

# **Product Management: A HealthTech/MedTech View**

*A SUMMARY OF TALK GIVEN AT  
NCBIOTECH LIFE SCIENCES MARKETING GROUP : FEB 15, 2022*

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# Still the open question ... what's Product Management

*Summary only notes*



Product Management from *first principles* →

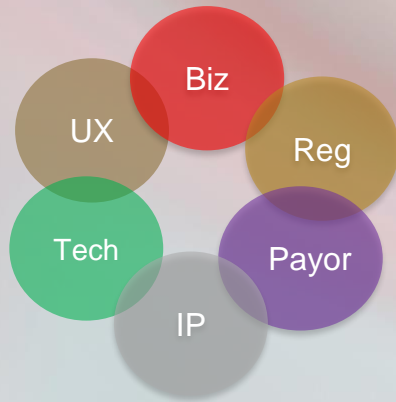
“Product Management is making the product successful, by ensuring alignment within all functions, with specific focus on bringing customer and stakeholder voice to the organization”

*There will always be varying definitions of product management, almost by design.*

*The ultimate goal of product management is to achieve product success. Inevitable variations in circumstances will mean product managers will need to adapt their focus.*

*However, whenever a definition is needed, we should go back to first principles, and for PMs it is making the product successful.*

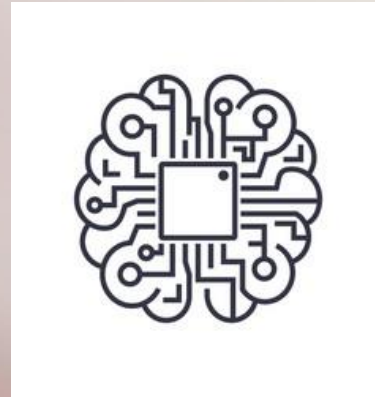
# Product Management in HealthTech: Differences and Similarities



*Broad set of stakeholders:  
Patients, Reg, Payors, Providers*

*Variation on Martin Eriksson definition*

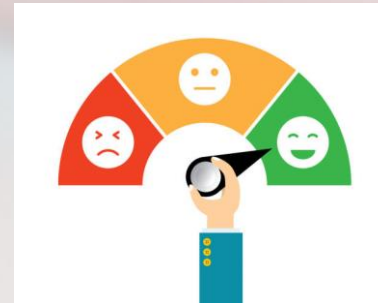
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*Complex and Deep Tech  
Often Involved*



*Regulation and long product  
life cycles*

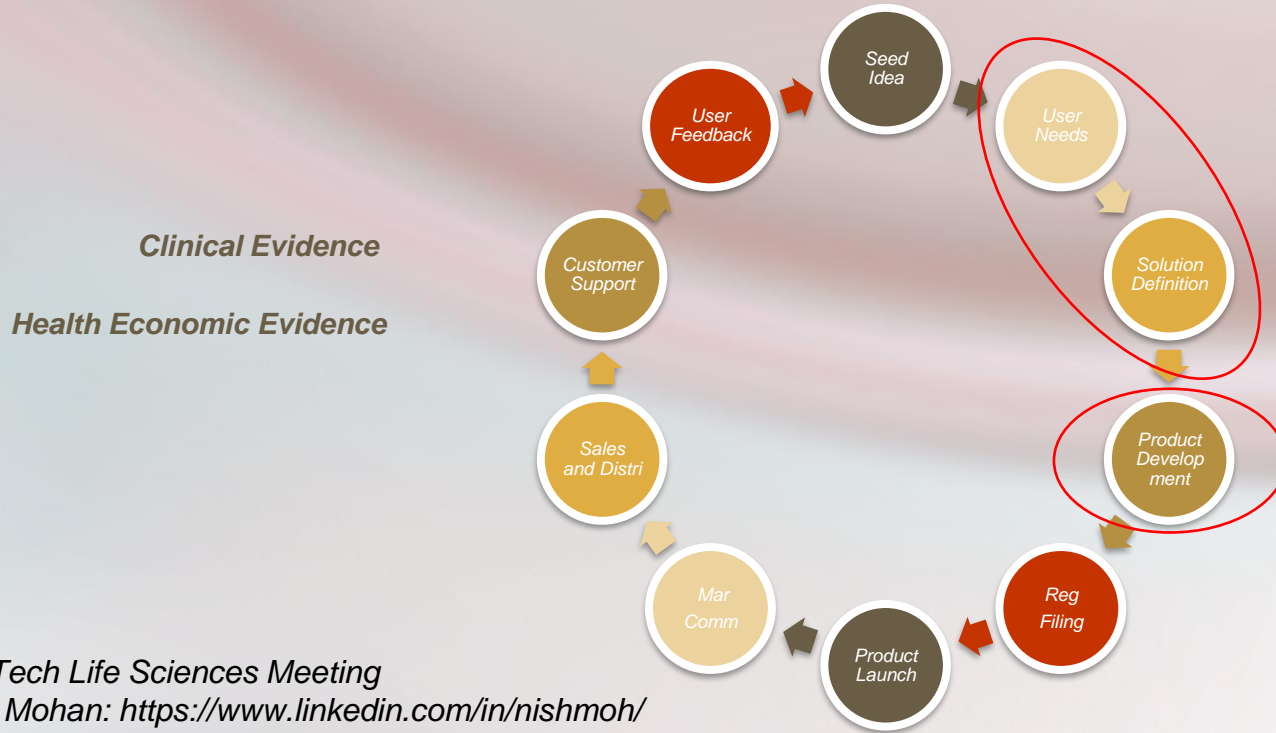


*Ultimate goal remains  
the same:*

*Product success through  
stakeholder satisfaction*

# Product Management has role at all stages of HealthTech Product Life Cycle

- *A Product Lifecycle approach: Healthcare view*



# How do define the product requirements?!



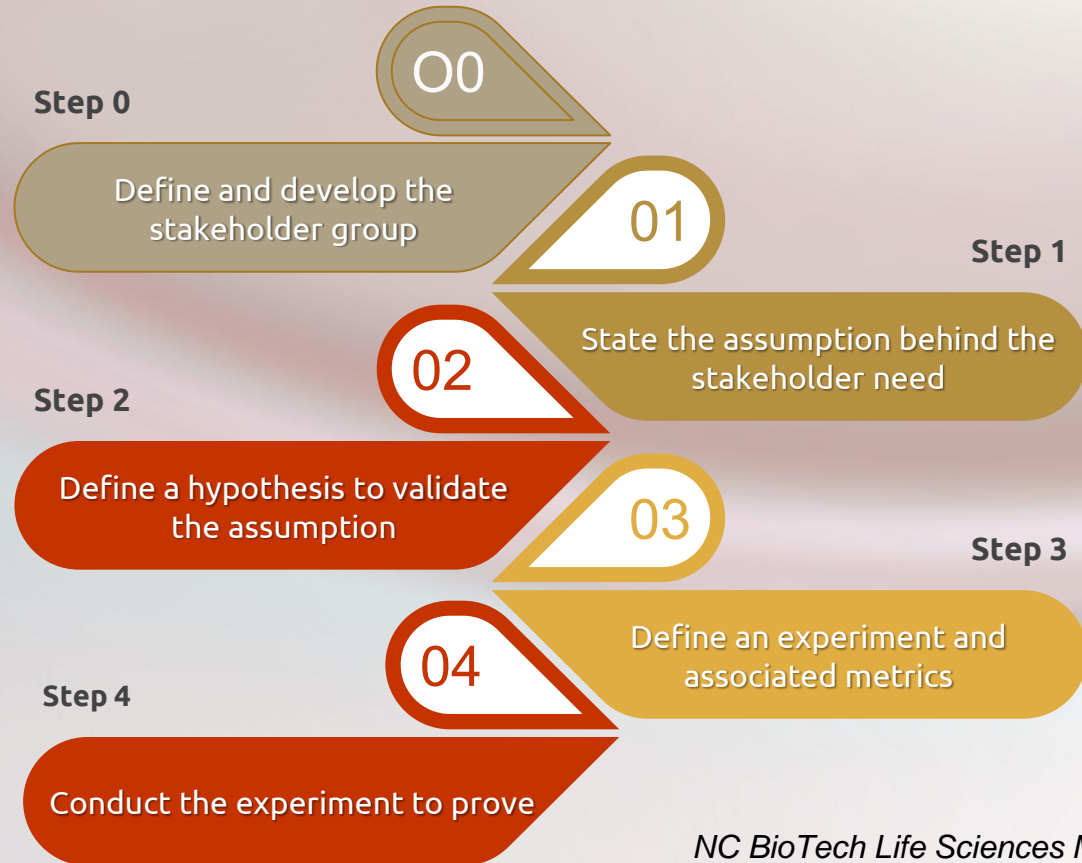
*"Yes, I'm a real Genie... but you're asking me to understand your client's requirements and even I can't do that!"*

Source: ModernAnalyst.com

*Getting the requirements right is majority of the product done!*

- Understanding basic problem via market research
- Define initial list of needs and features using EMUC approach
  - Employees, Metrics, Users, and Clients/Customers
- Defining assumptions related to the user needs
- How do we know we are solving the right problem?!

# Testing assumptions behind user needs



# Running User Need Experiment via *Minimum Viable Product (MVP)*

*Summary only notes*

- MVP: It is probably not what you think!



“That version of a new product which allows a team to collect the **maximum amount** of validated learning about customers **with the least effort**.”

-Eric Reiss, Lean Startup



## Key points about MVPs

Most important learning pertains to the highest risk and highest uncertainty of stakeholder need.

The least amount effort pertain items that require *less time and effort* in development.

*Biggest uncertainties around Stakeholder Needs in the HealthTech are often very different from traditional software, requiring variation in product management methods.*

*Example: An image sharing app needs to validate if a user has a need for it. A HealthTech to cure cancer wouldn't consider core functionality as a high uncertainty need. However, items like frequency of usage, reimbursements etc maybe bigger source of uncertainty and require appropriate validation*

# MVP as a process

## Step 0

Define and develop the stakeholder group

## Step 1

State the assumption behind the stakeholder need

## Step 2

Define a hypothesis to validate the assumption

## Step 3

Define an experiment and associated metrics

## Step 4

Conduct the experiment to prove or disprove the hypothesis

## Step 5

Develop Minimum Viable Product

## Step 6

Launch MVP to Stakeholder group with a method to test the hypothesis

## Step 7

Validate hypothesis(es) based on the result

## Step 8

Update user needs and design input

### *MVP Tools:*

Wire Frames for Digital Apps

Three 3D printed models

Relevant mock prototypes



# How to think about individual product management roles?

- *A Product Lifecycle approach: Healthcare view*

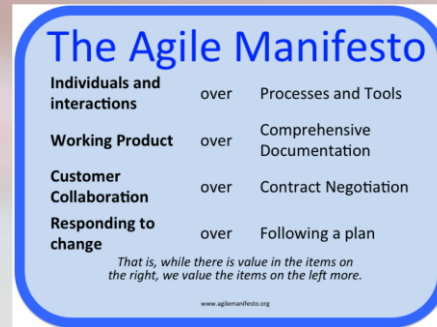


# Fundamental Goals for Product Development

1. Do it Right – Meets the stakeholder needs
2. Do it Efficiently – done in fastest time with available resources

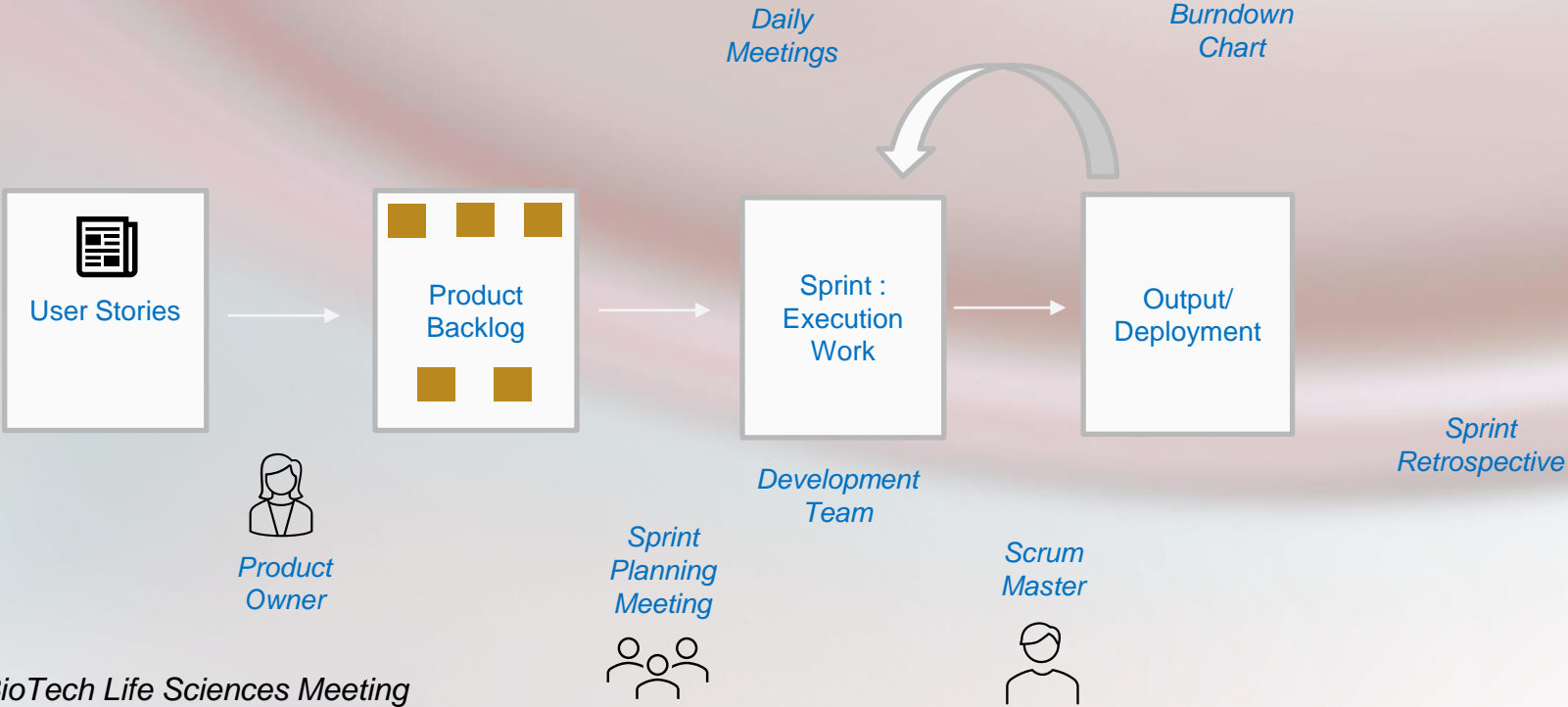
# Agile Product Development

- Concept:
  - Iterative and fast development
  - Popular in software development
- Two main agile approaches
  - Scrum
  - Kanban



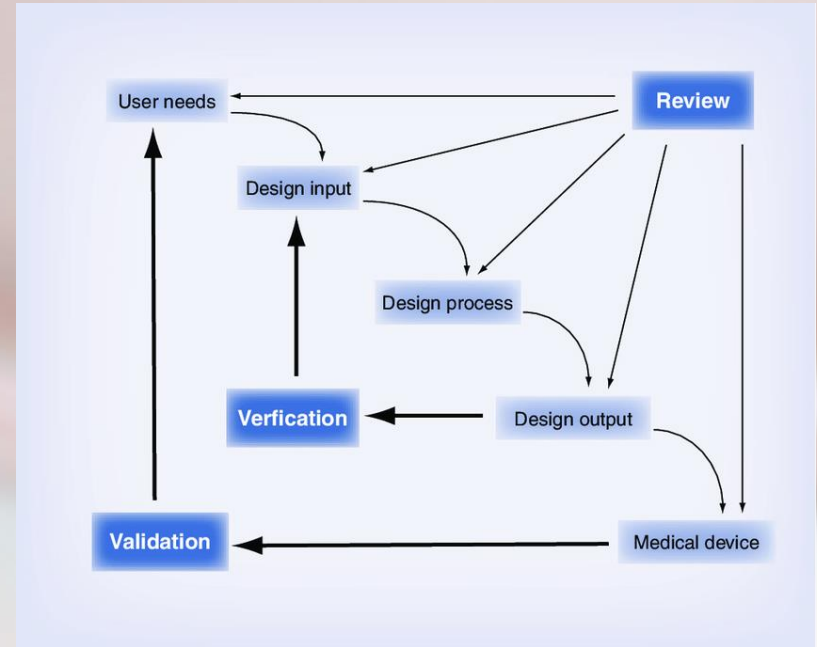
Source: [AgileManifesto.org](http://AgileManifesto.org)

# Scrum based product development



# Waterfall Product Development Method

- Definition of user needs
- Design inputs developed from user needs
- Designs are executed to generated design output
- Design output is tested against the design inputs: *Verification*
- The device is tested against the user needs: *Validation*



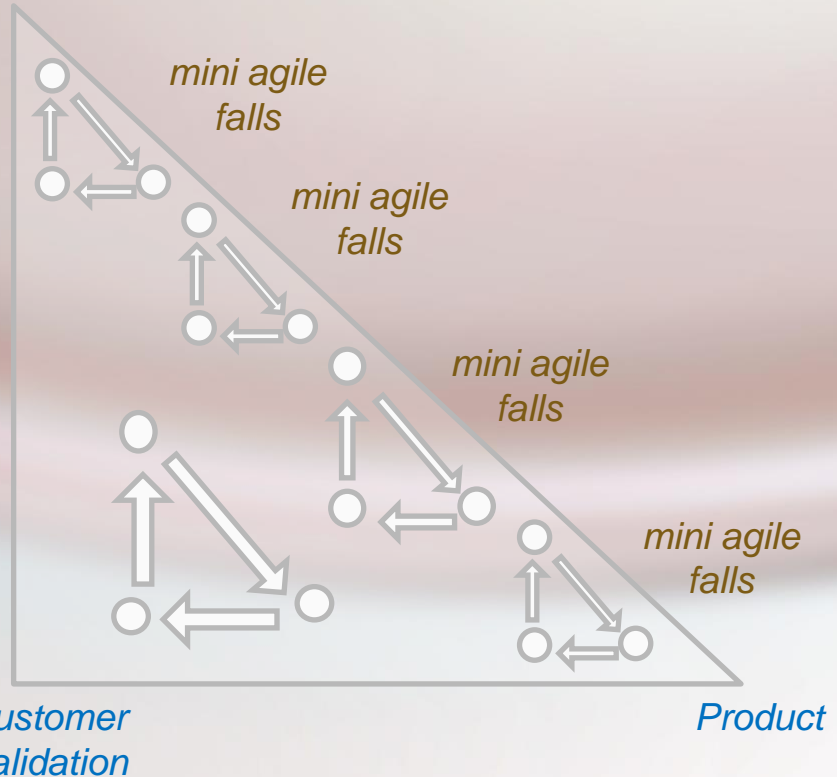
# Agile vs Waterfall

- Agile and Waterfall can coexist
- Agile focuses on quick iterations, Waterfall on rigorous verification/validation

*Stay focused on the first principles!*

1. **Do it Right** – Meets the stakeholder needs
2. **Do it Efficiently** – done in fastest time with available resources

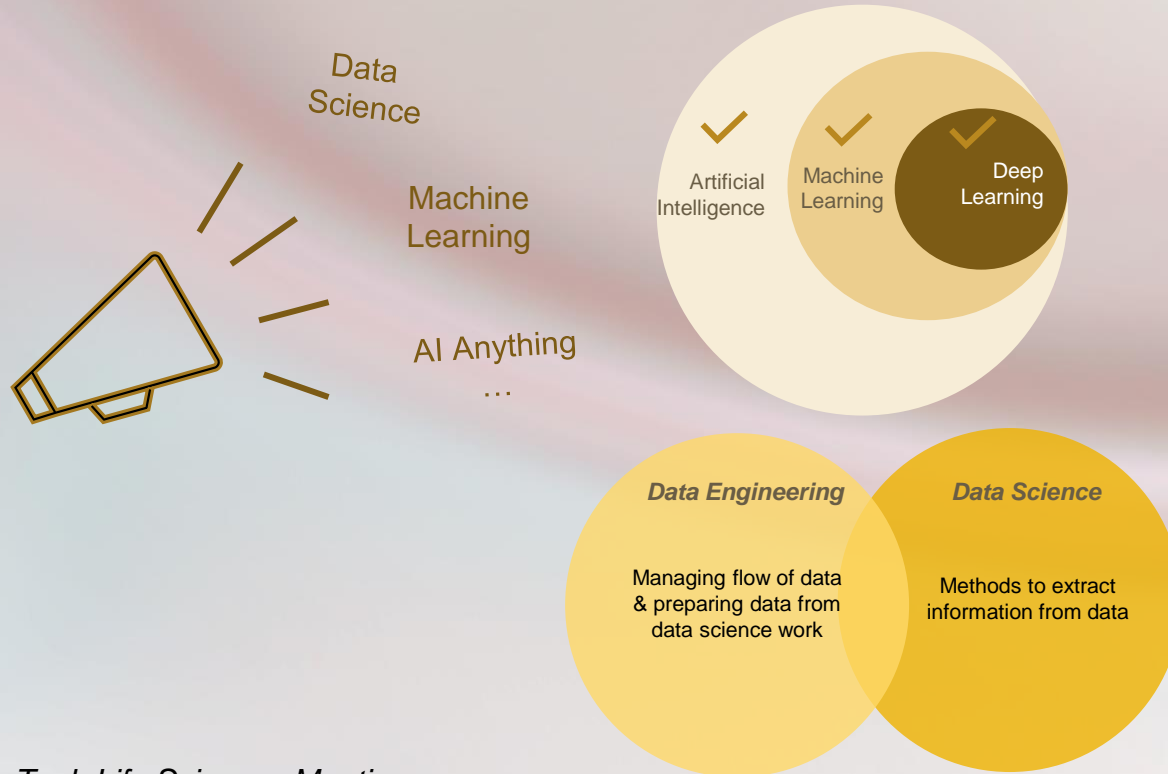
*User Needs*



# **Increasing role of data in product management**

# Role of data in product management

Summary only notes



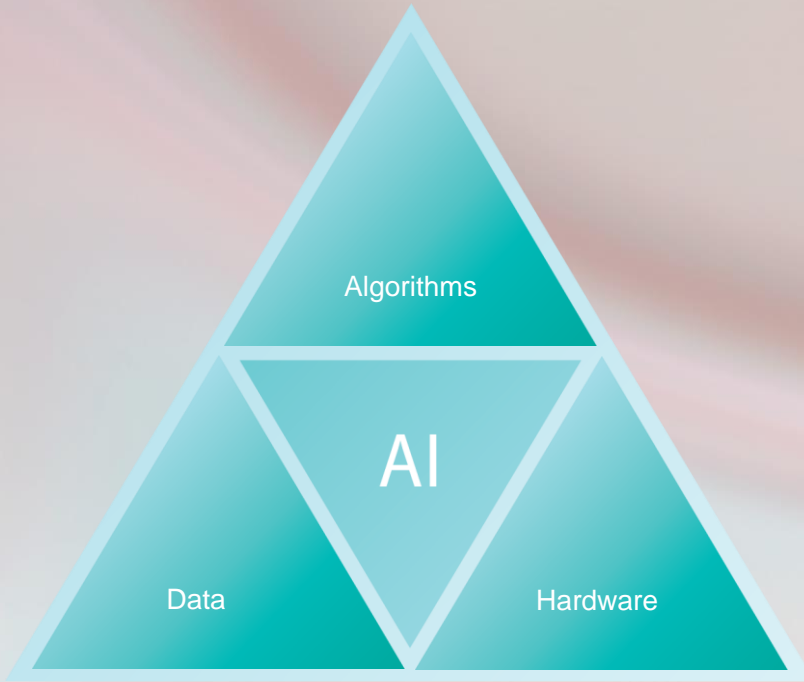
*Artificial Intelligence refers to human like abilities demonstrated by machines.*

*Machine learning is ability of machines to learn and hence demonstrate intelligent behavior. Deep learning is a modern form of machine learning using complex neural networks.*

*Data engineering has become important with growth in amount of data. Data science refers to all techniques that extract information from data, including machine learning.*



# How big data got big: 3 key factors



Three factors have driven exponential growth in what we call artificial intelligence, machine learning and data science:

1. Development of efficient algorithms, particularly deep neural networks
2. Availability of very large datasets
3. Growth in parallel processing hardware like graphic processing units

# Why data matters in Product Management

*Data is life blood of product management (data driven decisions)*

*Product design with mindset for data is becoming critical*

*Machine Learning tools are important product feature considerations*

*Data focused techniques are watershed moment for healthcare PMs*

# Summary



Product management has a context dependent definition – core goal is the success of the product and business



A product led culture uniquely focuses on user/stakeholder



HealthTech product management takes unique flavor with same core aspiration – Lot of room stakeholder voice via PMs



Growth of digital and data science related methods will make role of product management more important/visible in HealthTech

## Resources

*[A living list of PM resources by Team Infinity on Medium](#)*

*[Productplan.com](#)*

*[Producthabits.com](#)*

*[MindtheProduct.com](#)*

*[ProductLedAlliance.com](#)*