

# Azaran Warehouse Expansion Project

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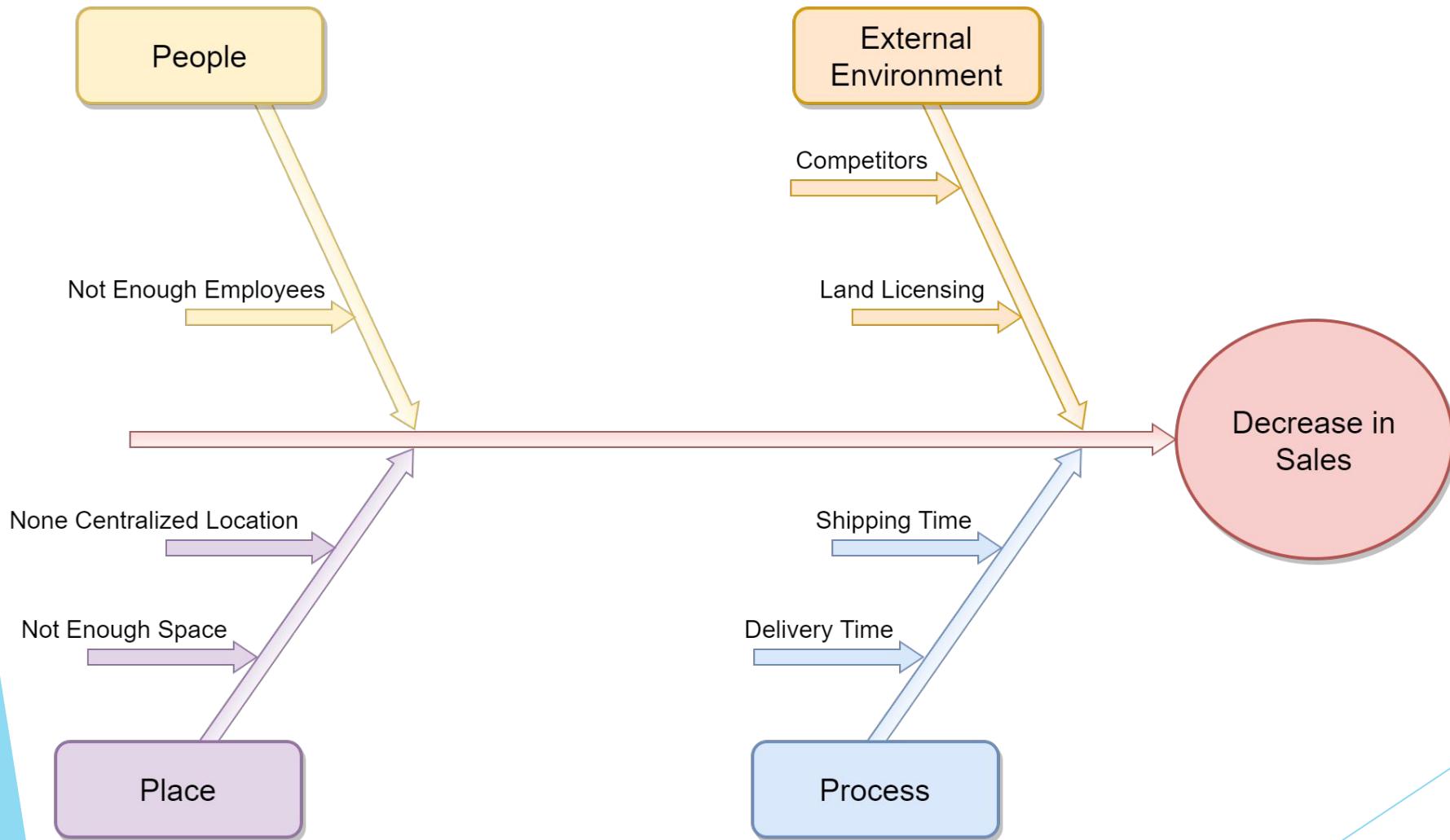
# Project Introduction

- ▶ We are coming to the board members with an expansion project. We want to open a new warehouse in a more centralized location to be able to meet the needs of our consumers in a timelier manner. This expansion is going to increase our sales and expand to further distances to reach more consumers.

# SWOT Analysis

<b>Strengths</b> What do you do well? What unique resources can you draw on? What do others see as your strengths?	<b>Weaknesses</b> What could you improve? Where do you have fewer resources than others? What are others likely to see as weaknesses?
<b>Opportunities</b> What opportunities are open to you? What trends could you take advantage of? How can you turn your strengths into opportunities?	<b>Threats</b> What threats could harm you? What is your competition doing? What threats do your weaknesses expose you to?
<b>Strengths</b> What do we do well? <ul style="list-style-type: none"><li>• Communication</li><li>• Planning</li></ul> What unique resources can you draw on? <ul style="list-style-type: none"><li>• Experience</li><li>• Exclusively made products of a higher quality.</li></ul> What do others see as your strength? <ul style="list-style-type: none"><li>• A diverse group with different backgrounds</li><li>• Has lots of knowledge on the project.</li></ul>	<b>Weaknesses</b> What could you improve? <ul style="list-style-type: none"><li>• Blind spots</li><li>• Covid-19 precautions</li><li>• Different schedules and time zones</li></ul> Where do you have fewer resources than others? <ul style="list-style-type: none"><li>• Human resources</li><li>• Lack of material resources</li></ul> What are others likely to see as weakness? <ul style="list-style-type: none"><li>• The scope of the project is more extensive than we have done before</li></ul>
<b>Strengths</b> What opportunities are open to you: <ul style="list-style-type: none"><li>• Online communication</li><li>• Expansion and growth in our area of production</li></ul> What trends could you take advantage of: <ul style="list-style-type: none"><li>• Early completion because more people are looking for work because of Covid-19.</li><li>• Our material could be cheaper due to low demand.</li></ul> How can you turn your strength into opportunities? <ul style="list-style-type: none"><li>• With our communication strengths, we can use multiple resources to advertise employment opportunities and sales once the project is completed.</li></ul>	<b>Weaknesses</b> What threats could harm you: <ul style="list-style-type: none"><li>• Covid-19 shut down</li><li>• Investment delays</li><li>• Overexpansion</li></ul> What is your competition doing? <ul style="list-style-type: none"><li>• They are already in a central city.</li><li>• Our competition already has loyal consumers.</li><li>• They have shorter delivery times.</li></ul> What threats do your weaknesses expose you to? <ul style="list-style-type: none"><li>• Blind spots in our weakness expose us to risk we did not anticipate.</li><li>• The different schedules and time zones can delay communication.</li></ul>

# Fishbone Diagram



# Project Scope

- ▶ Find a location for warehouse
- ▶ Hire employees for the new location
- ▶ Contract drivers for deliveries, work with material companies to make sure we have enough inventory to fill new orders
- ▶ Provide mandatory safety classes

# Project Constraints

- ▶ We cannot start the construction project until the spring season, and we need to finish the warehouse's construction before April 2022.
- ▶ We have limitations to find land because we will build the warehouse in a big city.
- ▶ We may face limitations in human resources to find skilled employees.
- ▶ We do not have skilled employees for the new warehouse.

# Project Constraints

- ▶ We probably will face some regulatory restrictions from governmental organizations.
- ▶ COVID-19 and its impact on our project is another restriction.
- ▶ Sanctions can impact our abilities to order specific machines and gain certain technology due to the US sanctions.
- ▶ The solution implementation should not increase the work pressure on our current employees.
- ▶ The policies of the company for hiring probably makes the hiring process slower.

# Fact-Finding

- ▶ Project Usability: We will be able to produce new products in a timely manner.
- ▶ Average cost: 11,550,258,480.89 IRR (274,290.08 USD)
- ▶ Average Schedule: Estimated a little over a year
- ▶ Benefits:
  - ▶ New Customers
  - ▶ Larger Consumer Area
  - ▶ Cheaper Cost For Delivery
  - ▶ Increase in Sales

# Operational Feasibility

- ▶ Our warehouse expansion project is a response to the long delivery time and a constant decrease in sales. It is not complicated, and we do not see any lack of feasibility in this area.

# Technical Feasibility

- ▶ We hired a construction company for the building of the warehouse. We also employ a consulting team for this project. So we do not have any technical problems.

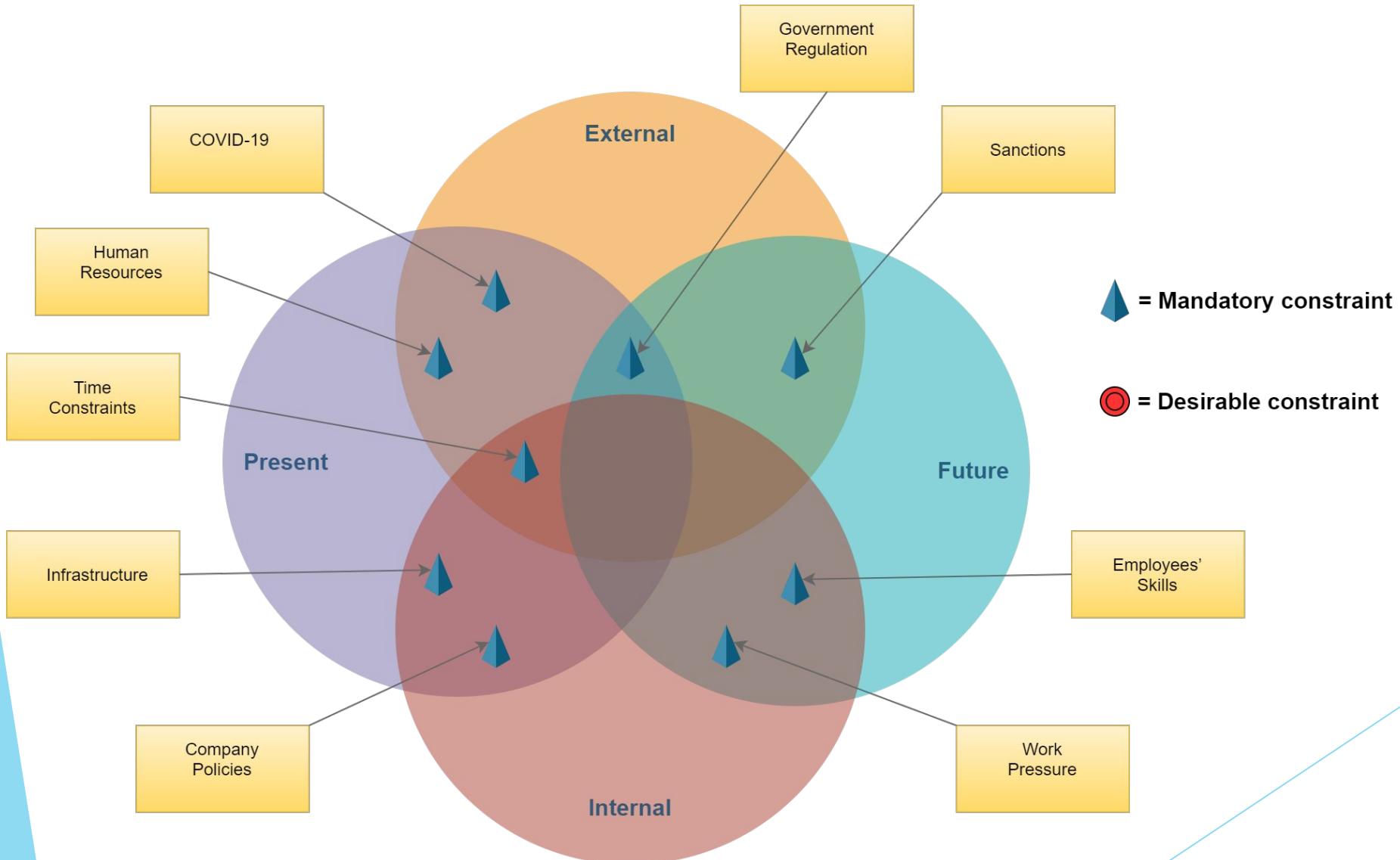
# Economic Feasibility

- ▶ Tangible Costs: Land costs, licensing costs, training costs, cost of hiring a construction contractor, facility costs, hiring new employees' expenses, safety costs, and consulting costs.
- ▶ Intangible Costs: Lost production and delivery while we are adapting our system to the new warehouse.
- ▶ Tangible benefits: Increased sales, shorter delivery time
- ▶ Intangible benefits: Increased market share, Improved customer service, Increased brand recognition.

# Schedule Feasibility

- ▶ We cannot start the construction project until the spring season, and we need to finish the warehouse's construction before April 2022.

# Feasibility Grid



# The risks associated with each of the feasibility areas

- ▶ The risk of situations that could delay the schedule
- ▶ The risk of not finding the proper land and delaying the start of the construction
- ▶ A lack of interest in our jobs that are being offered due to Covid-19
- ▶ In Iran, the government has stricter policies that can frequently change, which can cause multiple issues and delays
- ▶ The US recently started to enforce new technology and machinery sanctions against Iran, delaying certain projects

# Feasibility Analysis

- ▶ Previously we learned the importance of having a SWOT analysis to determine our strengths, weaknesses, opportunities, and threats. We also learned we could not solve a problem without knowing the root cause, thanks to the fishbone diagram. When learning about feasibility, we learned there were multiple kinds of feasibility, including operational, technical, and economical. They were all different kinds of feasibility required to perform our project in a positive, successful manner. We learned that it's not just a matter of learning each step of those feasibilities but also understanding what risks are associated with each feasibility concept. I would be interested to know more about feasibility analysis and different scenarios, not just in our warehouse scenario, so I can have a broader sense of how it's used regularly in a business form.

# Assumptions

- ▶ The project start date is February 1, 2021
- ▶ Delivery times shortened
- ▶ Expansion to more cities
- ▶ Increase of sales
- ▶ Economy is stable
- ▶ Covid-19 continuing to be an ongoing issue that we will have to stay on top of
- ▶ Project finish date April 20, 2021

# Sprint Plan

Sprint planning meeting Date: 01/24/2021 Scrum team: Team 2
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## Sprint goal:

We want to break down our three main user cases to detailed tasks.

Product backlog	Sprint backlog										
Finding and Purchasing Land	Hire Consultant	Calculate Land Space	Research For Location	Locate Real Estate	Consult Contractor	Get Permits	Put An Offer	Review Design	Approve Purchase	Approve Designs	Break Ground
Implimenting Safty Measures	Learn The New Guidelines	Provide PPE	Implement Increased Sanitation	Enforce Rules	Provide Consequences	Continually Update					
Advertise Job Opurtunities	Evaluate the Number of Employees Needed	Locate Media for Advertisement	Evaluate Costs	Decide the Frequency for Ads	Draw Up Designs	Place Advertisements	Designate a Hiring Team	Desiignate a Time and Date			

## Azaran Gantt chart

- █ Finding and purchasing land
- █ Implementing Safety Measures and guidelines
- █ Advertise job opportunities for the new warehouse

Tasks	Duration	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Finding and purchasing land - Hire Consultant	2 Weeks	█													
Finding and purchasing land - Calculate land space	1 Week			█											
Finding and purchasing land - Research for location	2 Weeks			█											
Finding and purchasing land - Locate real estate	3 Weeks				█	█	█								
Finding and purchasing land - Consult contractor	1 Week							█							
Finding and purchasing land - Get permits	4 Weeks					█	█	█	█						
Finding and purchasing land - Put an offer	1 Week							█							
Finding and purchasing land - Review design	1 Week							█							
Finding and purchasing land - Approve purchase	1 Week								█						
Finding and purchasing land - Approve designs	1 Week									█					
Finding and purchasing land - Break ground	3 Weeks									█	█	█			

Implementing Safety Measures - Learning the new guidelines	1 Week	Yellow	Light Gray										
Implementing Safety Measures - Providing PPE	2 Weeks	Yellow	Yellow	White									
Implementing Safety Measures - Implementing increased sanitation	14 Weeks	Yellow											
Implementing Safety Measures - Enforcing rules	14 Weeks	Yellow											
Implementing Safety Measures - Provide consequences	11 Weeks	Light Gray											
Implementing Safety Measures - Continually update	13 Weeks	Light Gray	Yellow										
Advertise job opportunities - Evaluate the Number of Employees Needed	1 Week	Light Gray	Blue	Light Gray									
Advertise job opportunities - Locate Media for Advertisements	1 Week	Light Gray	White	Light Gray	Light Gray	Light Gray	Light Gray						
Advertise job opportunities - Evaluate costs	1 Week	Light Gray	Blue	Light Gray	Light Gray	Light Gray	Light Gray						
Advertise job opportunities - Decide the Frequency for Ads	1 Week	Light Gray	White	Blue	White	White	White						
Advertise job opportunities - Draw Up Designs	2 Weeks	Light Gray	Blue	Light Gray	Light Gray	Light Gray							
Advertise job opportunities - Place advertisements	3 Weeks	Light Gray	Blue	Blue	Blue								
Advertise job opportunities - Designate a hiring team	1 Week	Light Gray	Blue	Light Gray	Light Gray								
Advertise job opportunities - Designate a time and date for interviews	2 Weeks	Light Gray	Blue	Blue	White								

# Project Plan

- We have learned what a project plan is, what shapes the project, how it continues, and how we can eliminate it. We've learned more about creating a work breakdown structure, including Gantt charts, PERT/CPM charts, identifying tasks in a work breakdown structure, and what may affect the duration. These are important and determine our project plan and how to make sure our plan has critical pathways that show the beginning to the end of the project. These are to help us identify items or issues that may pop up or that we're currently dealing with, like Covid-19, that we need to make critical action plans to prevent any hold up of our project. I would love to know more ways of possibly identifying other problems that may occur. I think currently we have a good group where we are well-rounded in that information but wonder how we independently could help identify other issues or critical path wase that could hold projects back or end up having to close our project down.

# Output Requirements

- ▶ The company owners will get more revenue, which will help the company stay in business, so we continue to offer the community jobs.
- ▶ The business analysts will complete this project and will receive job experience and gain a reputation.
- ▶ The construction company will build a bigger network by building our warehouse, giving them more business options.

# Process Requirements

- ▶ New employees will need to be trained and educated on CDC guidelines in a timely fashion so that work can be completed safely.
- ▶ Consumers will receive their orders in a timelier manner with regular status updates.
- ▶ New applicants who get hired will receive living wages and gain job experience.
- ▶ Advertise for job opportunities for the new warehouse
- ▶ Providing local surveys to gather information on what the consumers want
- ▶ Updating our IT infrastructure

# Control Requirements

- ▶ The insurance company will cover building, employees, equipment, and any accidents on site with respect, honesty, and fairness so that our reputation shows we are for the people and not just about money.
- ▶ Implementing safety standards and cleaning procedures to follow the CDC guidelines concerning Covid-19
- ▶ Interviewing, hiring, and training all new applicants

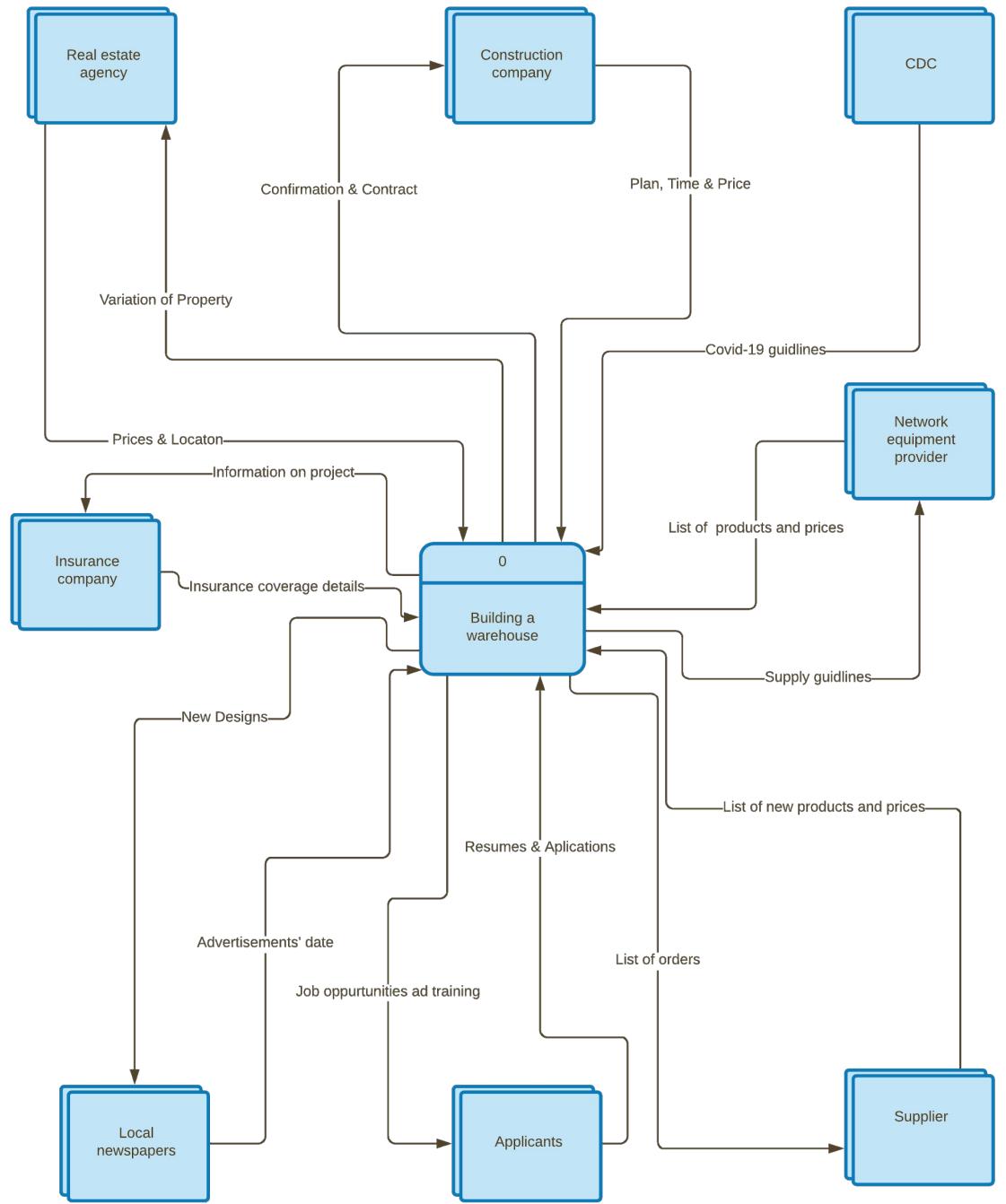
# Zachman Framework

CURRENT SYSTEM		PROPOSED SYSTEM
Who does it?	Why does this person do it?	Who should do it?
All employees	We do not have enough space to employ more employees for specific jobs.	We will hire more employees in specific areas, so each department has a special team designated for efficiency.
What is done?	Why is it done?	What should be done?
Taking 20+ days to process and deliver	Lack of space, employees, and supplies	Increase space and get more supplies and employees to shorten processing and delivery
Where is it done?	Why is it done there?	Where should it be done?
Original warehouse	That was the original purchase space for the business.	The main preparing line should be moved to a new location with more space.
When is it done?	Why is it done then?	When should it be done?
Daily	To not get behind in production.	Production should continue seven days a week.
How is it done?	Why is it done this way?	How should it be done?
We use resources like employees, computer processing systems, and out-sourced help.	To fulfill more orders.	We are going to be updating systems and processing to combat the increase in sales. We will be adding contracts for delivery services to keep costs down while shortening our delivery time.

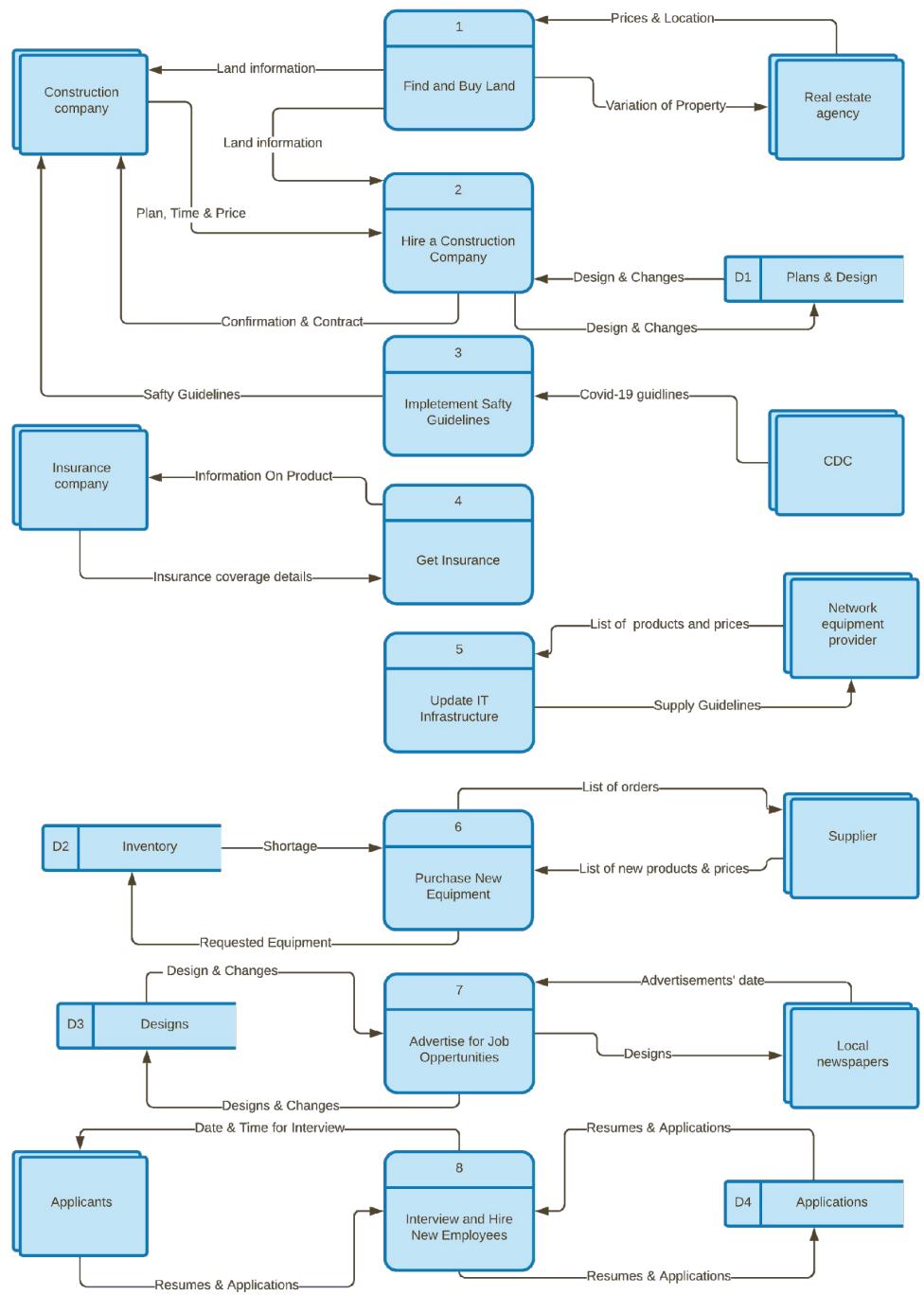
# Requirements Models

- ▶ There are multiple model requirements and diagrams that we could have used, including the system requirement checklist. We could have used scalability fact-finding, but we felt to limit how many we offered so that we would not overwhelm ourselves and our clientele. We learned how to set up our Zackman framework as well as how to complete a fact-finding overview and why they were important. Including who our consumers are, what, where, when, how, and why were the big questions we had to ask ourselves to make sure we are meeting all the needs and touching on every angle that would be beneficial to the company. I do hope we go further into learning the different processes like joint application development, rapid application, and development of the agile method. We could gain a lot more information on those as we continue learning.

# Context Diagram



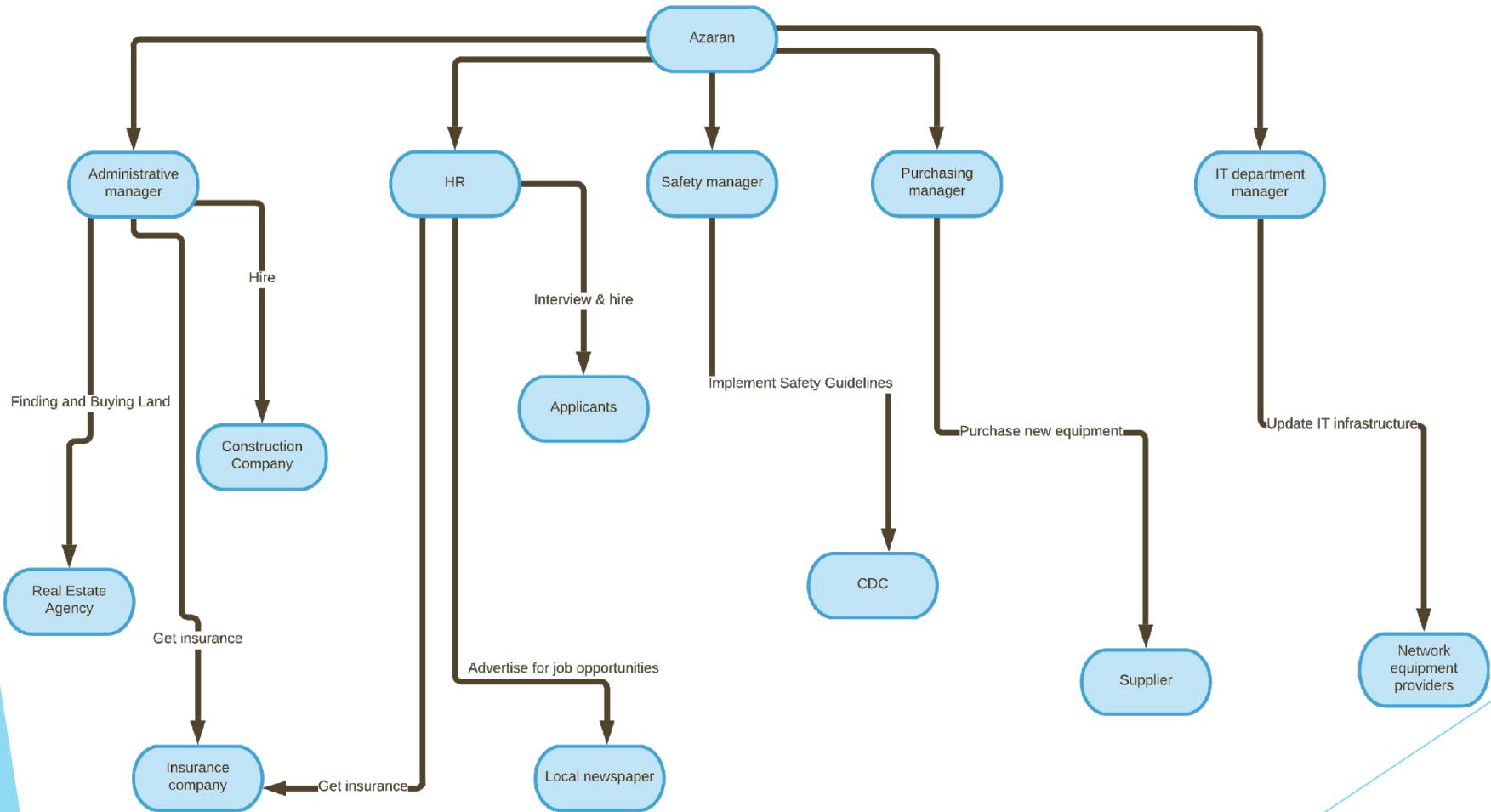
# Diagram 0 DFD



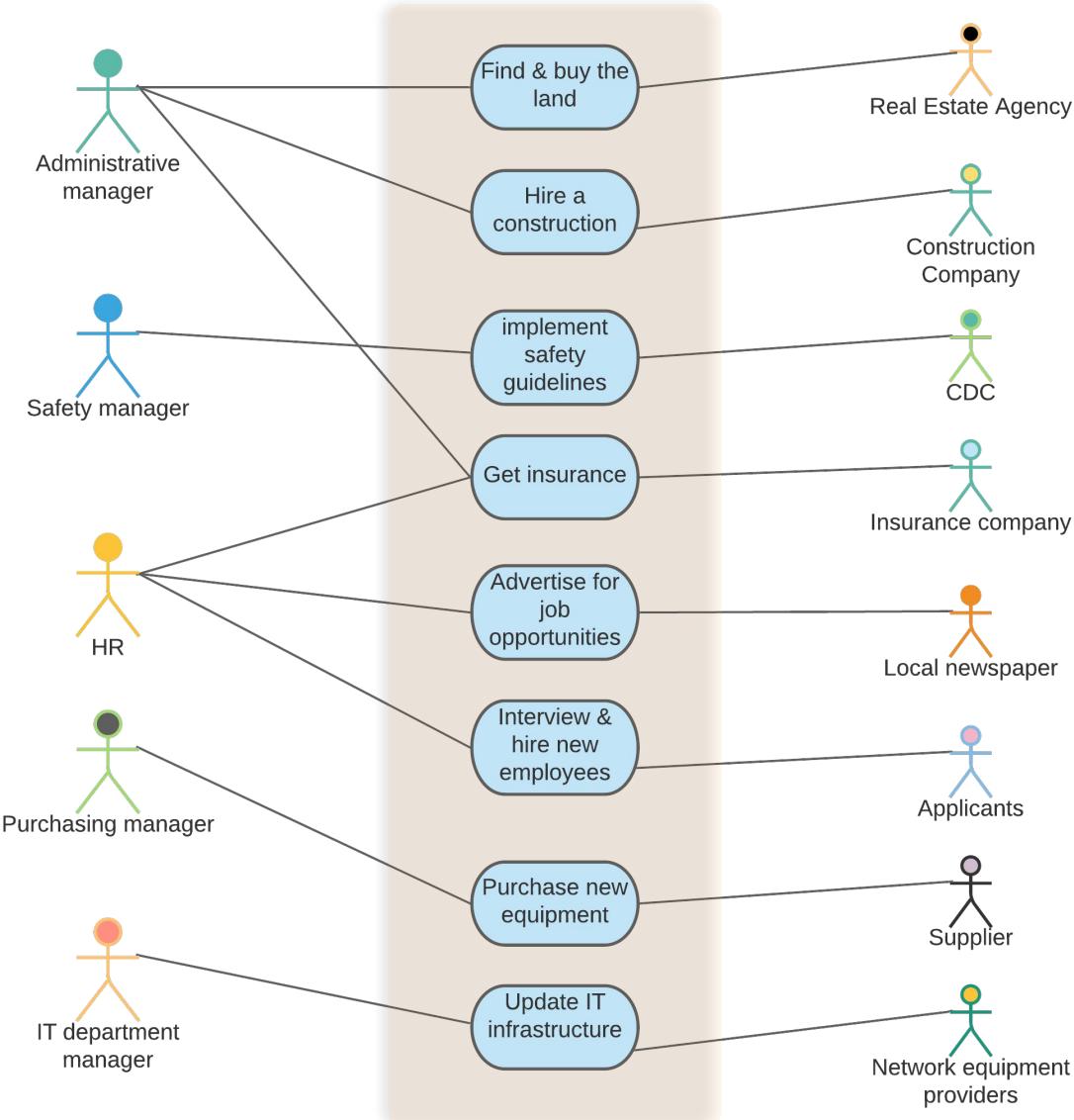
# Data Flow Diagram

- ▶ After learning about how important a data flow diagram is, it was fascinating to dive deeper into those different styles of data flow diagrams. When learning about the various data flow diagrams, we understand the importance of a data dictionary and how it should be labeled and filled out so that whoever is viewing our project will have a clear understanding of our process. I would be curious to know if our data flow diagrams always go to the brain diagrams, we use.

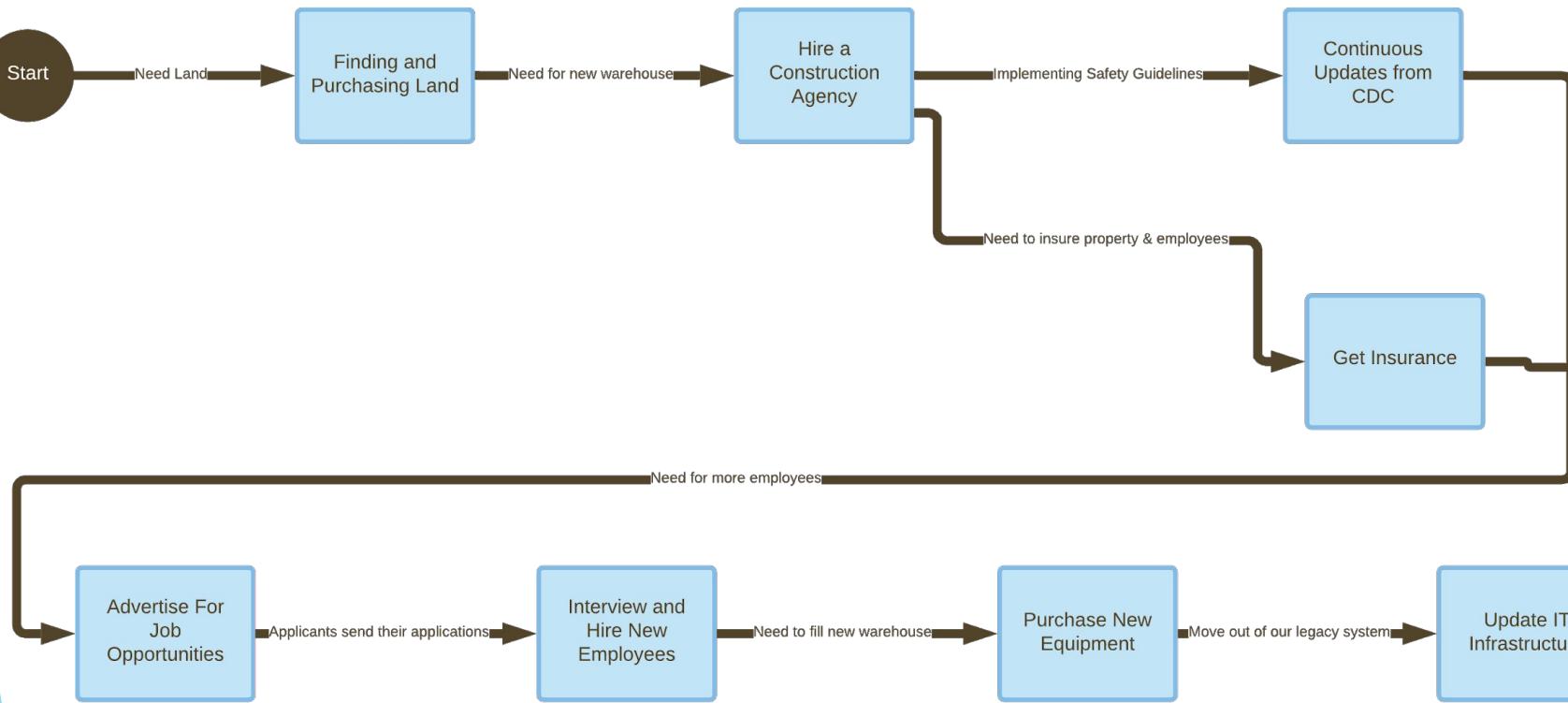
# Object Relationship Diagram



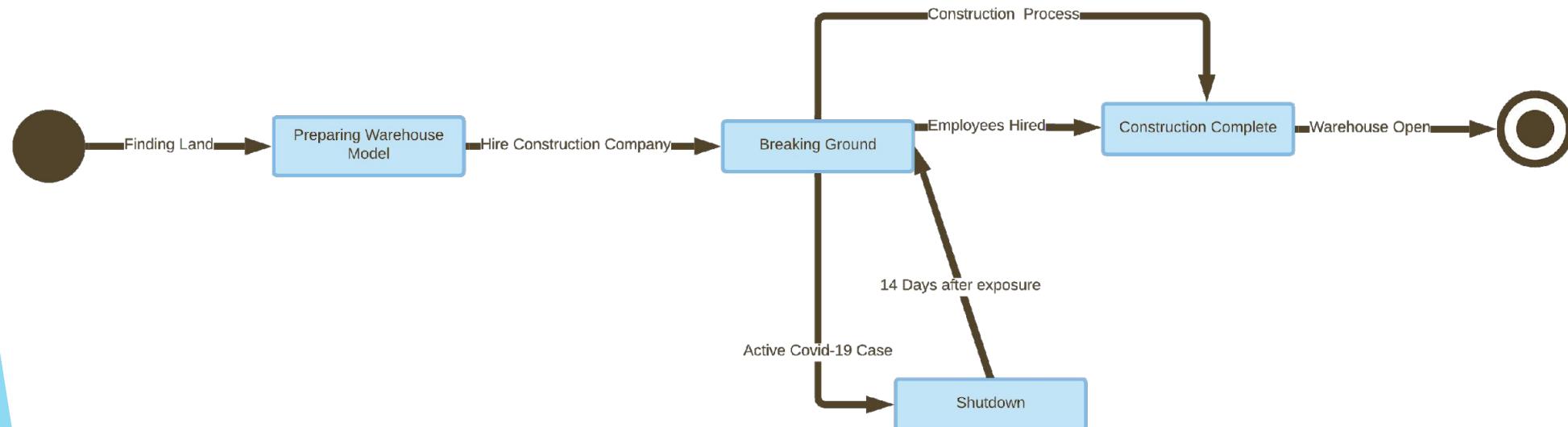
# Use Case Diagram



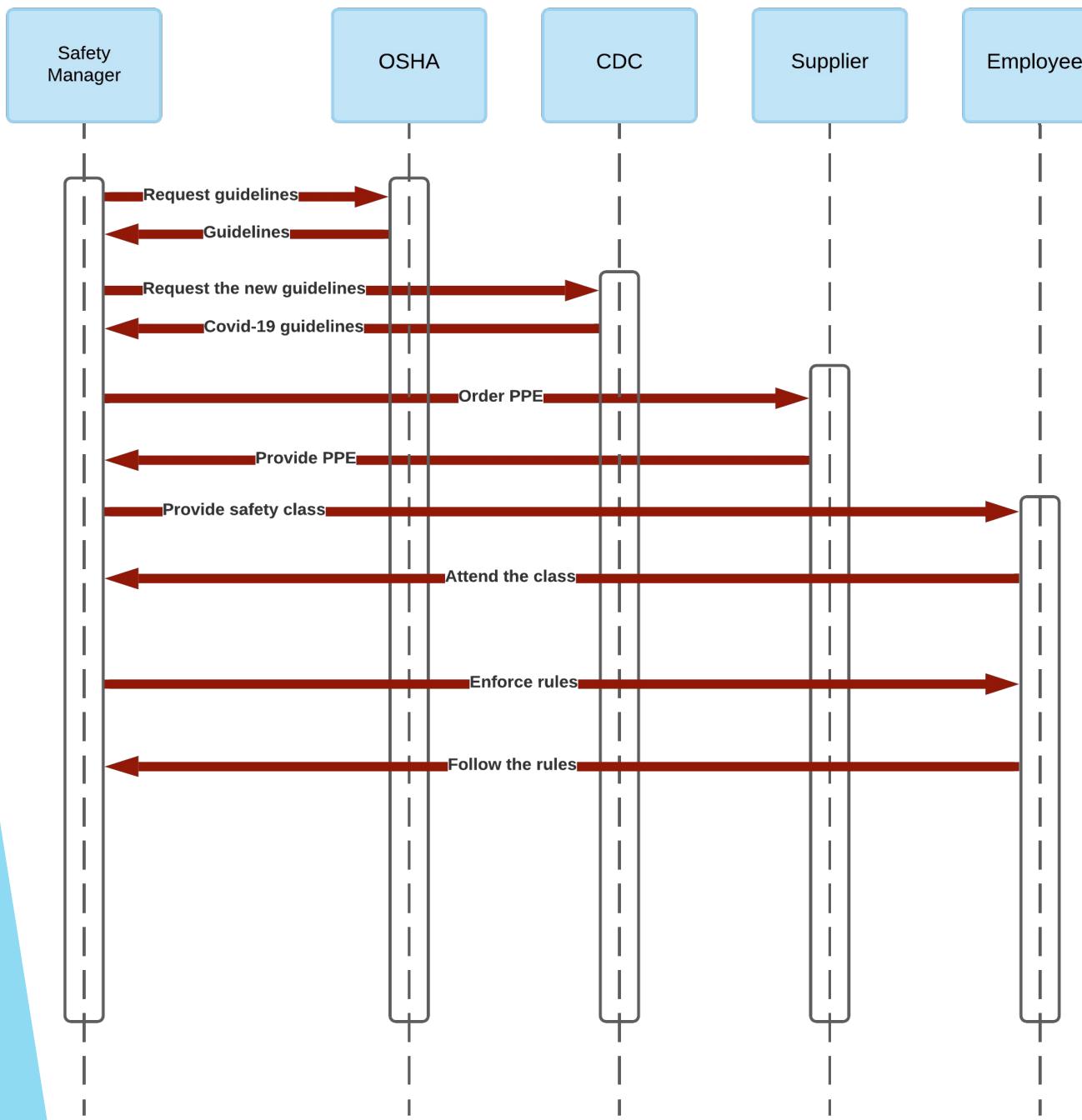
# Activity Diagram



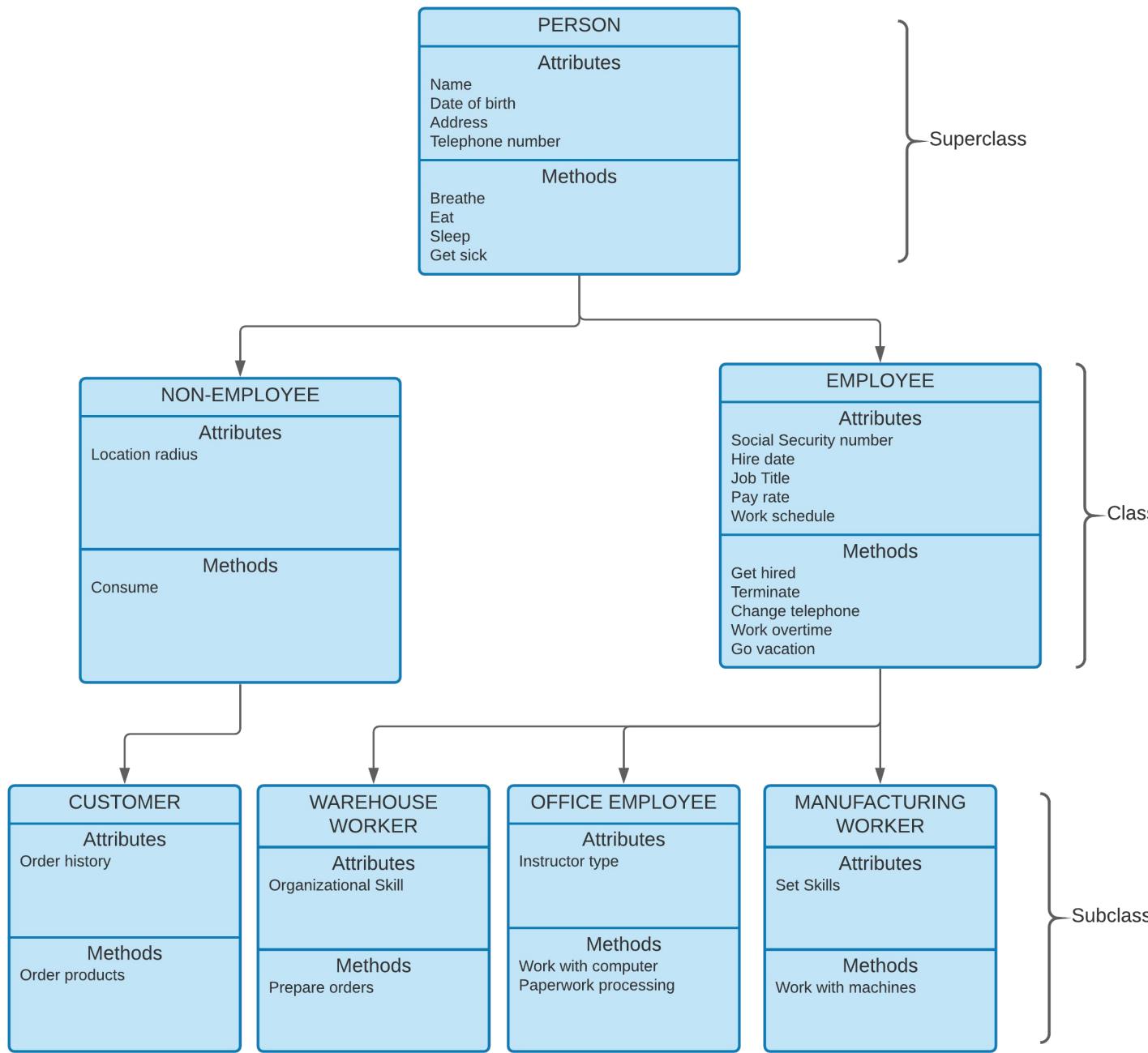
# State Transition Diagram



# Sequence Diagram



# Superclass Class Subclass



# UML/Object Models

- ▶ Object models and unified modeling language were something that we knew a little bit about like the DFD models but not nearly as much as we learned from this chapter. We learned that there were multiple structure analysis models that we could use to analyze our systems, including the Use Case model, class diagrams, sequence diagrams, and state transition diagrams; these were all new diagrams that we learned. I feel we could go into more detail with State diagrams as well as business process modeling; though they make sense, it was a little bit trickier making sure the points and lines and activities aligned correctly.