Product Management: A HealthTech/MedTech View

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

Nishant Mohan
Vice President, Notal Vision Inc
https://www.linkedin.com/in/nishmoh/
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 Erikkson definition

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Product Management has role at all stages of HealthTech Product Life Cycle

- A Product Lifecycle approach: Healthcare view

Clinical Evidence
Health Economic Evidence

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
How do define the product requirements?!

- 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?!

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

Getting the requirements right is majority of the product done!

Source: ModernAnalyst.com

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Testing assumptions behind user needs

Step 0
Define and develop the stakeholder group

Step 1
Define a hypothesis to validate the assumption

Step 2
State the assumption behind the stakeholder need

Step 3
Define an experiment and associated metrics

Step 4
Conduct the experiment to prove

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Running User Need Experiment via Minimum Viable Product (MVP)

- 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.

NC BioTech Life Sciences Meeting

Nishant Mohan: https://www.linkedin.com/in/nishmoh/
**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

Clinical Evidence

Health Economic Evidence
Fundamental Goals for Product Development

1. *Do it Right* – Meets the stakeholder needs

2. *Do it Efficiently* – done in fastest time with available resources

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Agile Product Development

- Concept:
  - Iterative and fast development
  - Popular in software development

- Two main agile approaches
  - Scrum
  - Kanban

Source: AgileManifesto.org

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Scrum based product development

- User Stories
- Product Backlog
- Development Team
- Sprint: Execution Work
- Output/Deployment
- Daily Meetings
- Scrum Master
- Burndown Chart
- Sprint Retrospective

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Waterfall Product Development Method

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

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
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

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
Increasing role of data in product management
Artificial Intelligence refers to human-like abilities demonstrated by machines.

Machine learning is the 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

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
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

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/
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

NC BioTech Life Sciences Meeting
Nishant Mohan: https://www.linkedin.com/in/nishmoh/