Product Management in the Digital Era

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IIMV

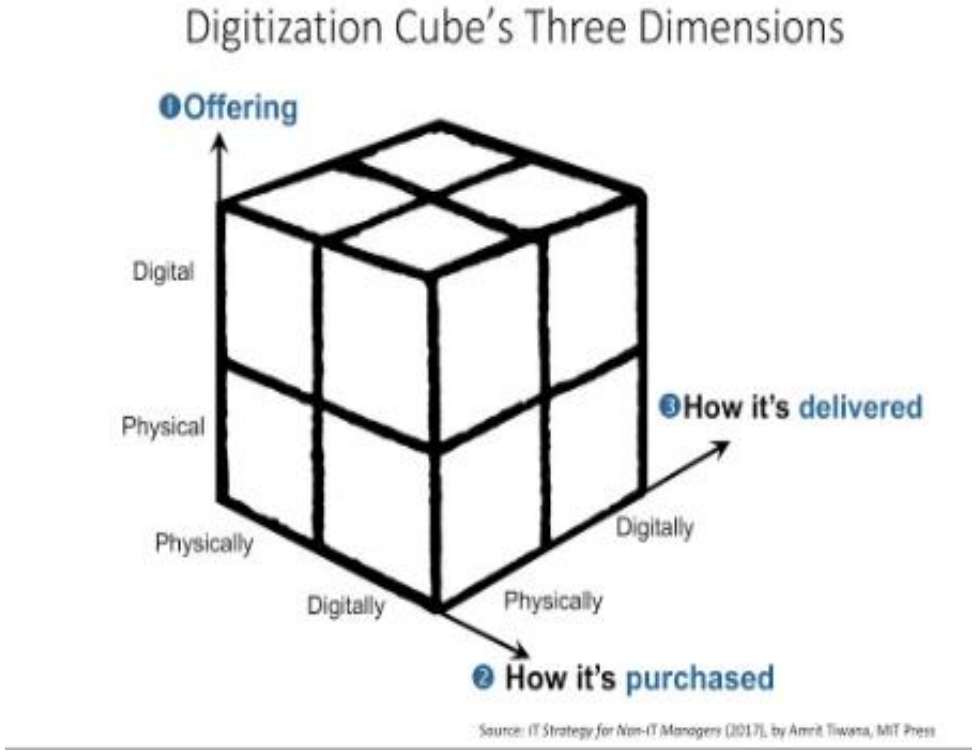
SESSIONS 5 & 6

Session Overview

- Impact of digital technology on industries & products
- Organizational Mindset for Digital Transformation
  - CCDIV Approach
- Digital Product Innovations
  - Enterprise & Consumer Products

Trifecta Impact Industries: Digitization, Infusion, & Ubiquity

- Digitization
  - Conversion of a product, service, or activity that was historically physical into electronic form
  - Governed by the economics of information
    - Near-zero reproduction, transportation costs
  - Raises the entire industry's bar for operational efficiency
  - Enables new business models
  - Which industries were the first ones to move? Now?
  - Examples



Trifecta Impacting Industries

- Infusion
  - Baking software into products and services
  - IT an integral part of the product, allowing some of its functions to exist outside the product
  - Business Consequences
    - Industries acquiring software business characteristics (feature updates);
    - Products morphing into services businesses– e.g., Windmills, GE Health - ongoing revenue stream, value driven pricing, and longer customer lock-in
  - Question for Managers: Can we infuse software in our products? To what end?
- Ubiquity
  - Proliferation of cheap and fast internet connectivity anywhere and everywhere
    - Lowering cost of internet connectivity
    - Internet access a constitutional right
    - Contrast with development in any other domain: Example, Ferrari, Skyscrapers & iPad

Confluence of the Trifecta

Driver	What it means	Consequence
Digitization	Digitization of a product, service, or activity that was previously physical	Geographical constraints are erased
Infusion	Baking software into a product, service, or business activity	Products become services
Ubiquity	Omnipresence of cheap Internet connectivity	Costless communication occurs at the speed of light

Competition as a Red-Queen Race!

Now, here, you see, it takes all the running you can do to keep in the same place… to get somewhere, you must run twice as fast!

- *Through the Looking Glass*, Lewis Carroll

Impact of Digital Technology on Products/Services

- Examples of Technologies
  - Cloud, IoT, Social media (Web 2.0), Blockchain, Mobile, AR/VR
- Impact
  - Enhance capability of product/service
  - Better Experimentation & MVP, Two-way communication, Data access, Product innovation
  - Alternative business models
- Examples of Products/Services
  - Nike, GE
  - News, Hospitality

IoTs Capability & Value Proposition

Monitoring

- Alert on change in circumstance or performance
- Track product's operating characteristics & history
  - For product design, market segmentation, after-sales service
- Warranty compliance, Benchmarking
- Can be a core element of value creation, e.g., glucose meter

Control

- Control through remote commands and algorithms (on device or cloud)
- Direct the product to respond to specified changes in its condition or environment – e.g., Farming equipment

IoTs Capability & Value Proposition

Optimization

- Exploit in-use or historical data to improve output, utilization, and efficiency e.g., Wind turbines
- Preventive maintenance & remote maintenance
  - Reduction in product down-time & repair personnel

Autonomy

- Previously unattainable level of autonomy
- Self-diagnose service needs, adapt to users' preferences
- Improves safety in dangerous environments – e.g., Joy Global's Longwall Mining System, Autonomous vehicles

What does it change for organizations?

- Product design
  - s/w-based customization, product upgrades, predictive/remote service
- After-sale service
  - Predictive maintenance and service productivity, spare-parts inventory control, warranty claims and warranty agreement violations
- Marketing
  - Better customization, market segmentation and pricing
- Human Resources
  - Data analytics, Sales team - Product vs. service, Cloud management etc.
- Security & Privacy

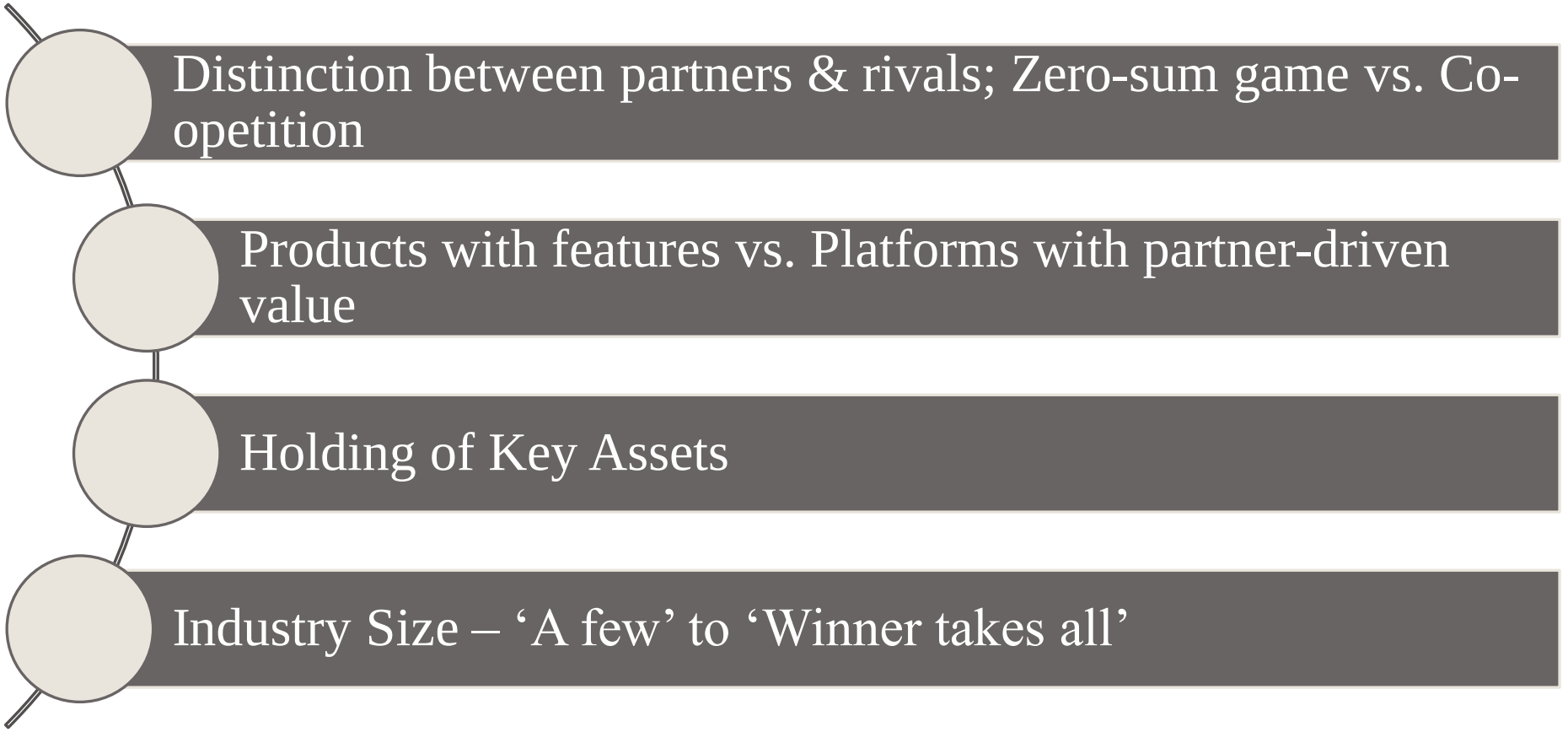
How do Organizations need to transform?

Digital Transformation: The Five Domains (CCDIV)

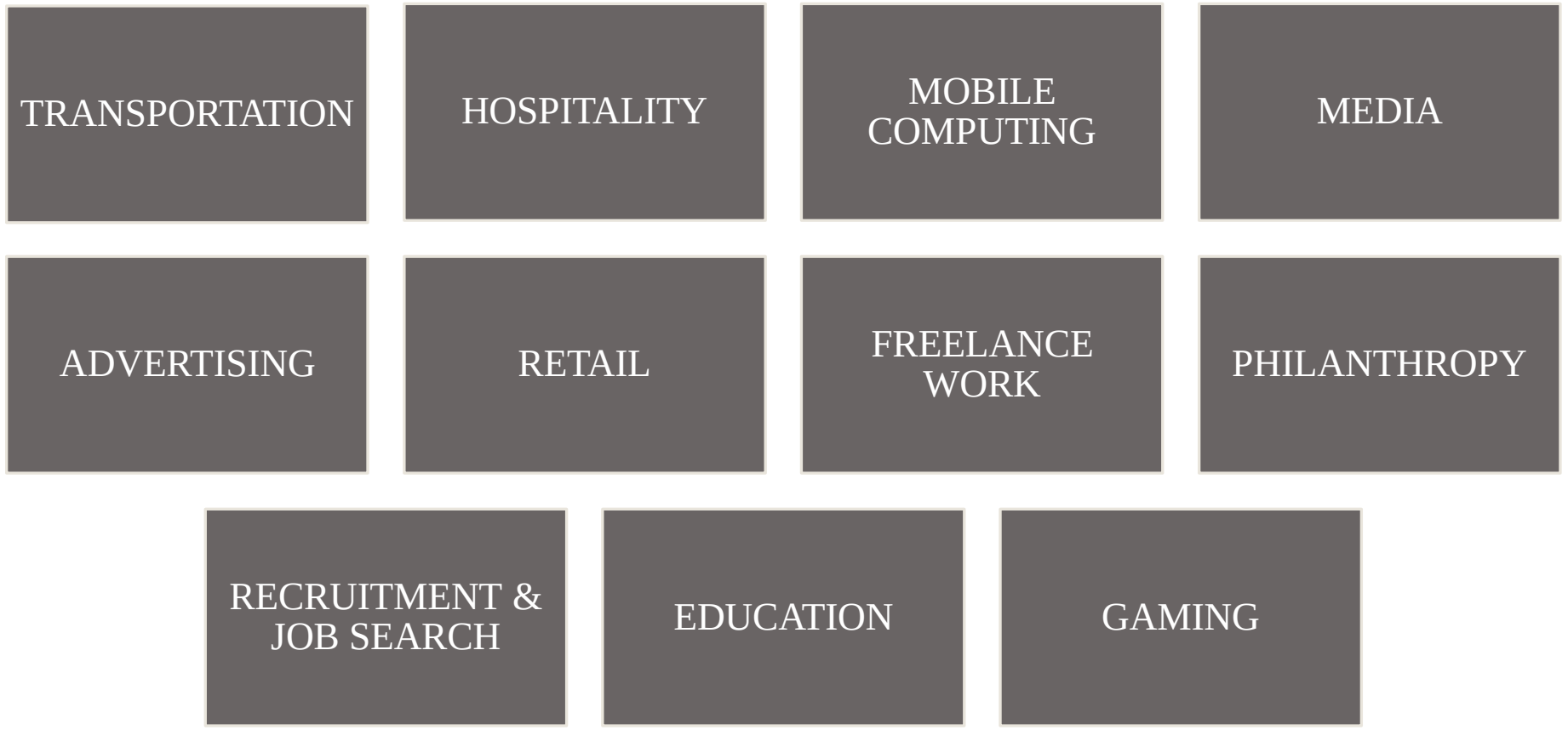
Customers: Change in Strategic Assumptions

- View of Customer – Passive to focus group/brand champion/innovation partner
- Communication/ Value flow direction
- Key Influencer in Firm-Customer relationship
- Role of Marketing
- Economies of (firm)scale/(customer)value

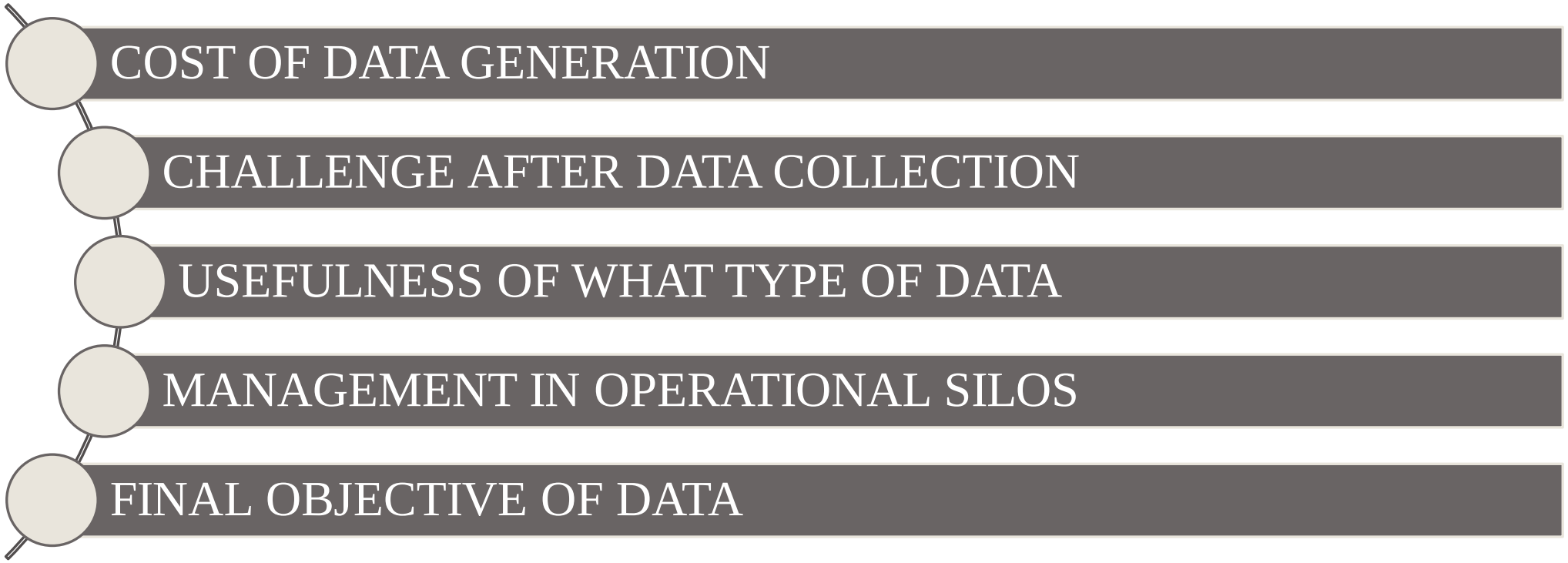
Competition: Change in Strategic Assumptions



Rise of the Platform: Across businesses



Data Perspective: Traditional versus Digital



What is Experimentation?

- Iterative process of learning what does and does not work
- Goal of experimentation is learning – about customers, markets, and possible options leading to the right solution.
- Types of experiments: Convergent and Divergent

Experimentation: Traditional versus Digital

- Decisions made based on ?
- Testing ideas – cost, speed and ease?
- How frequently can experiments be conducted?
- Failure Avoidance/ Learning
- Focus on “finished” product or MVPs & iteration

Digital Leadership: (Digital + Leadership) Capability

- Digital Capabilities – the *what* of technology
  - Where and how to invest in the digital opportunity
  - Size of investment is not as important as the reason to invest
  - See technology to change business – customer engagements, internal operations

- Leadership Capabilities – the *how* of technology
  - Committed leadership is the lever that turns technology into transformation
  - No examples of successful digital transformation happening bottom-up
  - Clear and Transformative vision, start critical initiatives and engage employees

Enterprise vs. Consumer Products

ENTERPRISE PRODUCTS

- Users
  - Huge variety – Buyer & Users – may have 2-3 layers between these
  - Testing, interviews may be difficult to get or may be niche/specialized
  - Will be willing to learn how to use the product
- Products
  - Workflows much longer; training may be required
  - Utility more important than on-trend patterns; Use cases across industries and verticals
  - Empathised design principle: flexible/extendible and configurable

CONSUMER PRODUCTS

- Users
  - Easy to find for research and to understand their response
  - Expect good UX since they choose the product – good visuals and interaction design
  - Easy to run prototypes – a tiny fraction will see that
- Products
  - Workflows much shorter; will not require training
  - Empathized design principle – Simple & Clean

Enterprise vs. Consumer Products

ENTERPRISE PRODUCTS

- Team & Work
  - Longer cycles compared to consumer products
  - Intensity and speed to market depend upon the client (also on competitors)
- Goals
  - For minimizing complaints, satisfying stakeholders, better collaboration
- A/B testing
  - Not easy, statistical significance of pre-sale side of marketing rare

CONSUMER PRODUCTS

- Team & Work
  - Intense and fast – shorter launch cycles
  - Intensity and speed to market depends upon competitors
- Goals
  - A few, clear goals defined by the user
- A/B testing
  - can be rigorous, low risk, results usually statistically significant