



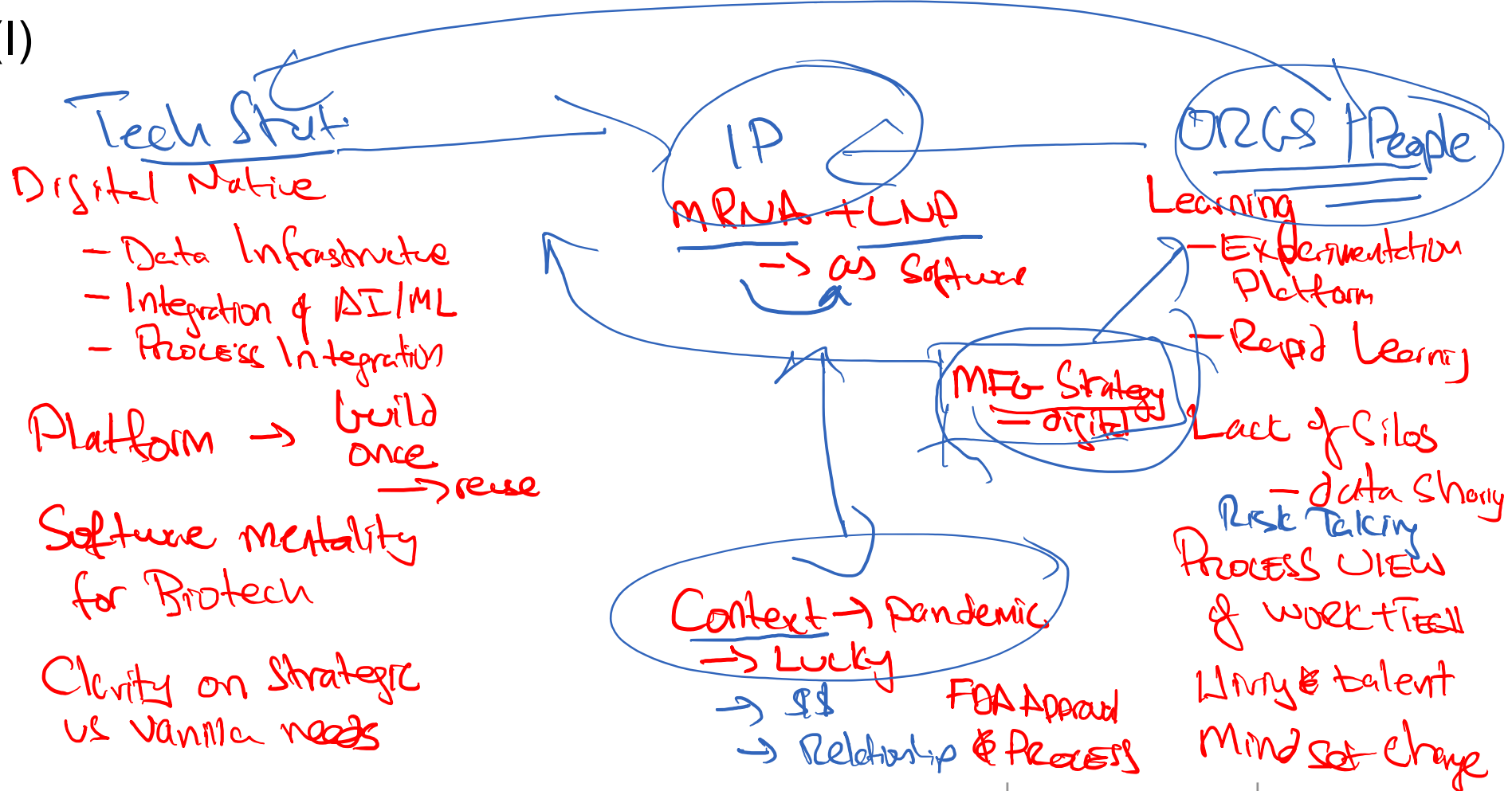
Moderna

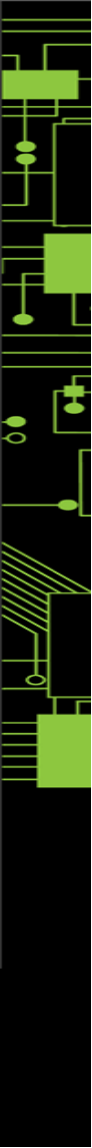


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What enabled Moderna to move so fast with Covid-19 Vaccine?

(I)





What enabled Moderna to move so fast with Covid-19 Vaccine? (II)

→ Culture of Speed ← ← Risk Taking → What if / Platform

What is Moderna's Operating Model? (I)

Scale

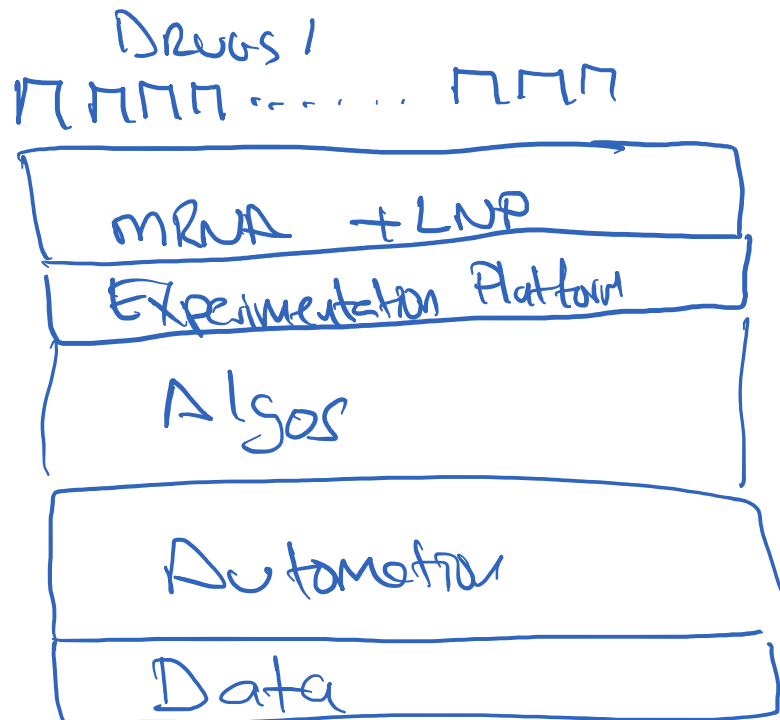
Parallel process
Problem firsts
→ Antisense next
Partners

Scope

Vertical Integration
MVP model

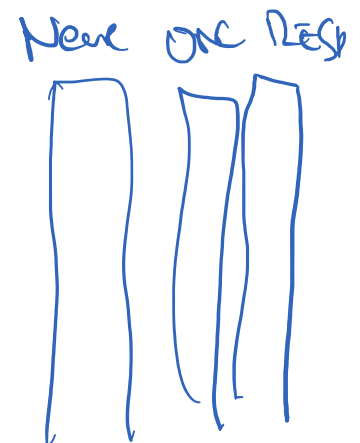
Learning

→ lessons from
one drug ⇒
other drugs
→ Experimentation



R&D | Clin | MFG | OPS
(Datafication) | Digital

Traditional





What is Moderna's Operating Model? (II)



How is this different from traditional players?

What should we do with the current opportunity and the vaccine business?



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What would you do with the vaccine business?

Reflections (Bancel Videos)

Why Digital & AI?

✓ Quality ✓ Speed ✓ Cost ✓ Culture

↓
Digital enables
Culture



Breakout: Why go digital?

Updates

I We are accelerating the scale up of Moderna

2018	2020	2022
0 commercial products	1 commercial product	1 commercial product
21 development programs	25 development programs	48 development programs
9 preclinical	11 preclinical	13 preclinical
11 Phase 1	8 Phase 1	17 Phase 1
1 Phase 2	4 Phase 2	9 Phase 2
0 Phase 3	1 Phase 3	4 Phase 3
0 Commercial Stage	1 Commercial Stage	5 ¹ Commercial Stage

What will be our pipeline in 2024 or 2026?

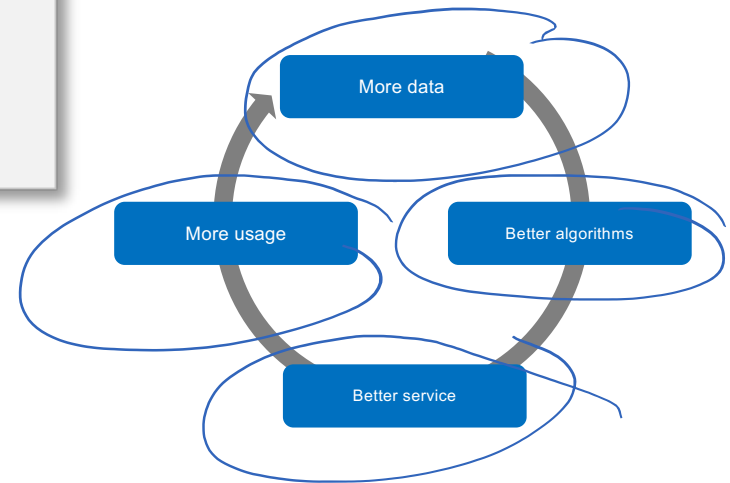
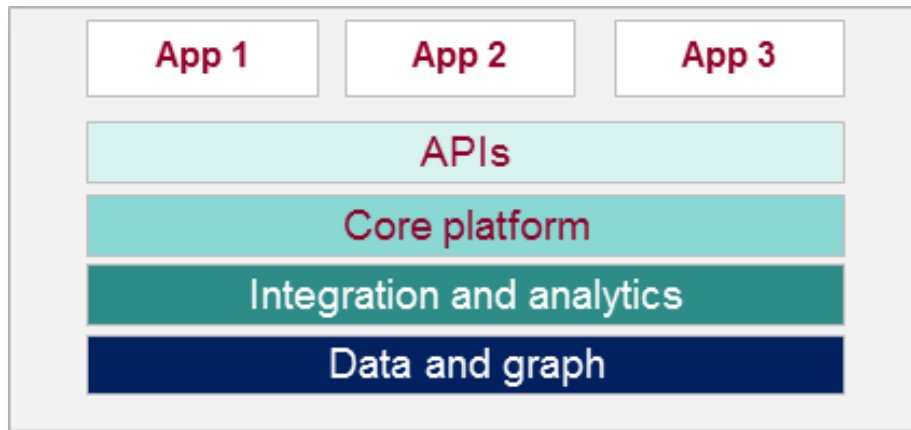
¹Figure includes several development programs for mRNA-1273, mRNA-1273.214 and mRNA-1273.222 across adult, adolescent and pediatric indications
*Development programs at end of the indicated year

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moderna

HARVARD | BUSINESS | SCHOOL

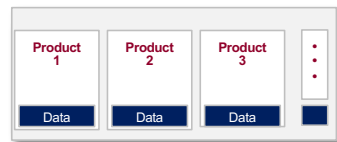
Comparing Operating Model with a Tech Company



AI-First Companies Are Characterised by a Different Operating Architecture, Embedded in Technology, Organisation, and Processes

NOKIA

Product operating model



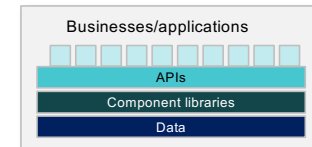
Organisation

Product and functional silos
 Focused and dedicated teams
 Heavyweight project management
 IT/SW/HW optimised by product line
 Data/analytics embedded in product

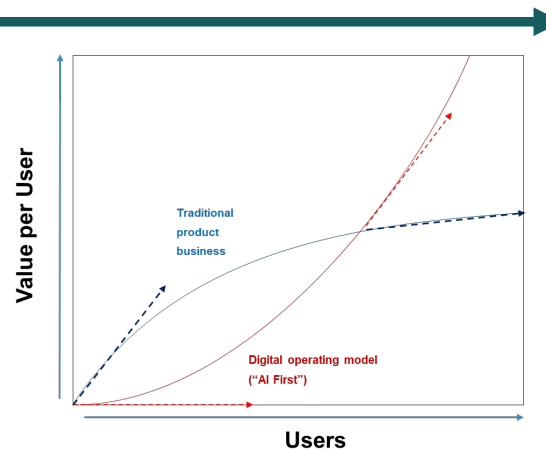


Google | Apple

Digital (AI-first) operating model



One foundational platform
 Many applications (internal or external)
 Functional structure, ad hoc teams
 Centralised, common data group
 Distributed development, universal APIs



H A R V A R D

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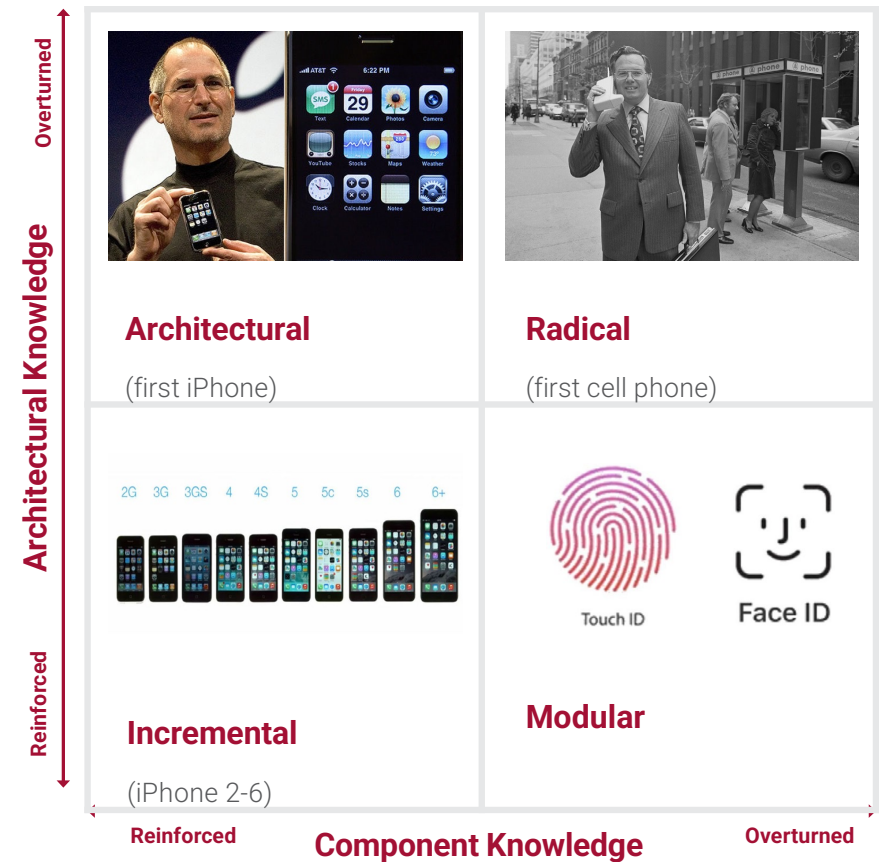
Why did Nokia not respond?

Henderson and Clark (1990) and
“Architectural” Innovation

An architectural innovation changes the architecture of a product ...

... Architectural knowledge becomes embedded in practices and procedures of an organization over time ... making architectural innovations difficult to recognize and to respond to ...

... Once an organization has recognized the nature of an architectural innovation, it still needs to build and apply new architectural knowledge effectively ...



Examples in other industries – what else are you observing?



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Antonio Moreno

COMPANIES

The Power Of Data

Shein's ability to harness data transformed the process of uncovering trends and translating them into new products — it tracks the popularity of products using real-time customer data and tunes production accordingly.

Turnaround from concept to finished product takes just days, which means Shein can introduce more than 6,000 products per day, and generate a sense of newness and novelty. Shein is more than an online fashion player; it's partially an experimentation lab. This is certainly not a blueprint for luxury brands, but it underlines the huge market opportunity to mine quality data. And this can affect the bottom line.

Its growth may be slowing, but the scale and acceleration of Shein's global market presence outside of China is disrupting how Gen Z shops for fashion.

APRIL 4, 2022 10:45 PM ET

From Disruption to 'Collision'

What happens when a firm that has competed in a traditional market starts to compete with a firm based on a digital operating model?

