THE UNIVERSITY OF WARWICK

Discussant for the Internet-of-Everything and integration with Service Research

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WMG Innovative Solutions

Things are becoming a more responsive service

Socio-Cyber-Physical service that is SMART

But what does it mean to be smart?



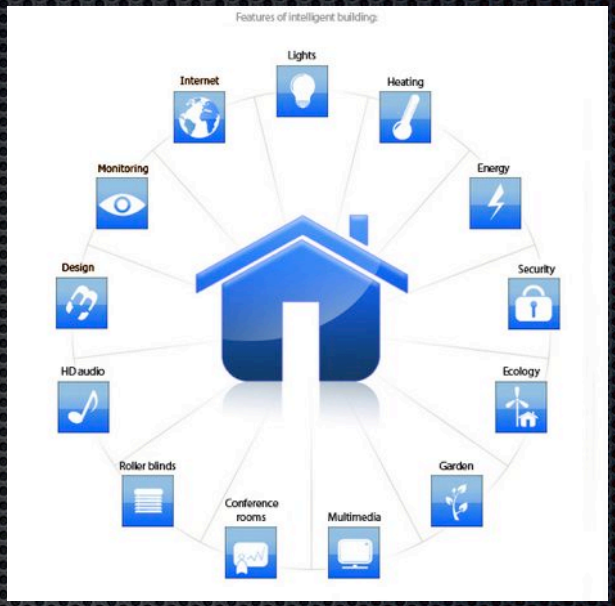
Smart phone?
NO

Smart "me"
What made the smart phone successful is because it amplified our abilities, not because it itself was smart.



Smart appliances?
Smart home?
Smart things?

Current mindset of
"smart" sets up objects
to compete with humans





You're not helping, Watson.....





Three lessons from service research onto IoT/IoE



Value is co-created in experience -> if you believe a thing that is smart, then 'a smart thing' must be co-created and believed by the person experiencing it

Let's call this '**socially smart**' as a distinction from 'smart'.

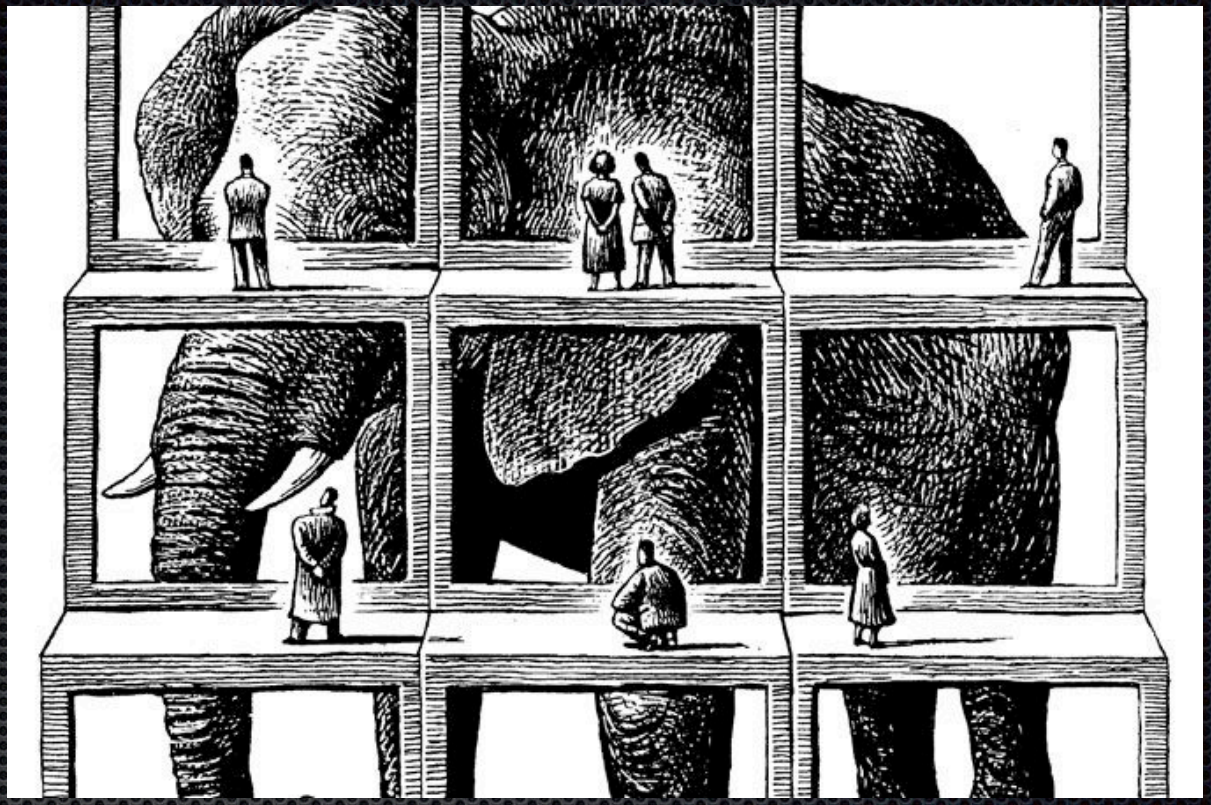


"Socially smart" is **co-created**

A thing cannot be socially smart if it is not somehow amplifying one (or more) human persons, **as perceived and experienced by the same human person(s)**

A service leaves a person better off (Maglio)

Lesson 2



"Socially smart" is **contextual** to when an object/ service is part of consistency or variety in lived lives

A thing is socially smart only if it is contextually smart in amplifying human capabilities

A smart object is a mechanism for service provision or an indirect **service in context** (ie it is contextually competent)

service dominant logic (Vargo & Lusch 2008)

Internet-of-things objects are increasingly contextually competent

- Being more visible (can be discovered e.g. Car keys)
- Being able to be actuated anywhere (can be controlled e.g. Philips Light bulb)
- Being part of a system (can be coordinated e.g. Fibaro smart home)
- Is dynamically reconfigurable (can be contextually aware e.g. Motion sensored lights)
- integrates personal data (can be personalisable e.g. IFTTT)

Lesson 3



"Socially Smart" (and smart) things have no moral judgement

A service that can cause as much harm as good in so far as humans are just as able to harm one another as they are able to serve one another ('why do good people do bad things', cf Kaptein, 2012)

The ability of socially smart things to serve human lives depend on who has power over it. A socially smart (and smart) thing is potentially corruptible

So are the products and business models of Internet-of-Things going the way we want?

Co-created, contextual and not corruptible?

Or is the Internet-of-Things becoming an economy of large scale harvesting of personal data



Are we sure we're ready for this?

The externalities of an IoT-enabled digital economy

- Externality: a consequence of an industrial or commercial activity which affects other parties without this being reflected in market prices, such as the pollination of surrounding crops by bees kept for honey (+), pollution caused by cars (-)
- Externalities of an IoT-enabled digital economy
  - (+): more digital visibility, better coordination
  - (-): fear, risks, privacy concerns
  - (+/-): generation of more personal data



Internalising the externalities for the betterment of society, IoT and the digital economy

UNIVERSITY OF SURREY

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UNIVERSITY OF CAMBRIDGE

UNIVERSITY OF EXETER

Multi-sided Market Platform for New Economic and Business Models
£1.2m project to create the HAT

The University of Nottingham

THE UNIVERSITY OF EDINBURGH

UWE BRISTOL University of the West of England

http://hubofallthings.com

The HAT in summary



- A Personal Data Container (mitigating corruptibility)
- An ontology and database schema that flattens and liberate vertical data (enabling amplification and contextualisation)
- A data bundling tool (contextualisation of data by yourself)
- A platform for exchange and use of personal data (amplification through innovative offerings)

Demonstrate HAT hyperdata browser http://hat.smart-e.org

The Research

- Read our Briefing papers
  - http://hubofallthings.com/hatoutputs/hat-briefing-papers/
    - How we do the transformation of data from vertical to horizontal structure that can be co-created and contextualised by users
    - The thinking behind the economic model. engineering, design and management of the ecosystem
    - Frontiers session 16 - 2: 430pm "Market for Personal Data and New Business Models"
    - Mad Hatters Tea Party 12:30pm 13 July, Lucas Business park, Santa Clara - full demonstrator and presentation

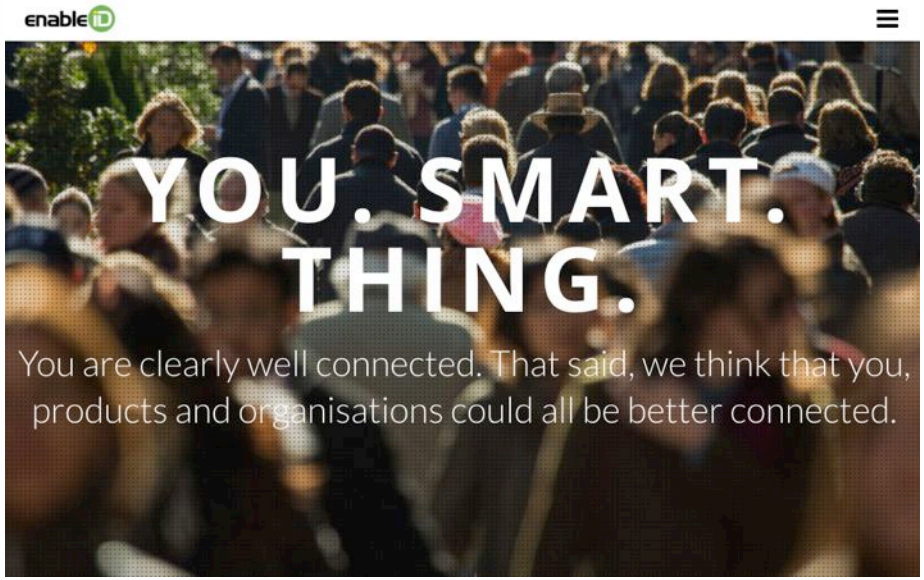
HATs are coming

Hub-of-All-Things

http://nogginasia.com

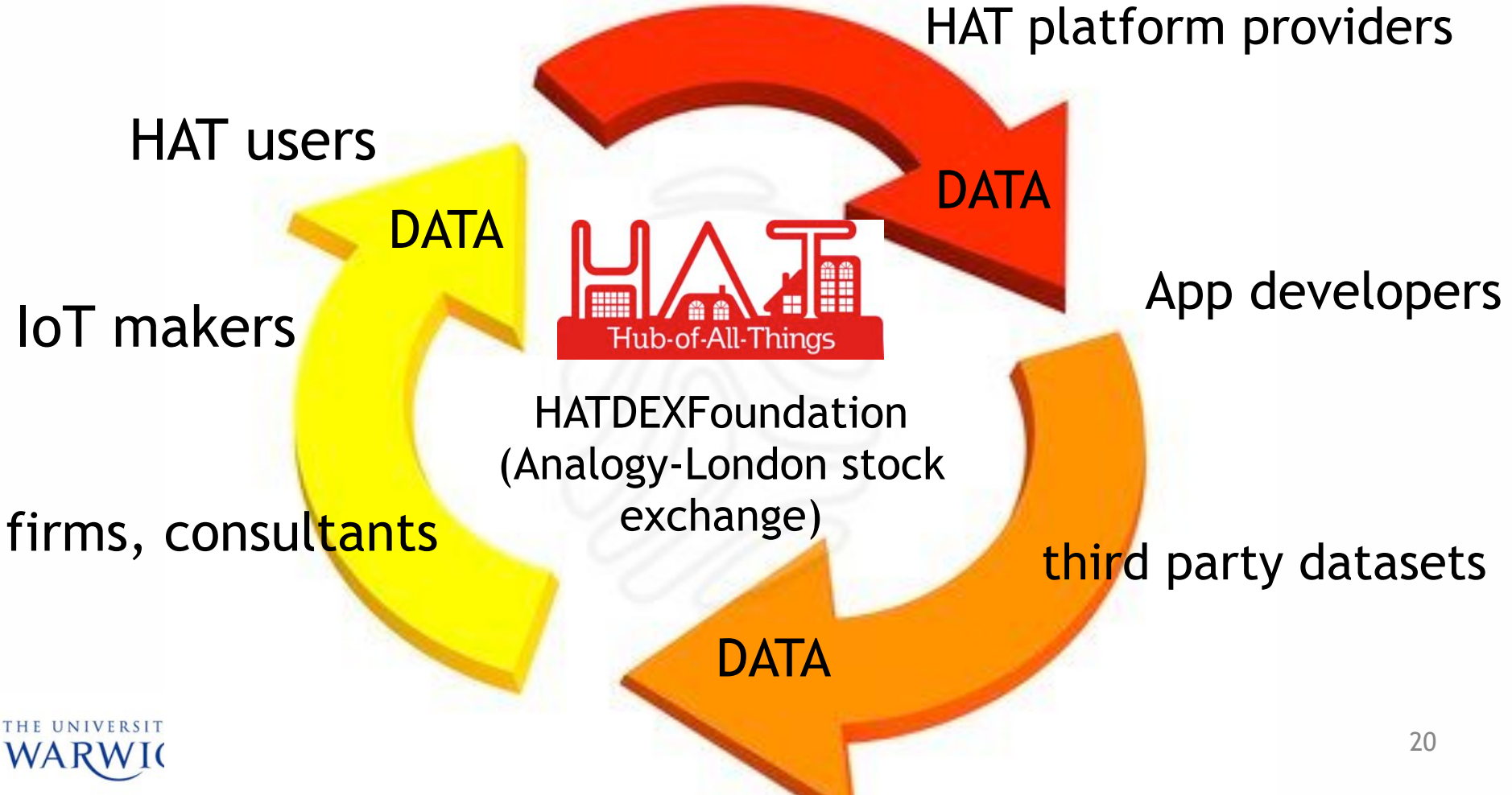


http://enableid.com



Get yours at http://hubofallthings.com/iwantahat

The HAT personal data exchange ecosystem is rolling out
Building a trust ecosystem as an institution

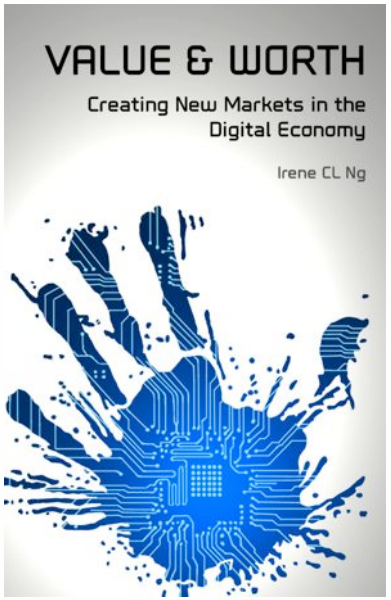


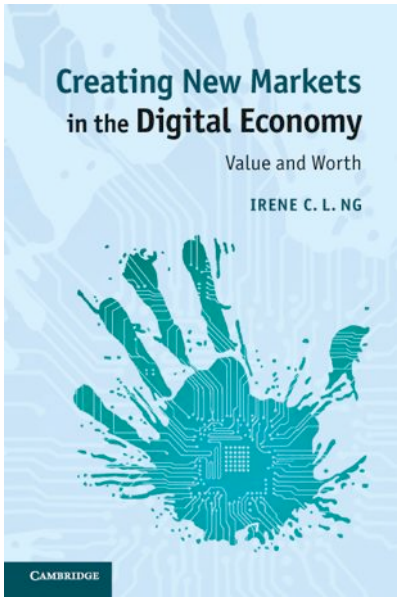
Shameless plug:

Creating New Markets in the Digital Economy: Value and Worth

Cambridge University Press

Amazon Kindle and in book stores







The service research community - more than 40 years of research - vast knowledge base to inform practice in Internet-of-Things/Internet-of-Everything connected digital economy

We need to build more capacity

What do we have to say?

What is the research agenda?

Discuss.....

HATDEx founding principles

- All data in the HAT (virtual or real) database is owned, controlled and managed by the individual
- All data comes in and out through HATDEX APIs
- All data in the database must be private and confidential not be accessible to any person unless explicitly allowed by the individual through the HAT API system
- All data in the database must be secure
- All actions by HATDEX members must at all times, maintain or increase trust in the HAT system