Is Urban Air Mobility Really Disruptive?
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(RE)EMERGING VTOL CONFIGURATIONS

- Enabled by the electrification of powertrains
- Actively trading payload and range capability for cost and acoustics
- Seeking to provide more rapid mobility given congestion and throughput limitations in other transportation modalities
RISE OF ‘DISRUPTIVE INNOVATION’
WHY SHOULD WE CARE ABOUT WORD PRECISION?

Level of Incumbent Cannibalization

Evolutionary
- Incremental advancement on existing offering

Revolutionary
- Substantial capability improvement on existing offering

Breakthrough
- New offering that offers alternative to existing customers

Disruptive
- New offering that invalidates current business model

‘Sustaining Innovation’

Incumbent Response
Incumbents have a choice on investment and timing of investment based on their perceived competitive positioning

Type of Innovation sets priority for deployment of company resources and response times


SETTING A FOUNDATION & DEBUNKING A FEW MYTHS

___________ is/is not disruptive to participants in the _____________ market

Disruptive ≠ Large Market Opportunity

Disruptive ≠ Successful Companies

Disruptive ≠ Technology Alone

Disruption ≠ One Time Event
SO WHAT IS DISRUPTIVE INNOVATION?

- Streaming Entertainment
- Ride Sharing Services

Source: Wikimedia Commons
SO HOW DO YOU DETERMINE WHAT IS DISRUPTIVE?

- Are the offerings are being ‘hired for the same job’?

- Does the offering create either a ‘low-end foothold’ or a ‘new-market foothold’?

- Are we and our peers likely to ignore them for some time?

- If successful would we and our peers find it difficult to respond?
OUR PROOFS FOR THIS EVENING

_Urban Air Mobility_ Solutions are/are not disruptive to participants in the ___________ market

_Electric Propulsion_ is/is not disruptive to participants in the ___________ market
BEING HIRED FOR THE SAME ‘JOB’
Being hired......

......to move people and goods from one destination to another......

......to move people and goods from one destination to another [that require VTOL in terminal areas].....

......to move [thousands of pounds of] people and goods from one destination to another [hundreds of miles apart] that require VTOL in terminal areas......

......to move thousands of pounds of people and goods from one destination to another, hundreds of miles apart, that require [sustained VTOL at points in the mission for successful execution]......

Being hired......

......to transmit power between a generation/storage source and an consumption point......

......to transmit [significant amounts] of power between a [large] generation/storage source and [rotating components]......

......to transmit significant amounts of power between a large generation/storage source and rotating components [in a high vibratory environment]......
Low End and New Market Footholds

United States Serving Airlines Total Passengers Per Year (millions)

Source: US Bureau of Transportation Statistics, T-100 Market (All Carriers)
Low End and New Market Footholds

Source: Wikimedia Commons
Are Incumbents Ignoring These Trends?

Boeing’s experimental autonomous aircraft completes its first test flight

Bell Revamps Nexus as Four-rotor eVTOL

Airbus reaffirms commitment to CityAirbus eVTOL program despite effects of pandemic on business
How Difficult Would it Be to Respond?

- Talent and Core Capabilities
- Manufacturing Methods
- Processes and Standards
- Partnerships/Collaborations

Source: US Air Force
## Putting the Pieces Together

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THANK YOU!
References and Further Reading


