

# Creating New Markets in the Digital Economy

***Irene C L Ng***

Professor of Marketing & Service Systems, WMG  
Director, International Institute of Product & Service  
Innovation

[irene.ng@warwick.ac.uk](mailto:irene.ng@warwick.ac.uk)



@ireneclng



<http://uk.linkedin.com/in/ireneclng>



[bit.ly/vcssblog](http://bit.ly/vcssblog)



[www.warwick.ac.uk/go/sswmg](http://www.warwick.ac.uk/go/sswmg)



[www.ireneng.com](http://www.ireneng.com)



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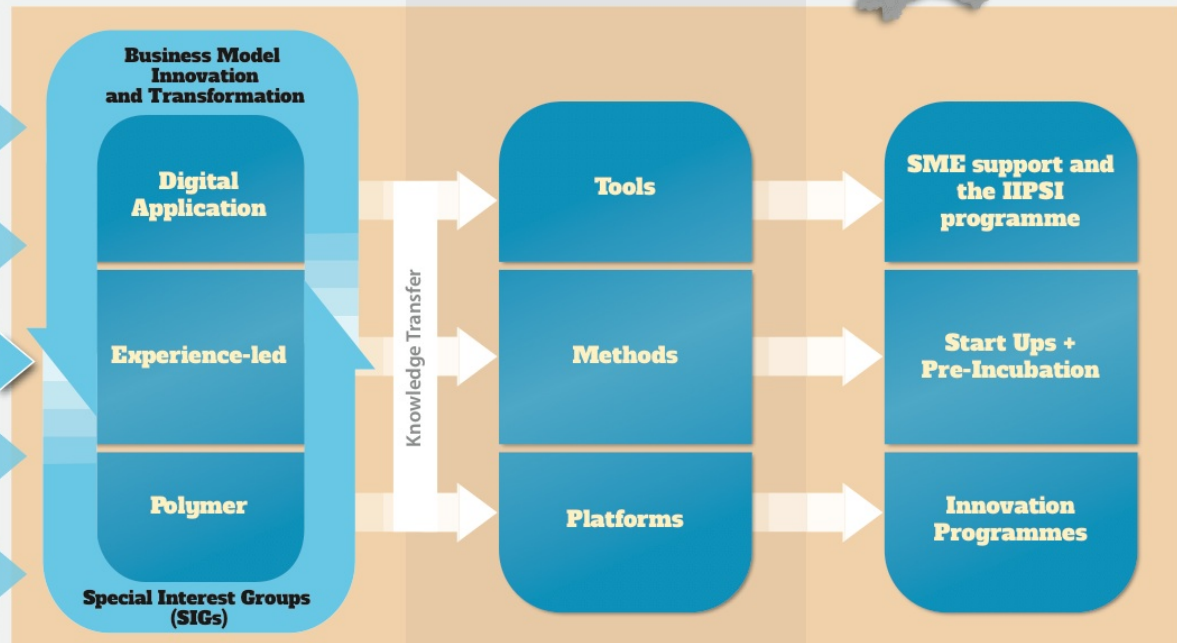


## Innovation and Impact in the Connected Digital Economy

### WMG Research

Theme	Research Group
<b>DESIGN</b>	<ul style="list-style-type: none"> <li>• Experiential Engineering</li> <li>• Visualisation</li> </ul>
<b>MATERIALS</b>	<ul style="list-style-type: none"> <li>• Engineering Materials &amp; Manufacturing</li> <li>• Multifunctional Systems</li> <li>• Sustainable Materials &amp; Manufacturing</li> <li>• Materials Processing and Electrochemistry</li> </ul>
<b>BUSINESS</b>	Business Transformation
<b>MANUFACTURING</b>	<ul style="list-style-type: none"> <li>• Net-Shape Manufacturing</li> <li>• Metrology</li> <li>• Automation Systems</li> <li>• Digital Lifecycle Management</li> </ul>
<b>SYSTEMS</b>	<ul style="list-style-type: none"> <li>• Energy &amp; Electrical Systems</li> <li>• Biomedical Systems Engineering</li> </ul>

### Business Innovation Group (BIG) & IIPSI



**Research**

**Innovation**

**Mechanisms**

**Engagement**





# 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)

€€€€



££££

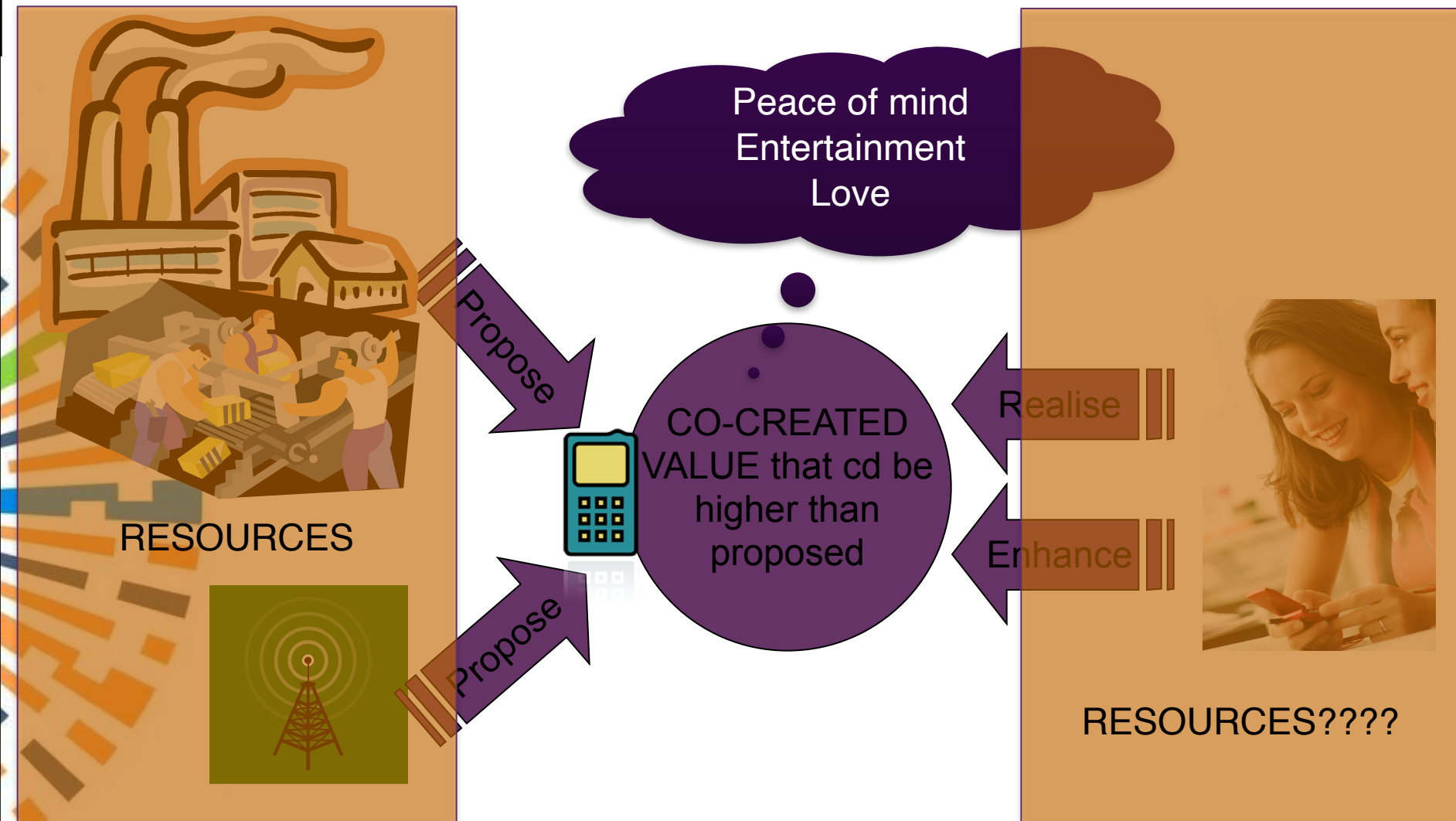


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But it wasn't exchange that made us happy. It was experiencing what we bought that gave us the outcomes we wanted (VALUE is in USE)



# Service- Dominant Logic: value is co-created for outcomes/benefits: value-in-use



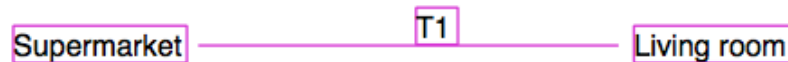


# Ownership/Possession was the only way to get the 'service' of an object

- 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)



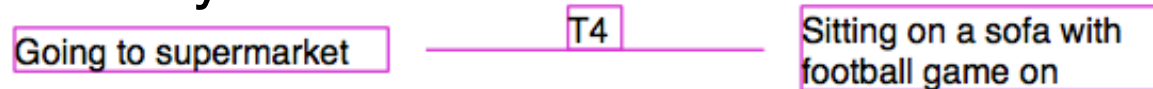
- What we buy, what we want to consume (tea)



- When we buy, when we want to consume (beer)



- How we buy and how we want to consume



- Innovation and Speed will prevail to reduce market inefficiencies

# Where will new markets come from?



# Future markets are in the contextual consumption space, and subject to contextual variety of consumption



The surge in mobile business is driven by the fact that the current device is the only device in context and available on demand

The battle for context is only beginning...

Glasses, watch, .....



This camera is available so it is a resource in context



This camera is not



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 A PRODUCT IN  
CONTEXT IS KEY TO NEW MARKETS**

# COMPETENCY OF A PRODUCT IN CONTEXT IS KEY TO NEW MARKETS

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- Products that have become more 'competent' by being situated on a mobile platform
  - Dictionary
  - Calculator
  - Translator
  - Music
  - Books
- What next?

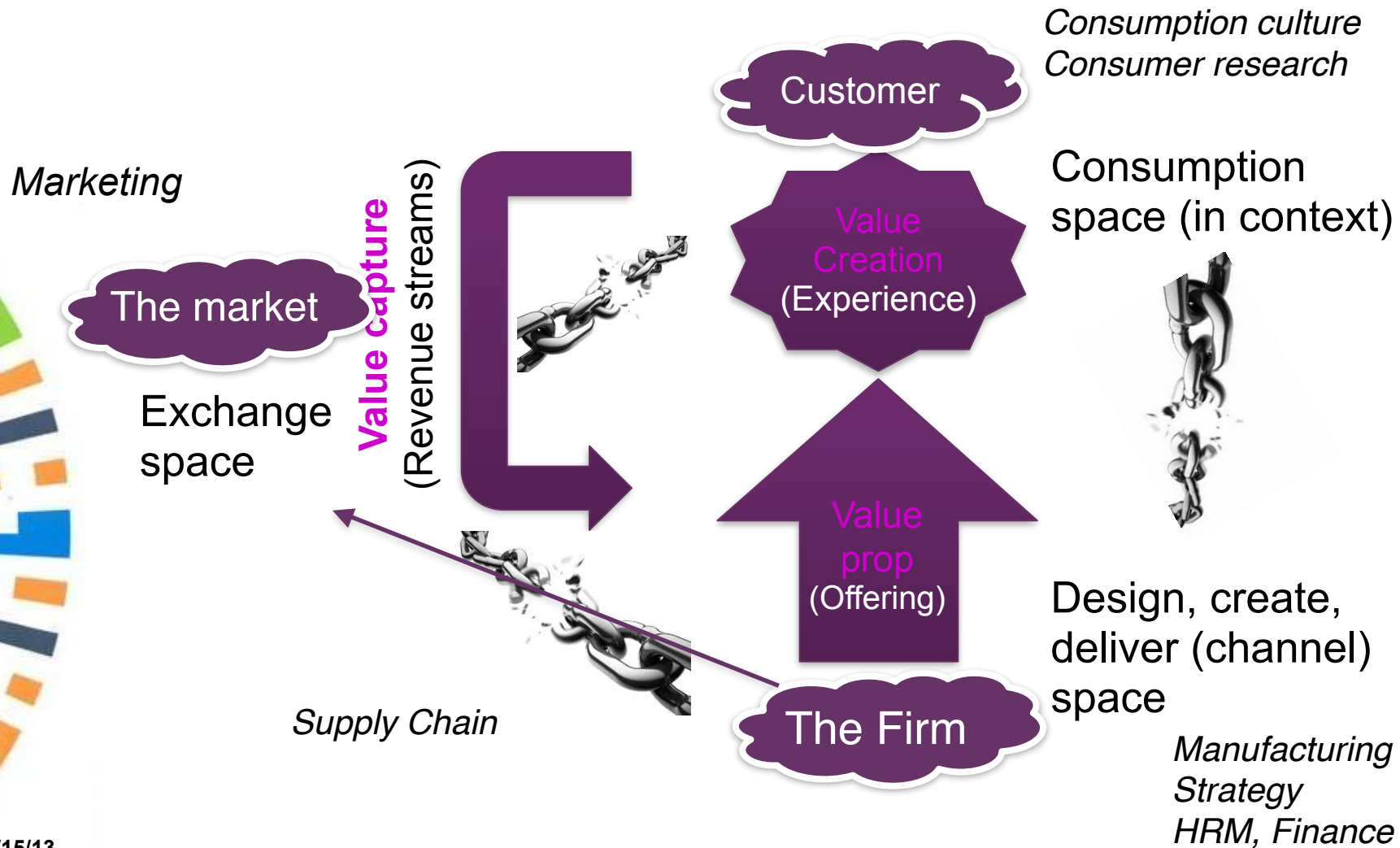
# Markets in Consumption contexts changes the the business model

Value Proposition  
Value (co) creation  
Value capture (revenue  
streams)





# THE BUSINESS MODEL- traditional loosely coupled system and relationship with the market and customer



Markets in Consumption contexts  
changes the nature of products/  
services (value proposition)



Products have to be  
designed to be  
'competent' to serve  
contexts

# How does a product become competent in context?

By being a service



# Economics of information

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- At exchange, firm suffers from **asymmetric** information (what does the customer want/need)
- At exchange **both** firm and customer suffers from **incomplete** information (when is the need fulfilled)
- In context, only the customer is present. The customer is therefore the most efficient entity to 'complete' a product when context is known.
- But the firm has to ensure customers is able to complete a product - product has to be redesigned as incomplete, and connected, since consumption/ experience of one product is always linked to another



# Competency in Serving contexts changes the product into an incomplete and connected product

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A product becoming a *service*:

- 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)

Markets in Consumption contexts  
changes transaction boundaries (value  
capture)



# What are Transaction Boundaries?

Compensating the  
firm for its offering



# Transaction boundaries (aka 'monetisation'/ appropriation of rents/compensation)

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‘mutually agreed-upon transfers with compensation within the task network’ and ‘serves to divide one set of tasks and others’ (Baldwin, 2008, p.156).

E.g. Kitchen and the Blacksmith

E.g. Couple, baby and the Nanny



# The connected and incomplete product: boundaries for Transaction

- The market for context is different
- The transaction boundary is different
  - Transaction 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”, "where did you give", "when did you give"
  - E.g. Outcomes as transaction boundary (power by the hour), product/money exchange as transaction boundary (purchase), data/info exchange as Transaction boundary (google)
- Transaction boundaries in connected digital economy can occur within another value proposition e.g. intelligent toilet
- In Internet-of-Things, when every THING is a ‘website’, a ‘web-thing’ – what does it do, how does it behave, what are the new transaction boundaries

Markets in Consumption contexts  
creates the personal data economy  
in the way value (co)creation occurs



# Value co-creation, Personal data and incomplete product

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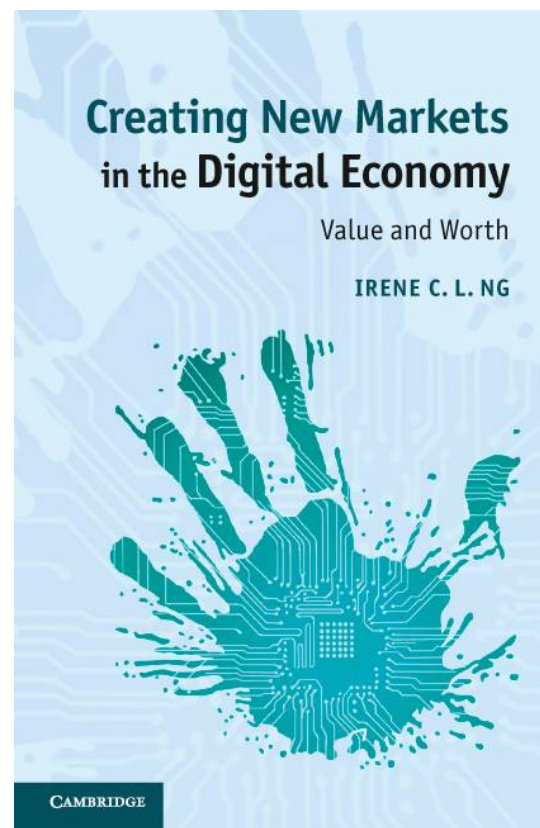
When a product becomes incomplete and connected - it's completeness can come from:

- Applying unstructured personal 'data' onto the product e.g. Drinking tea with variable sugar
- Applying structured personal data onto the product e.g. 3-D printed wedding cake figurines of the bride and groom
- Applying structured data directly onto the product to complete it e.g. Nutrition data used to complete grocery bundles

# For more information.....

Amazon kindle and PDF, available now

Printed version, available Feb 2014



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[www.valueandmarkets.com](http://www.valueandmarkets.com)



# New Markets and a Economic Models for Personal data

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**How do we evolve a personal data economy that is privacy preserving, and can be internalised into the economy to create wealth, jobs, and new business models**



Kick starting the personal data economy by designing  
and emerging the first market in context of the home

The HAT project.....

<http://hubofallthings.org>

