them again*, and that's for those who decide they'll

even *show up* to try in the first place. Apparently different labs have different approaches to recruit though; some labs simply interview students to gauge interest by asking, “*What thing are you trying to learn [from this lab]?*”, while others look for *some evidence that [we students]... are actually invested in doing research, or... at least curious... and willing to put in some time*.

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After *months and months and months* in the lab, my peers slowly start to *finally disappear* even though my professor *already got excited about them and already brainstorm how to get them involved in a project that they will enjoy to do... [and] benefits the grad student*. He told me that he's been getting frustrated with accepting undergraduate students, but also said, “*I'd be up for trying more if I have a better way of doing mostly time manage*.” He had been trying to balance giving attention to all his students by *actually like budget[ing] how much meeting time [he] might give depending; so like undergraduates like 15 minutes, and masters get 30 and PhDs get an hour*. He was also struggling with matching schedules, since *we have a quarter system... exams are happening every week* and he *was traveling at some other points*. He knows that other faculty also find it *really hard... to figure out how to mentor [undergraduates]*, especially because *many of them still need training*. Some faculty are able to make it work by *assigning [undergraduates] to other grad students*, but my professor *only [has] one and she doesn't really get along well with undergrads* so that's not really an option. Plus, *there's a management overhead involved in breaking things down for each person in the lab*, which professors are usually in charge of regardless.

At the end of the day, we both agree that *it's not [the undergraduate's] fault* though. I'm also struggling to balance classes and the lab, and am not sure if I should stay. I'm not even sure if I am going to grad school, and an internship would be just as helpful, if not more. Plus, by being put to *help on a task for the grad students*, I wouldn't even be working with the lab professor as much as I thought, which defeats the purpose of trying to get close to a faculty member. Even when I am able to work with him, he isn't able to *provide that [classroom] structure for students*, making it difficult for me to understand my tasks. Most of all though, the lab is *a huge manual effort. And nobody wants to do the boring... the boring thing* of completing the mundane tasks. Lastly, it feels like we are expendable because I know that my professor doesn't actually *need the undergrads*.

Finding a Sustainable Rhythm

As I consider dropping the lab, however, I realize that it was actually helping me with my *senior capstone project*. I decide that the lab was more helpful than I initially thought so I become *more predictable and tend to come and sit and learn*. I learn to *figure out the problems and be self independent*. I get used to the time commitment and am *able to find some free time to interact with the lab material*. Nevertheless, I do believe that it's usually not worth the effort to work with undergraduates [for faculty], unless [they] get really lucky.

Here's the full narrative for reference

Homework I narrative

- You do not need to use codeweaving, but you need a concise, clear narrative that coherently integrates interviewee quotes, both inline and blockquotes

Recall

Example: “What are the perceived benefits and limitations of social media-based #DayInTheLife videos for supporting youth career exploration?”

Theme	Subtheme	Illustrative Quote
Benefits for career identity formation	Provides firsthand depiction of how their life works	Yeah, usually like, since they give kind of like a more personal like picture of what's going on? Like usually I use those videos to kind of like understand, like, what would I be getting myself into, like, if I want to pursue it?
	Facilitates reflection, reaffirmation, and reevaluation of goals	But I think like watching these videos, kind of reaffirms that sense, if that makes sense. Like, oh, coz like, I'm still thinking like, what I want to do post grad. And sort of like, I don't know, it's kind of nice to have, like, some reinforcement on what I think are potential paths for me.
Benefits for behavior change	Reduces barriers through causal, digestible formats	It is a one minute max video. So it's not like it's too much of a commitment. It's just you watch the video and you kind of like, get a general vibe.
	Creates entry points for potential further exploration	It gives you an outlook, it gives you an idea and then it just gives you enough to know if you want to continue looking into it deeply.
	Motivates and inspires lifestyle improvements	Okay, yeah so there's this guy whose name is Singh in USA. And he's like, he got an internship at Microsoft and that was the first one I watched. And then after that, it gave me like, kind of motivation to work more, so I can work at Microsoft too
Limitations from Format, Focus, Context, and Representation	Short-form nature and lack of integration insufficient for decision-making	You can only get so much in 60 seconds. I think that's one limit, especially for like complicated careers. I would say. Like for CEOs, I don't know what CEOs actually do, but I imagine it's complicated
	Nature of social media context not conducive for reflection and follow-up	I mean, I don't think there are any benefits of using Tiktok. Because you get distracted a lot. You know, there will be some funny videos coming in, you would start watching them and you know, lose attention. Even if you're working on something very important. Just one video can change your mind. And you can just get distracted, you know.
	Entertainment / influencer dimension takes away from career focus and realism	TikTok is more geared towards entertainment, that I don't find many videos like that, that are like very, like, have like all this explanation about like, what they do. And like, one of the views I saw on there was more geared towards a lifestyle than the actual like, like lifestyle outside of work than what they do during work
	Lacks representation of or personalization to diverse backgrounds and values	it's always for big tech companies. And I don't, even though I'm a CS major, I actually am not the most interested in working at like, any famed company, because they seem kind of, well, I don't know, corporate.

Table 1. The themes and subthemes pertaining to the Benefits and Limitations of #DayintheLife videos for career exploration

5.1 Benefits for career identity formation

As mentioned in Related Work, the Meeus-Crocetti model describes identity formation as a process of making commitments and then engaging in exploration and reconsideration of those commitments towards authentic commitments [15]. Participants described DITL videos as providing a lightweight way to explore “firsthand” depictions of a profession and described how it facilitated reflection, reaffirmation, and reevaluation of their lifestyle goals and aspirations.

5.1.1 Provides personal “firsthand” depiction of “how their life works”. Participants appreciated how the DITL videos provided a “*more personal picture*” (P6) into specific careers, expressing that these personal accounts were “*firsthand information*” (P8) helpful for understanding “*what people in various careers are going through in the day to day basis*” (P8), “*how it works... how your work schedule is gonna be*” (P10), and “*what would I be getting myself into, like, if I want to pursue it* (P6)”. Some elaborated on their specific career exploration contexts:

“*I’m like a business major. So a lot of them are like daily life of a big four accountant... it’s like interesting to like, see, like how their life kind of like works... how stressful it is... like hybrid schedules and stuff. I felt like that was pretty interesting. And it gave me like a better scope of like, what these jobs would entail.*” (P6)

“*I know I want to work in a hospital I kind of already knew like, what to expect like, but I guess for different like jobs and by the hospital, there’s different like call times and stuff, which it showed which was nice.*” (P4)

*More broadly, in thematic analysis
you're trying to understand
connections and develop theory*

Educational system

- preparation and mindset centered on classes
- undergrad time constrained by degree priorities
- faculty time with UGs centered on teaching (large) classes
- no systematized pipelines for searching/applying to UREs

Explore and build career

- explore to clarify interests
- build career (skills, resume, graduating)

Undergrad expectations of research

- supervision and structure
- quality mentorship
- idealized work that builds interesting skills
- work that is approachable

Systems

Goals

Expectations

Research world

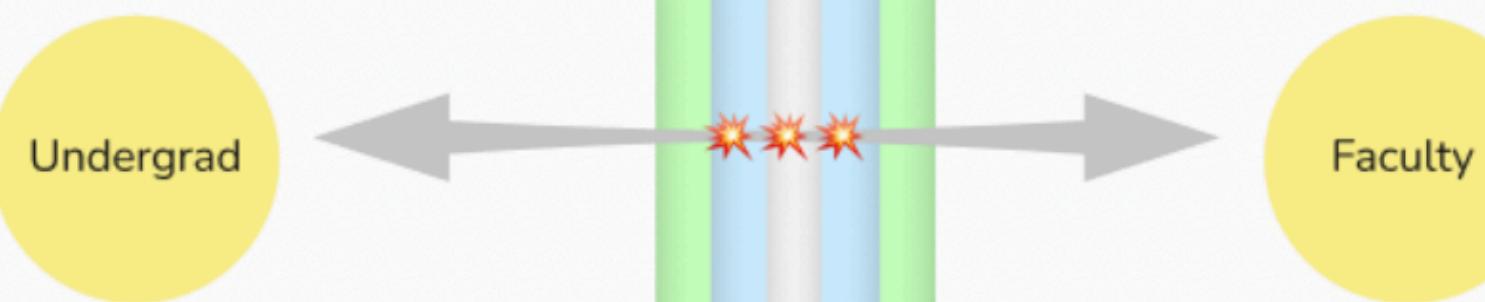
- lack of research preparation and mindset
- research mentorship centers on graduate students
- faculty time constrained by research
- no systematized pipelines for recruiting for UREs

Advance research

- needs to advance research
- recruit for clear interests and prior skills

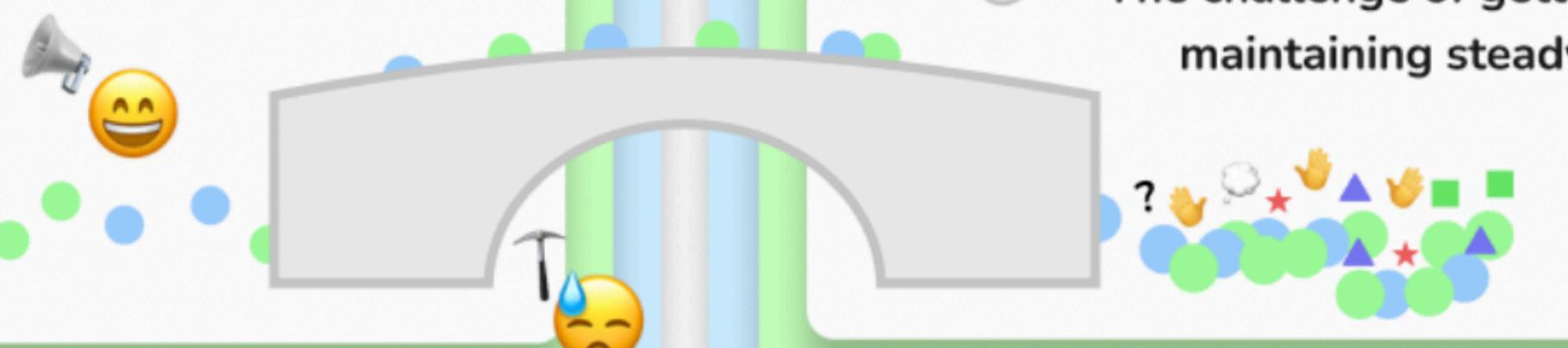
Realities of research

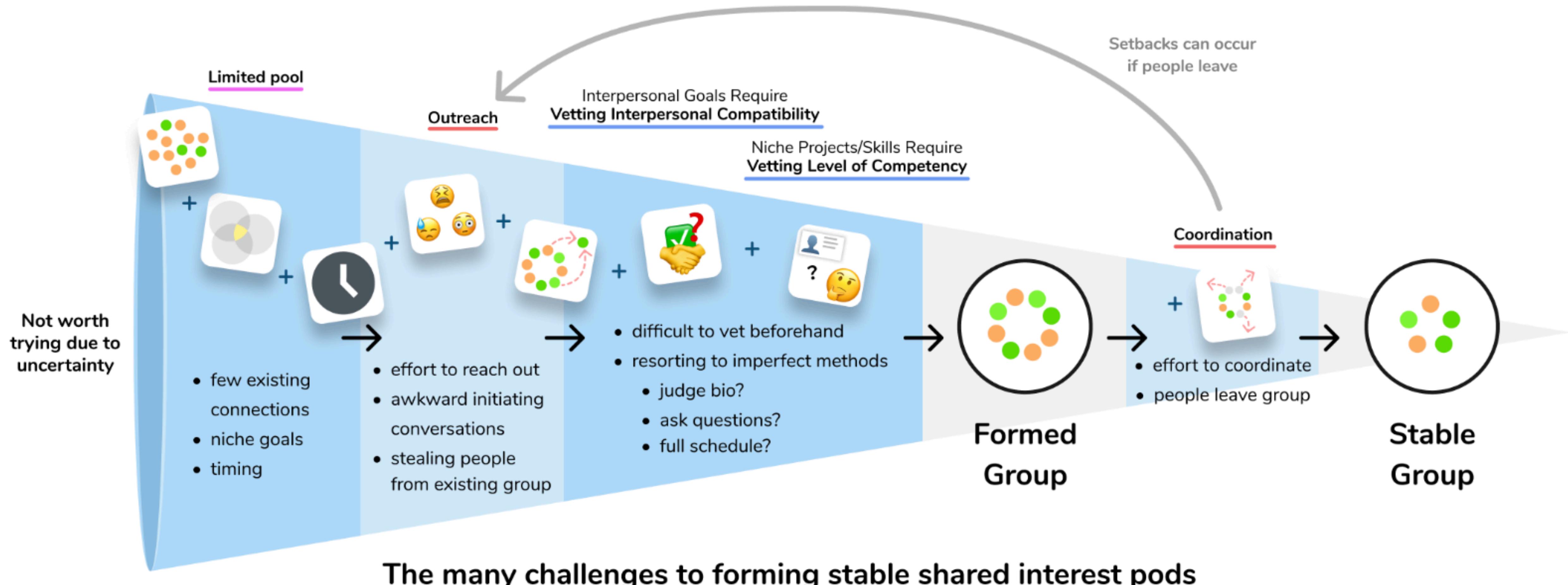
- requires autonomy, no inherent structure
- potential for ineffective mentoring
- tedious tasks inherent to advancing research
- research can be intimidating



The challenge of getting to and maintaining steady state

● = undergraduates 😊 = faculty





What is high-quality work?

- Writing quality
 - Logical, concise, “thick” descriptions
 - Effective use of quotes

Section

Section agenda

- 30 mins: section-wide community-building
- 15 mins: connect with teams, introduce yourselves, determine 20-minute Zoom check-in with group tutor, recommend someone as team lead
- 20 mins: get setup / technical issues ironed out for the first project in weeks 2-5

Remember!!!

- Homework I (indiv) due Saturday | 11:59pm