Digital Media & Content Industries:
A study of the impact on household production

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Digital Media & Content Industries

**INTERNET & BROADBAND ENABLED:** FILM, RADIO, TV, VIDEOGAMES, BOOKS, MAGAZINES, NEWS, DATABASES, SEARCH, SOCIAL MEDIA ...

**FOR:** SHOPPING, ENTERTAINMENT, TRAVEL, CARE (OLD & YOUNG), HEALTH (MENTAL & PHYSICAL), COMMUNITY, FOOD, HOUSEHOLD MAINTENANCE ...
[1] Feminist economics of the household

• Waring/Ironmonger on valuing household production (time, input-output)
  – Gendered division of labour
  – policy regarding fair treatment (pensions, OHS, child care...)
  – Satellite accounts
  – Static/allocation approach

• Less attention to innovation & boundary dynamics
  – What is growth of household productivity?
  – Technology adoption for production
  – substitution from market/govt sector into household production
  – What skills & capabilities required?
  – Integrating households into knowledge & innovation processes
[2] impact of digital media & content industries on productivity growth

• Productivity paradoxes
  – (Paul David 1999: data, IT skeptic, LR optimism)

• Searching for impact in market/firm space

• Households ignored, except as consumer surplus

• Digital technology improves households information/search/production capabilities

• **INSOURCING**: Produce same things better & produce new things
What we want to know

• What is the effect of digital transformations

• ... on the productivity of the household & non-market sector
Why do we want to know this?

“We can see the computer age everywhere except in the productivity statistics” Solow (1987)

• We think a lot of the benefits of digital technologies go to households

• But we want to know how that happens
$24 billion consumer surplus
  – $3000 per Australian household

Same as revenue generated by sector

$24.8 bn in 2011
We think the digital transformation is driving household productivity gain (not consumer surplus)
**Consumer surplus**


BCG (2012) *Culture Boom*

**Household productivity**


On the changing relative production efficiency of households

• Boundary between households, firms & govt is dynamic
  – Technology, organization, scale pushed production out of households into firms 19-20C
  – Welfare state pushed production out of households into govt in 20C

• Does digital technology push production back into households?

• Does Baumol’s law shift production back to households?
theory

• model of household production
  – Becker (1965) in ‘A theory of the allocation of time’

households derive utility from consuming ‘commodities’, $Z_i$

• $U = U(Z_1, \ldots Z_m)$

• $Z_i = ‘security’, ‘entertainment’, ‘children’s well-being’$
theory

• $Z_i = f(X, t, S)$

• Each $Z_i$ has a production function of:
  – $X$ is the market goods used to produce the commodity
  – $t$ is the person's own time input
  – $S$ is the person's human capital
theory

$$Z_i = f(X, t, S)$$

- Innovation in new digital technologies & new content affects range and price of $X$
- ICT makes more efficient use of $t$
- ‘digital literacy’ affects $S$

method

Identify/measure changes in $X$, $t$, $S$
Identify/measure changes in $Z$
1. theoretical analysis of expected changes in household $U = f(Z)$ due to changes in inputs $(X, t, S)$ from digital media and content

1. Test predictions using Australian survey data
   - **ARC DT COE survey**: household level data on patterns of time use and consumption over digital media output and content
   - **HILDA panel**: Test household production function model predictions against
Key project within proposed ARC *Digital Transformations* Centre of Excellence

- large-scale ‘town-study’ (two waves 5 years apart)
- using a range of survey, ethnographic and micro-econometric techniques,
  - Ethnographic research on household consumption & use practices
  - Time use/diary/
  - Household budget analysis
- On changes in the *range of household production* and of the *productivity of households* in consequence of digital transformations
Key aspects: Theory

• Substitution to/away from household production
  – Changes in household production set (Z)
• Inputs from market/effect of innovation (X)
• Time use (t), changing relative prices/opp cost
• Human capital/digital literacy (S)

• Does digital media make households more productive? With what consequence?
Key aspects: method

• New large scale survey
  – Survey design
  – Link to HILDA et al

• Identification & measurement (?)
  – Changing household production sets & practices
  – Investment in household capabilities
Has the growth of digital media & content industries caused household productivity to change?

If so, how and with what effect?