Chapter 3 – Architecture & Design

3. Architecture: Basic Principles for Designing Successful Platforms

4. Disruption: How Platforms Conquer & Transform Traditional Industries
5. Launch: Chicken or Egg? 8 Ways To Launch Successful Platforms
6. Monetization: Capturing the Value Created by Network Effects
7. Openness: Defining What Platform Users/Partners Can & Cannot Do
8. Governance: Policies That Increase Value and Enhance Growth
10. Strategy: How Platforms Change Competition
11. Policy: How Platforms Should (and Should Not) Be Regulated
12. Future: Industries Facing Imminent Change
PLATFORMS REMAKE THE TRADITIONAL VALUE CHAIN
VALUE CREATION INSIDE VERSUS OUTSIDE

Traditional value chain (pipeline) business
VALUE CREATION INSIDE THE PIPE

1. Producer owns the pipe
2. Producer adds value, controls the process
3. Value flow is linear
VALUE CREATION INSIDE VERSUS OUTSIDE

1. Producer role distinct from platform
2. Platform curates, controls movement
3. Value flow is network matching
BUSINESS MODELS CAN OVERLAP
Platforms Scale More than Pipes
``In 2015, Uber, the world’s largest taxi company owns no vehicles, Facebook the world’s most popular media owner creates no content, Alibaba the most valuable retailer has no inventory, and Airbnb the world’s largest hotelier owns no real estate.”

Tom Goodwin, Sr. VP of Strategy Havas Media
FOUNDED IN 2008, AIRBNB OPERATES AT GLOBAL SCALE
1M+ listings, 34,000 cities, 180 countries

Identify spare capacity, scale across boundaries

Paris 40,000 listings
Berlin 8,105 listings
Sydney 5,692 listings
# Platforms Exist on Top of Asset Heavy Industries

<table>
<thead>
<tr>
<th>Enterprise Type</th>
<th>Hierarchical Organization + Physical Assets*</th>
<th>Platform Ecosystem</th>
<th>Example Companies</th>
<th>Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Heavy</td>
<td><img src="https://via.placeholder.com/150" alt="Asset Heavy Diagram" /></td>
<td><img src="https://via.placeholder.com/150" alt="Platform Ecosystem" /></td>
<td>Daimler, Johnson Controls, GE</td>
<td>Moovel, Panopix, Predix</td>
</tr>
<tr>
<td>Mixed</td>
<td><img src="https://via.placeholder.com/150" alt="Mixed Diagram" /></td>
<td><img src="https://via.placeholder.com/150" alt="Platform Ecosystem" /></td>
<td>Apple, Amazon, HP, Samsung</td>
<td>App store, App store, SDN App Store, Samsung Apps</td>
</tr>
<tr>
<td>Asset Light</td>
<td><img src="https://via.placeholder.com/150" alt="Asset Light Diagram" /></td>
<td><img src="https://via.placeholder.com/150" alt="Platform Ecosystem" /></td>
<td>Google, Uber, Airbnb</td>
<td>Google Play, Uber app, Airbnb app</td>
</tr>
</tbody>
</table>

* Includes HQ, other rooftops, retail outlets, manufacturing plants, service shops, etc.

Source: P. Evans, CGE; CB Insights, Capital IQ, 2015
SO HOW DO YOU DESIGN A PLATFORM?

LET’S START WITH 3 PRINCIPLES OF PIPE DESIGN...
1. Define the value unit
2. Design the process that adds value and delivers this unit to the customer
3. Design the pipe (value chain) that controls and optimizes this process
MOVING TO 3 PRINCIPLES OF PLATFORM DESIGN...
1. DEFINE THE VALUE UNIT

Exchanged: ride, stay, video, news, tweet, design, auction item
VALUE CREATION OUTSIDE THE PIPE

STAYS

TWEETS

VIDEOS

PROJECTS

SERVICES
VALUE CREATION OUTSIDE THE PIPE

2. DESIGN THE *INTERACTION* AROUND THE VALUE UNIT

Creation, Curation, Consumption
3. Design the platform that enables this interaction

COMPLETE EXCHANGE INCLUDES INFORMATION, GOODS / SERVICES, AND CURRENCY
The fallacy: Platforms are in the business of BUILDING FUNCTIONALITY
Instead... the goal is
ENABLING INTERACTIONS
How do we optimize the platform value chain?
Design the architecture to support a network, tools and data.

OPTIMIZING THE PLATFORM
OPTIMIZING THE PLATFORM

1. Design the network to get both roles on board
2. Provide them tools to interact and exchange value
OPTIMIZING THE PLATFORM

3. Use data to make the best match
What’s inside and what’s outside the Platform?
Put high frequency usage, low variety components in the core platform (network). Put low frequency usage, high variety components at the app layer (ends), even if low level.

Implementing any function incurs some resource penalty regardless of whether the function is used or not. Putting this function in the network distributes these penalties among all clients, regardless of whether they use that function or not. Saltzer, Reed & Clark (1981)
Mac OS X broke from Mac OS 9. Apps incompatible but emulator helped OS 9 users.

Respecting end-to-end principle vastly improved efficiency & upgrades

Vista tried to do all things for all users. Compatible back to DOS. Critics dubbed it “goatware” because it ate everything.

Did NOT respect end-to-end principle. XP discontinued in 2008 but had 12% market share to Vista 2% in 2015

This deep principle of network architecture also applies to business architecture.
AMAZON APIS LET OTHERS BUILD ON THEIR SYSTEMS VS WALMART

Source: Rahul Basole and Peter Evans, with data from ProgrammableWeb, Center for Global Enterprise, 2015

Points represent APIs. Links represent mashups or recombinations of API calls.

API Clusters
- Social media / web
- Job search / work
- E-commerce
- Tools / cloud / big data
- Enterprise / storage
- Payments
- Messaging services

Companies
- Walmart
- Amazon
Logistics & supply chain squeezing have limits. External value add is much less limited.

WALMART VS AMAZON GROWTH OVER 10 YEARS: 12% VS 1516%
## TAKEAWAYS FROM CHAPTER THREE

A platform remakes the pipeline value chain, adding value creation outside the firm.

A platform is fundamentally an infrastructure designed to facilitate three kinds of exchange: information, goods/services, and currency.

The design of a platform should begin with its core interaction—one kind of interaction that is at the heart of the platform’s value-creation mission.

Three key elements define the core interaction: the participants, the value unit, and the filter. The value unit is the most crucial, and often the most difficult to control.

In order to make the core interaction easy and even inevitable, a platform must perform three crucial functions: pull, facilitate, and match. All three are essential, and each has its special challenges.

As a platform grows, it often finds ways to expand beyond the core interaction. New kinds of interactions may be layered on top of the core interaction, often attracting new participants in the process.

The end-to-end principle means putting high volume low variety functions in the platform, and putting low volume high variety functions in the apps.

It’s important to design a platform to make valuable interactions easy for large numbers of users. But it’s also important to leave room for serendipity and the unexpected, since users themselves will find new ways to create value on the platform.
Platform Revolution:
Chapter 4 – Disruption

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