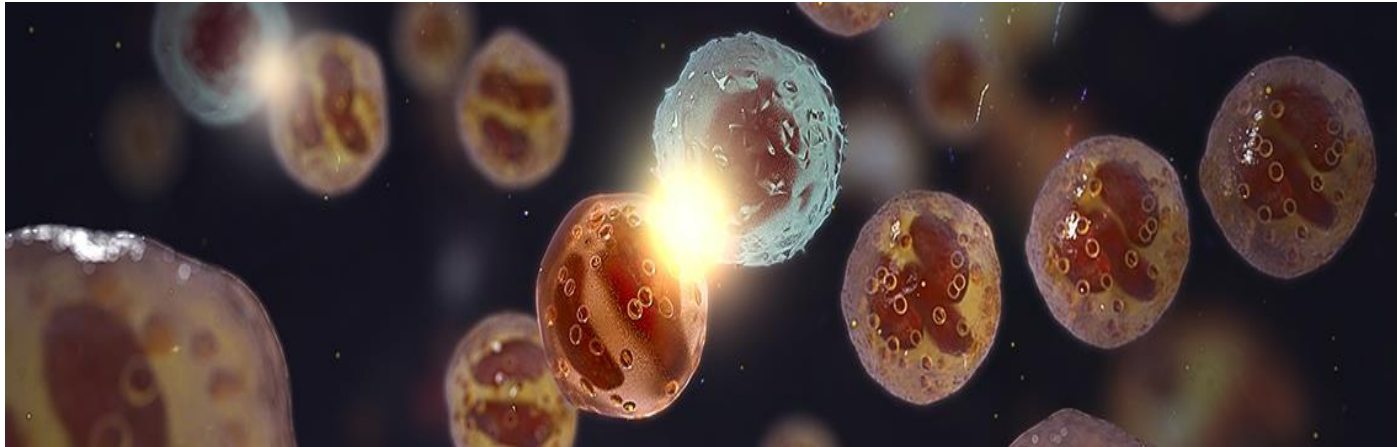


The Future of Strategic Thinking in Pharma Manufacturing

Harish Aditham

Continuous Improvement Manager, AstraZeneca Operations, Australia

24 Jul 2017



Where are we today?

BUSINESS INSIDER
AUSTRALIA


Tech Insider Money & Markets Briefing Ideas Executive Life Video

MONEY & MARKETS

Airline CEO predicts a future where 'we will pay you to fly'

BENJAMIN ZHANG
JUL 15, 2017, 9:12 PM

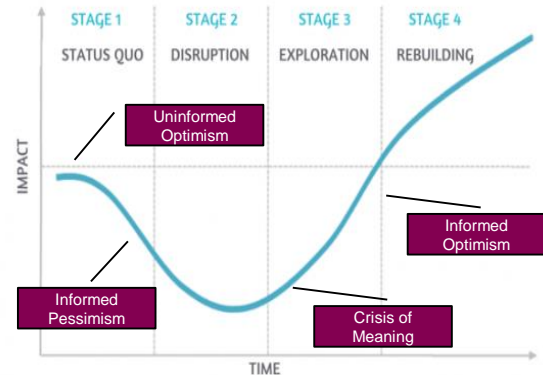
f FACEBOOK t TWITTER ↑ REDDIT in LINKEDIN ✉ EMAIL

A photograph of a man with a beard and short brown hair, wearing a dark suit jacket over a light-colored shirt, smiling and looking upwards and to the right. He is positioned in the foreground. Behind him is a large commercial airplane with a distinctive pink and white livery. The sky is overcast and grey.

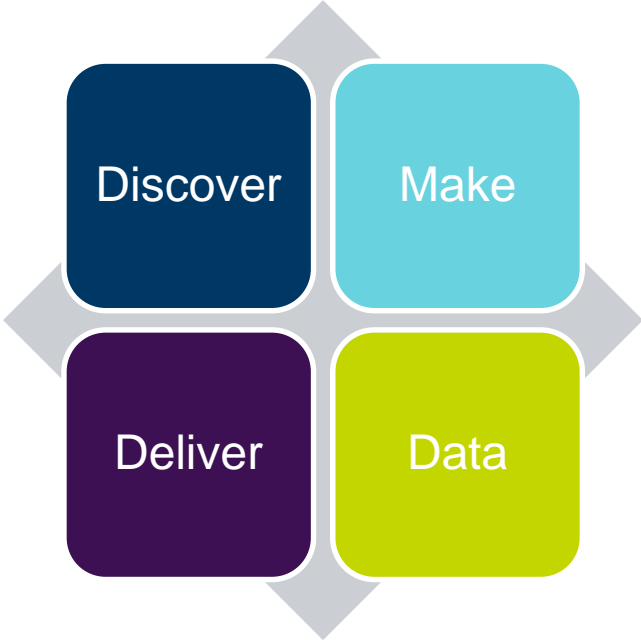
Inflection and related buzzwords

Product \longrightarrow Service

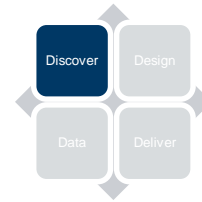
- Industry 4.0
- Continuous Manufacturing
- Quality By Design
- Specialty Pharma
- Novel Drug Delivery
- Open Innovation
- Agile supply



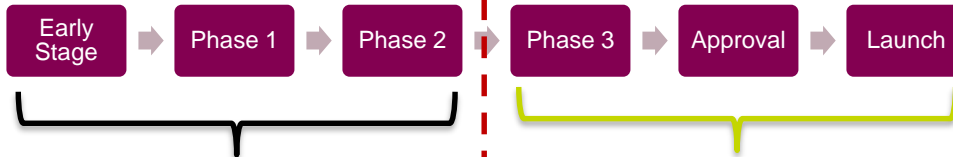
A Framework for Dialogue



The Era of Specialty Pharma and Operations as Leverage



More molecules
Targeted pathways



Smaller volumes
First to market

Cross industry collaboration,
focused therapeutic areas, bolt on
acquisitions, open innovation

Greater collaboration with
Manufacturing, novel drug delivery,
launch optimisation

Challenges

- Smaller Volumes
- Drug delivery complexity

Impact on Operations

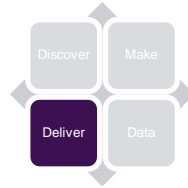
Opportunities

- Industry 4.0
- Operations as investment centre



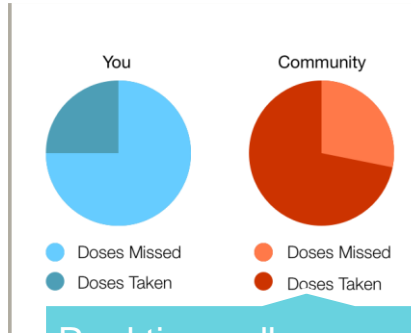
Delivering value and access

Data will be a unique advantage for pharma companies



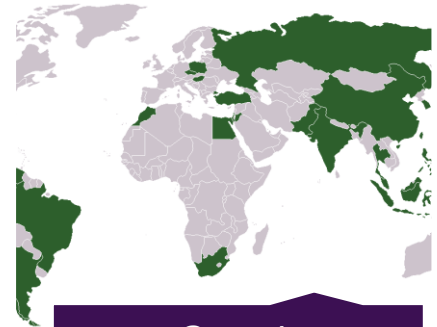
Multi-channel data

59% of patients use a health app



Real time adherence and event monitoring

Average drug adherence ~ 50%



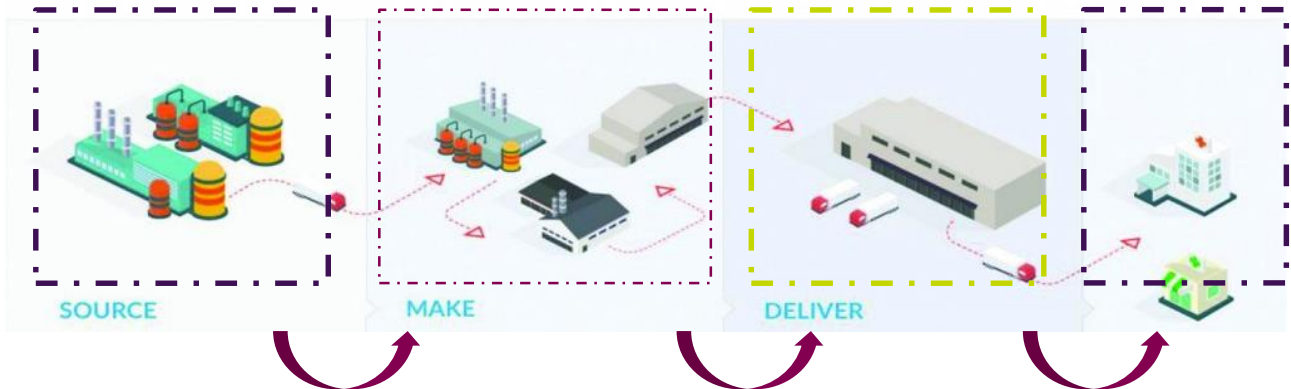
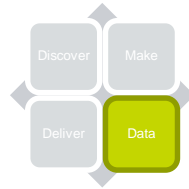
Growth Differentiation

Emerging markets sales ~ 30%



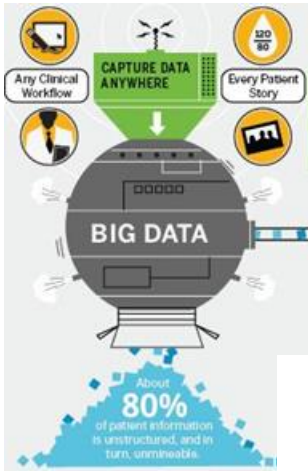
The Data Ocean Lakes

- Profusion on data being generated at every node in increasingly complex supply chain
- Manual transfer of data between nodes of differing parties
- In a world with more data how do we see and validate relevant data? What about Data Integrity?

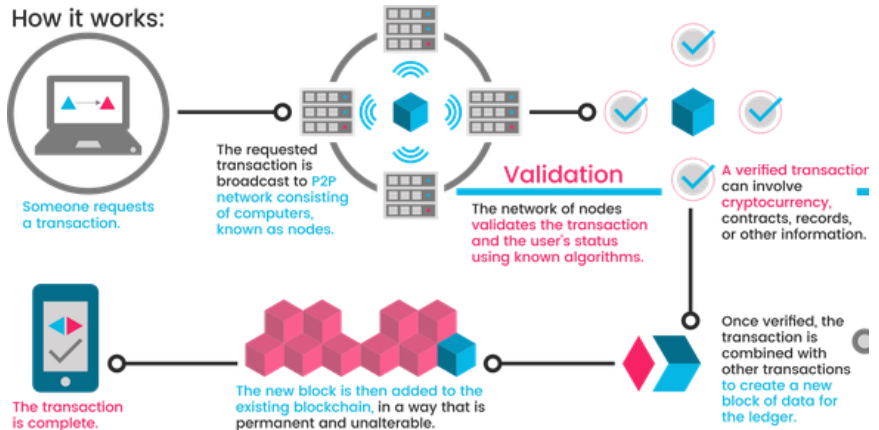


The Next Step in Data Integrity

An indelible, unalterable, contemporaneous record – without the need for an ERP change



How it works:



The Manufacturing Revolution



Continuous Manufacturing

- Scale v/s demand in continuous manufacturing
- Multipurpose manufacturing

Regulation

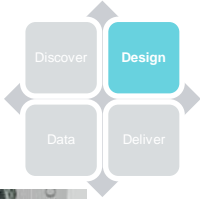
- Continuous Dialogue
- PAT – Real time release
- Predictable Risk

Technology

- 3D printing not just drugs
- Learning AI
- Validation

Socio-Economic

- Legislative challenges with differing growth markets
- Cost v/s players



So where is Pharma Manufacturing heading towards?



Commercialisation
– Scale - Supply
as leverage for
Big Pharma



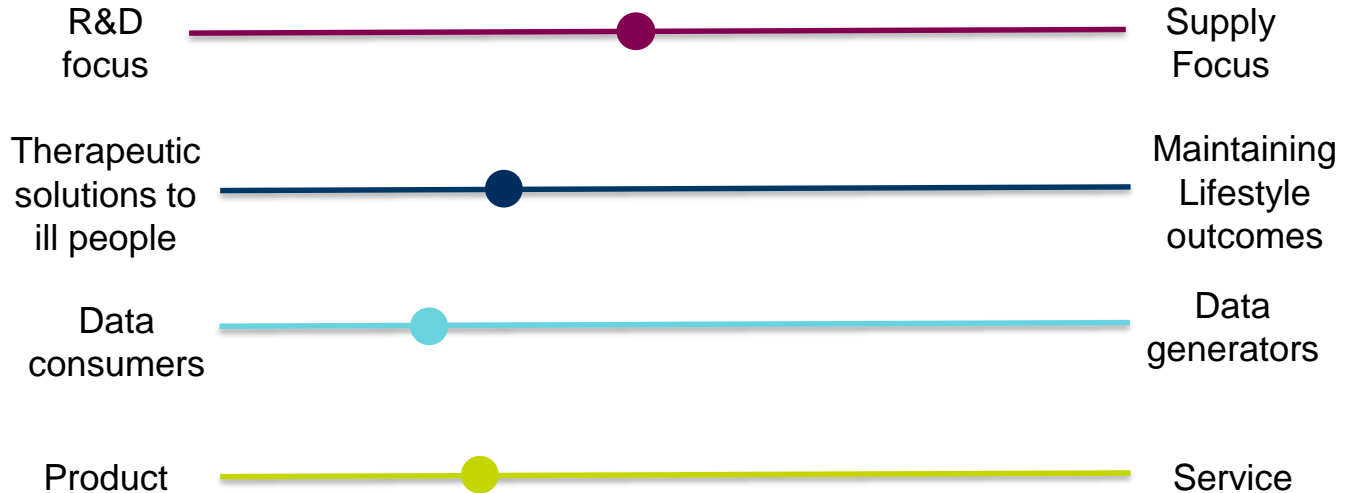
Increase in data
intensity



A search for
golden mean of
technology v/s
regulation



An Industry in Flux – Change the new constant



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