

Syllabus

OIDD 2360

Scaling Operations in Tech Ventures: Linking Strategy and Execution

Instructor:

Gad Allon

Email: gadallon@wharton.upenn.edu

Course Overview

The course is designed for students who plan to join rapidly growing ventures, who are preparing to scale their own ventures, or who plan to evaluate such ventures through the lens of investors or consultants.

THE GOAL OF THIS COURSE is to make strategic scaling decisions that are grounded in operational reality. The course adopts the perspective of the CEO and functional leaders in growing ventures and organizations and explores issues that leaders and managers encounter after a firm achieves product-market fit.

We will approach the challenge of scaling by taking a holistic view that incorporates competitive strategy, financial evaluation, and the customer experience. We focus on decisions and challenges that many firms that try to scale their operations face with the focus on assessing the readiness of the firm to scale, and the required steps to scale. In particular, we will discuss whether the firm needs to reformulate its strategy; whether the firm should build competencies in-house (for example, by investing in a portfolio of assets) or buy them (for example by developing and implementing a network strategy working with external suppliers) and the risks associated with scaling these. We will also discuss the organizational implications of scaling, focusing on designing the organizational structure and culture for growth, all while managing the challenges within and across the product, engineering, sales, marketing and sales functions.

Prerequisites

There are no formal pre-requisites to the class.

Course Materials

All course materials are either downloadable from Canvas or will be delivered over ForClass. ForClass is a platform that allows you to read cases and submit responses to basic questions that then will be used to enhance the discussion in the class.

Course Requirements and Grading

Course grades will be based on class participation (15%), Group and individual case studies (20%), term paper (25%) a midterm exam (20%), and a final exam (20%).

Class Participation

One half of this grade will reflect basic measures of participation. On-time attendance is mandatory. You are expected to do the pre-assigned readings and to be prepared to discuss the readings in class. Note that since we on every day the class meets we have several sessions, you will need to prepare multiple reading for each day.

The other half reflects my qualitative judgment concerning your effective contribution to class discussions and dynamics. You should be attentive to the class discussion. Your comments should respond to and “push forward” what is happening in class.

Case Write-Ups

There are 2 case write-ups (Peapod, PCS), which should be done in groups of 5, and two mini cases (Network Fleet and SolarBacks) which should be done individually.

For each case, I will post on ForClass a set of questions to be answered. Your group may answer the questions one at a time. While there is no need to write up the case as a memo, your answers to case questions should be crisp and complete. I will judge your answers based on the depth, clarity, and care with which you present them.

Exams

A midterm will cover the tools and concepts discussed until the midterm. A final exam will cover the tools and concepts developed in class.

While you may prepare in groups for the exams, the notes you use during an exam must be your own. Similarly, the work performed on the exam itself must be your own.

Term Paper/ Project (Group)

The goal of the project is to use the tools and concepts we discussed in class to better understand firms' attempt to scale or ability to scale.

Steps:

1. Pick a firm that you can collect some data about from financial statements, as well as other sources (all public and private sources are legitimate).
2. **Scalable?** Discuss whether the model has demonstrated scalability and how it is reflected in the KPI's.
3. **Efficient? Aligned?** Identify the main operational and marketing metrics required to assess its scaling over time.
4. **Constrained?** Identify possible scalability constraints and risks and discuss how the firm can potentially mitigate them.
5. **Leadership?** To the extent you can, comment on the culture of the firm, its organizational structure, and its leadership
6. Based on your strategic and financial analysis, is the firm ready to further scale. Create a short memo, up to 8 pages, outlining your analysis.

There will be several milestones for the analysis:

- TBD: Steps 1 -2
- TBD: Steps 3-4
- TBD: Step 5-6

Feedback will be given at every stage, but only the final paper is going to be graded.

Class Outline

Below is a summary listing of class topics and the assignment due in each class.

Session	Topic	Due
Introduction		
1	What is scaling: Introduction	
2	SCALE: Framework for Scaling	
Scalable?		
3	Why firms scale	
Aligned?		
4	Product Market Fit	
5	Where to Scale: Scale vs Position	Kitopi (Read and Prep)
Efficient?		
6	Efficiency: Identifying Scaling Metrics	
7	When to scale?	Peapod Case (Group)
8	Process Measures for scalability	
9	Process Level Metrics	PCS Case (Group)
Review Session		
Constrained?		
10	Modelling and Managing Cash	ReffP (Read and Prep)
11	What pace to scale?	
12	How to Scale: Assets and Risks	Network Fleet Case (Individual)
13	How to Scale Assets: Hedging	
14	Review Session	

Spring Break		
15	Speaker	
16	Supply Chain Scaling: The newsvendor	
17	Supply Chain Scaling: Pooling	
18	Supply Chain Scaling: Variety	Solarback (Individual)
19	Scaling Service Systems	
20	Platforms: Resourceless Scaling	
21	How to scale: Social Networks	Friendster (Read and Prep)
22	Scaling Two-Sided Networks	Catalant (Read and Prep)
23	Introduction to People and Processes: The Challenges	CloudFlare (Read and Prep)
24	How to scale: Structure and Processes (early stage)	
25	Scaling Culture (in a growing organization)	
26	How to scale: People and organizations (Mature)	Pal's (Read and Prep)
Leadership?		
27	Decentralized vs. Centralized Processes	Careem (Read and Prep)
28	The role of the founder and Wrap Up	

Detailed Description

Below is a summary listing of class topics and the due dates for case write-ups. To prepare for a given session, you should go to Canvas and follow the appropriate link for instructions for the given class.

I. Introduction:

Session 1: **What is Scaling: Introduction**

Objectives:

- (i) Why is the course relevant today?
- (ii) What is scaling (and how is it different than growth)?
- (iii) What are the main challenges and risks firms face as they scale

Session 2: **SCALE framework**

Objectives:

- (i) Introduce the main framework for the course.

II. Scalable?

Session 3: **Why firms scale?**

Objectives:

- (i) Understand that (rapid) growth should not be the goal of every firm
- (ii) Explore the main business model drivers that encourage (rapid) growth and how they are related to the notion of scaling
- (iii) Introduce the main framework to test for readiness to scale?

III. Aligned?

Session 4: [Product Market Fit](#)

Objectives:

- (i) Understand the idea of Product Market Fit as condition for scaling
- (ii) Understand the key questions of “alignment”: ability to differentiate, ability to continue and deliver value and ability to scale.

Session 5: [Where to Scale: Scale vs Position](#)

Objectives:

- (i) Understand the operational implications of Product Market Fit (or lack thereof)
- (ii) Understand when a firm should scale beyond its core.
- (iii) Reflect on how digitization of the value chain creates opportunities for new entrants to create and capture value in new ways at different points in the value chain.
- (iv) Understand complex stakeholder interactions and interests when making strategic scaling decisions.

Prepare: Read the Kitopi case on ForClass and submit your responses on the platform. This should be done individually.

IV. Efficient?

Session 6: **When to scale:**

Objectives:

- (i) Discuss the notion of “Efficiency” and explore the financial and consumer related aspects of it.
- (ii) Develop a framework tying operational and marketing data together with personal estimates and projections of key resources and process to assess the readiness of the firm to scale.
- (iii) Understand how to identify key scaling metrics

Sessions 7: **When to scale:**

Objectives:

- (i) We will use the Peapod case as our main discussion vehicle to discuss readiness to scale and apply the frameworks we discussed until now.
- (ii) Understand the critical operational capabilities needed to scale and the metrics needed to measure these.

Prepare: Prepare the Peapod on ForClass and submit your responses on the platform. This a graded group submission.

Session 8: **Scaling and Process Measures:** Introduce the fundamental process measures throughput, inventory and flow time, and Little’s Law, the key relationship among the three.

Session 9: **Process Level Metrics:** Discuss where and when to scale using process flow charts and fundamental process performance measures.

Prepare: Prepare the PCS case on ForClass and submit your responses on the platform. This is a group submission.

V. Constrained? How to Scale: Operational Assets

Session 10: **Modelling and Managing Cash**

Objectives:

- (i) Understand the main risk of cash burn
- (ii) Understand the main components of scaling models

Prepare: Prepare the REffP Case on ForClass and submit your responses on the platform. This should be done individually.

Session 11: **What's the right pace to scale?**

Objectives:

- (iii) Understand the main risk of cash burn
- (iv) Understand the tradeoff between growth and financial return and viability.
- (v) Understand how to build a basic (yet detailed) model for a SaaS business and test different hypotheses on the scalability.

Session 12: [How to scale: assets](#)

Objectives:

- (i) Understand that a critical operational capability is the ability to deal with risk while remaining agile.
- (ii) Understand the need to invest in a portfolio of assets and understand what makes a portfolio scalable.
- (iii) Understand the need to identify and focus on operational constraints.
- (iv) What are the main risks of scaling and how should firms plan for them?

Prepare: Read the NetworkFleet case on ForClass and answer the questions. This is an individual case.

Session 13: [How to scale assets \(continued\)](#)

Objective:

- (i) Understand the need to model risk and data-driven capabilities.
- (ii) Understand how ventures should scale while hedging against risks.
- (iii) Explore the implications for ventures scaling globally.

Session 14: [Midterm](#)

Session 15: [Speaker](#)

VI. Constrained? How to Scale Supply Chains and Service Systems

The next several classes will explore the main drivers of economies of scale in operational systems.

Session 16: [Supply Chain Scaling: The newsvendor](#)

Objectives:

- a. Introduction to supply chains and their unique scaling challenges.
- b. Discuss forecasting characteristics and how to manage safety inventory to protect against uncertainty in demand and/or supply lead times.

Session 17: [Pooling: Centralization & Postponement.](#)

Objectives:

- (i) Discuss the concept of inventory “pooling” and its role in supply chain design. Discuss the implications of these for scaling ventures.
- (ii) Discuss different pooling methods, particularly physical and virtual centralization, their pros and cons, and implications for supply chain design.

Session 18: [Scaling Variety in supply chains:](#)

Objectives:

- (i) We will discuss how ventures should scale the number of product variants without adding complexity.
- (ii) We will discuss the concepts of modularity, postponement and commonality.

Prepare: Read the SolarBacks mini-case on ForClass and answer the questions. This is an individual mini-case.

Class 19: [Scaling Service Systems:](#)

Objective: Discuss the different ways in which service systems scale and their challenges.

VII. Constrained? How to Scale: Platform and Networks

Session 20: [Platforms: Resourceless Scaling](#)

Objectives:

- (i) Understand the shift from asset ownership to orchestration.
- (ii) Understand the unique challenge of choosing the right pace of scaling a platform. What are the factors that motivate firms to pursue or avoid accelerated growth strategies in such settings?
- (iii) Explore the unique scaling metrics of a platform.

Session 21: [How to Scale: Social Networks](#)

Objectives:

- (i) Understand the unique challenges of scaling a social network
- (ii) Understand how to evaluate readiness to scale for a platform.

Prepare: Read the Friendster case on ForClass and submit your responses on the platform. This should be done individually.

Session 22: [How to scale in a platform world](#)

Objectives:

- (i) Understand that network effects and their strengths vary across platforms.
- (ii) Explore how to manage a shift to top-down enterprise selling, especially the impact on product and company culture.
- (iii) Recapitulate analysis of whether/when to focus on accelerating growth in core business vs. diversifying in new directions in a context of a two-sided market.

Prepare: Read the Catalant case on ForClass and submit your responses on the platform. This should be done individually.

VIII. Constrained? How to Scale: People and Processes

Session 243 [Introduction to People and Processes: The Challenges](#)

Objectives:

- (i) Discuss the organizational challenges that firms face when they begin to scale rapidly.

Prepare: Read the CloudFlare case on ForClass and submit your responses on the platform. This should be done individually.

Session 24: [How to scale: Processes and Structure](#)

Objectives:

- (i) Discuss when and how to scale organizational structure
- (ii) Discuss the process to scale processes
- (iii) Discuss the right time to scale processes

Session 25: [How to scale: people and culture](#)

Objectives:

- (i) Discuss the balance between growth, people hiring and process streamlining.
- (ii) Understand the implication of growth to the culture of the venture.

Module 26: [How to scale: people and organizations](#)

Objectives:

- (i) We will discuss the organizational challenges that firms face when they aim to reignite growth in a mature industry.
- (ii) We will discuss the role of processes and the interaction between processes and culture in an operationally driven market.
- (iii) Understand the role of the manager as an educator in a scaling organization.

Prepare: Read the Pals case on ForClass and submit your responses on the platform. This should be done individually

IX. Leadership? How to Scale: People and Processes

Session 27: **How to scale: Decentralized vs Centralized**

Objectives:

- How should firms allocate decision rights as the organization grows with focus on central versus local decision rights.

Prepare: Prepare the Careem case on ForClass and submit your responses on the platform.

Session 28: **How to scale: role of the founder**

Objectives:

- (i) Indicate how scale changes the role of a founder/CEO
- (ii) Discuss the need to modify reporting structures and clarify decision rights as the organization grows with focus on central versus local decision rights.
- (iii) Emphasize the importance of culture, communications and other soft interventions to mitigate the effects of structural changes.

Wrap up