New Business & Economic Models in the Connected Digital Economy: Implications for Research

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The world before

- **Products**: domain of engineers, manufacturers, product designers: cars, tractors, engines, equipment

- **Services**: domain of process, management, IT/IS: banking, hospitality, healthcare
The world today

- A complex service systems of assets, people, processes, technologies, analysing one bit is reducing the problem into a small area which may not hold when the small area is reconnected to the system
- Where we draw the boundaries inhibit innovation
materialising/nonmaterialising: Service goods; goods service
The world tomorrow

Manufacturing companies becoming internet companies

Everything in the cloud

Connected people, sharing information – about everything
Why? What is happening? What is fundamentally changing?

Can we understand the change so that we can be ahead of it?

Yes
VALUE

WHAT IS IT?
Value was exchange (WORTH)
But it wasn’t exchange that made us happy. It was experiencing what we bought that gave us the outcomes we wanted (VALUE is in USE)
Ownership/Possession was the only way to get the ‘service’ of an object

- Previously, the only route to service/outcomes was through ownership e.g. music CDs
- Firms have *talked, promoted and sold on the basis of* benefit and use of things but benefit (outcomes) and use is not aligned to revenues – we still only buy ownership and not outcomes
- But outcomes/benefits come only in the *context* of use and experience
- If firms found a way to *serve* contexts, ownership may not be the dominant biz model
- Case study: Music
Market inefficiencies

- Where we buy, where we consume (beer)
  - Supermarket $\rightarrow$ T1 $\rightarrow$ Living room

- What we buy, what we consume (tea)
  - English breakfast tea $\rightarrow$ T2 $\rightarrow$ Green tea

- When we buy, when we consume (beer)
  - Supermarket $\rightarrow$ T3 $\rightarrow$ Sunday 3pm football game

- How we buy and how we consume
  - Going to supermarket $\rightarrow$ T4 $\rightarrow$ Sitting on a sofa with football game on

- Innovation and Speed will prevail to reduce market inefficiencies
Where will new markets come from?
Future markets are contextual, and subject to contextual variety

Value-in-use

Co-created value-in-use begins with value propositions, product offerings are potential value unrealised until the individual customer realises it through co-creation in context
Value is Contextual. Resources are also Contextual.

Things become of value *in context* because they enable resources for co-creation in context for outcomes.
Two functionally the SAME cameras but not the same value in context.

The difference: its ‘capture’-ability

The competency of the camera in context

COMPETENCY OF OFFERING IN CONTEXT IS KEY TO NEW MARKETS
Future markets are contextual, and subject to contextual variety, competency in context

Serving contexts changes the product into a connected offering – an incomplete product

- **DC3P**
- Is more visible (can be discovered)
- Allows for actuation (can be controlled)
- Is part of a system (can be coordinated)
- Is dynamically reconfigurable (can be contextually useful)
- Integrates personal data (can be personalisable)
THE BUSINESS MODEL- implications on material products

Customer

Experience in high variety of contexts

Value Creation (Experience)

The Firm

Value prop (Offering)

The Incomplete Product

Completed in the 'high contextual variety' customer space by
(A) digital interface
(B) 3D printing

The nature of the offering

Design, Create, deliver space
Incomplete products - implications for design and manufacturing

• Modularity - build for
  – Function
  – Assembly
  – Service/through life
  – Compensation
• Postponement
  – Downstream/upstream/indefinite
• Tailoring or Platform
The connected and incomplete product: boundaries for Transaction

- The market for context is different
- E.g. [http://vimeo.com/39001313](http://vimeo.com/39001313)
- The compensating boundary is different
  - Compensating (e.g. Transacting) boundary is the boundary in time/space where the resource integrated by the customer to create value is compensated by the customer to the firm(s) i.e. “what did you give for it”
  - E.g. Outcomes as CB (power by the hour), product/money exchange as CB (purchase), data/info exchange as CB (google)
- The form of an offering that serves compensation/transaction is not the form of an offering that serves context. We need to change the mindset and the logic. E.g. when TV came to be. *Of course we don’t want an app on a toaster, just like we never wanted a camera on a phone.*
- In Internet-of-Things, when every THING is a ‘website’, a ‘web-thing’ – what does it do, how does it behave, what are the compensating boundaries
Incomplete and Connected products: Implications for research

- Modularity
  - For assembly, function, service, through life, transaction
  - Product architecture needs a completely new approach to deal with
- Postponement
  - Upstream, downstream or indefinite?
- Tailoring or Platforming?
- Fragmentation of the material from the information boundary of customer resource, material resource, information resource in value creation.
- Material intelligence, fluid intelligence – all serve to change create new transacting boundaries
The HAT project........
http://hubofallthings.org