Workshop on enabling new value streams in community based manufacturing

Themed grouping of discussion points

Using the reports from the workshop the points raised during discussions have been synthesised in to several general themes. Within these themes key topics have been identified, these could be either questions or statements about the current situation. Full listings are provided in Appendix 1.

Data

- What is the value of CBM?
- Capturing data – what, where and how?
- Misrepresentative and confusing data
- Should size be a defining factor for community based manufacturers (not market reach)
- Appropriateness of metrics used to analyse data

Skills

- Lack or loss of skills, and local gaps
- Lack of opportunity to get job experience
- Lack of entrepreneurs and problem solvers

Communities and networking

- Small companies need appropriate connections to bigger companies, academia and other organisations
- What does community based mean?
    - Workshop rather than factory?
    - Is size the defining factor?
    - Local – sourcing, selling and employing?
    - Focused on the local needs?
    - What is the role of community interest companies?
- Community based manufacturing could provide value to the whole community in many ways
- What are the features of successful community based manufacturers?
- Some technology focused companies don't care about community
- Governments have a role to assist but regions shouldn't wait and set-up initiatives

Circular economy

- Obtaining high value products from 'waste'
- Reclamation and reconditions – most people prefer new: why?
- Alternative business models
    - Subscription or licensing to keep material ownership in hands of distributor
    - Product service systems – buy service not product
    - Local circular economies
- Cost implications of the circular economy?
- Lessons from automotive sector - reconditioning and servicing
- What are the successes, failures and opportunities of waste policy?

Businesses their environment, survival and policy

- Small family business surviving despite economic problems
  - No desire for some to expand
- How is success measured?
- What are the alternative financing and ownership models?
- Alternative models for buying and using equipment
- Need for economic environment that facilitates enterprise "risk-taking" and business creation
- Creation of a business culture
- Appropriateness, scale and endurance of government policy and initiatives
- Multiple challenges around infrastructure – from internet to roads
- Which sectors over exploit their supply chain?
- Need for equality throughout region not just pockets of wealth
- Sectors might need purpose built premises – focused business parks might help

Platforms

- E-platforms – implications on logistics: sustainability of transport / returns
- Regional / community e-commerce – too big a set of options
- New distribution network models:
  - Uber / Deliveroo style distribution service?
  - Could public transport be used for city wide distribution?

Challenges

1. Determining policy for RDM in our region (with the key goal of ensuring longevity of employment – education / training balanced with community needs)
2. Developing metrics beyond financial measures: social, environmental etc.
3. Engagement of "hidden" industry (providing support, assisting development)
4. No agreed definition of what community of makers is
5. How does the sector work, lack of information – small manufacturers are hidden
6. Supply chain resilience and how they can adapt to changes (local and global)
7. Lack of leadership to steer / assist community manufacturing

Appendix 1

Data

- What is the value of CBM?
- Capturing data
  - Some companies too small to work with?
  - Data on waste
  - SIC misrepresentation
  - Lack of visibility of supply chains
  - Skills availability
  - Focus more on direct communication first rather than data collection – talk directly to manufacturers. Find out who and what is there and their networks (chicken and egg?)
  - Person to person, not indirect surveys – knock on doors and meet manufacturers
  - Trust is an issue, what will be done with data
  - Less focus on quantitative data/analysis more on qualitative
  - Map areas periodically and more quickly
  - What is value?
  - Identify pools
- Need for more data, Surprising so little on SMEs
  - 'signposting' manufacturing
  - Particular problem with micro companies
  - Is data not available or just not made available?
- SIC are misrepresentative, how can policy be created on this data?
  - Diversity in business not captured
  - Should SIC be periodically audited?
- Postcodes can be confusing
  - Especially in rural areas
  - Boundaries can be confusing
- What facilities do fablabs have? It's more than just 3D printers, e.g. laser cutters, CNC and vacuum forming
- Possible sources of data are around
  - Newport council collaborates with start-ups so at least qualitative data should be there
- Policy makers have inappropriate metrics - they seek impact this cannot be done immediately by maker community
  - Data collection from government in order to justify expenditure
  - Evidence based policy not only impact
- Benchmarking – data and how?

Skills

- Management skills missing
- Lack of skills to pitch services to large companies
- Lack of opportunity in some community for young to get job experience

- Loss of skills
  - Some jobs locals won't do butchery, meat packing…
  - Skills to do these jobs lost or exported
  - Benefits culture compounds this?
- Ability to provide guarantees or certification?
- Lack of entrepreneurs [skills and societal]
  - People raised to 'earn money' and not 'make money' which has an implicit ceiling
    - Nations of service providers?
    - People not predisposed to innovate
- Why are there so few 'problem solvers' – e.g. James Dyson
- A diversified society creates market requirements and the proliferation of skills
- Schemes have funded food technology graduates – very successful 100 new products developed

Communities and networks
- Small companies don't have right connections to bigger companies
- Some technology focused companies don't care about community
- Local policy for local job seekers
- Engaging with companies not being seen
- Community based – workshop rather than factory
  - What is significant demographic? 50+?
  - What about CIC workshops for commercial use
  - How about SMEs sharing facilities
- Community interest vs manufactured goods
  - Placing new value in former
- SMEs don't want to market themselves
  - Small customers are costly
- Regions shouldn't wait for national policy and set up their own initiatives
- Bristol pound: designed to foster a local economy to keep thing local
  - Doesn't scale? Wouldn't work nationally, we already have a national currency.
    - Does national currency keep spending national-local?
- Governments have a responsibility to communicate, to create social imperative and to raise awareness of topics.
- Community based manufacturing provides value to:
  - Employees through income and local employment
  - Local supply chains
  - Improved flexibility
  - Diversity in employment and industrial ecology
  - Economic and social good
  - The community through being part of it
- Links between communities and academia
  - Finding and developing mechanisms
  - Connecting with unengaged
    - Value to company?

- - ▪ Trade associations
- What does community based mean:
  - o Locally sourced, local supply chains (but for commercial reasons)
  - o People gathering and working
  - o Social enterprises: re-manufacture, refurbish, resell
- Should size be a defining factor for community based manufacturers (not market reach)
- Community based manufacturers should provide fit-for-purpose products with appropriate warranties
- Big corporations aren't community based but their suppliers could be
- In Germany 50% of energy is achieved through community schemes, in Denmark it is 90%
- Networks: organic/organised
- Research needed to define the type an success of community based manufacture
  - o What aspects are competitive?
  - o What aspects add value?
  - o How are non-monetary values realised? E.g. skills and follow-on employment of workforce
- Value of B&B design are the space and networks with colleagues and educational providers
- Values of community based manufacturing: customisation, education, customer satisfaction, skills, exposure to market, entrepreneurship, distinctiveness of products, accessibility to the right channels, self-sufficiency, societal integration
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Circular economy
- Obtaining high value products from 'waste' (e.g. lard to make high-end soap)
  - o Social enterprises recycling furniture
  - o Up-cyclers' making goods from 2nd hand clothes
- Reclamation and reconditions – most people prefer new: why?
- Alternative business models
  - o Subscription or licensing to keep material ownership in hands of distributor
    - ▪ Autonomous / electric cars potential application?
  - o Product service systems – buy service not product
  - o Local reuse/recycling
    - ▪ Circular economy locally
    - ▪ Energy diversity
    - ▪ Responsive to local needs
- How much servicing goes into Fablabs if equipment isn't being used 'professionally'?
  - o Are those attracted to fablabs make do and mend types?
    - ▪ What about the rest of the demographic?
- Cost implications
  - o Finding material
  - o Reconditioning material
  - o Risks to equipment because of 'contamination' e.g. nails in wood
- Automotive sector had strong system of reconditioning and servicing a product
  - o Length of life of new car?

- - - o How many changes of owner will occur?
    - o Current infrastructure of servicing – mapping and study?
    - o Most service parts are from abroad
      - ▪ Could they be made locally
      - ▪ How to create social imperative to by local?
- Lessons from household recycling – people now separate their own waste
- Who owns the waste?
- What waste policy exists?
- Failure of WEEE – process not managed, so recycling is not happening?
  - o Generational problem?
    - ▪ Millennials buying less but things of higher value
- Does landfill contain higher deposits of metal than natural land? Is this a viable resource?

Businesses their environment, survival and policy
- Small family business surviving
- Community shareholding?
- Economics – is it hard to do a CIC?
- Aerospace
  - o Prices completely driven down
  - o Exploitation of SME's and their competition
  - o Accountability for moving manufacturing abroad?
- Costs – if we want mosaic of business / manufacturing, need to create more support in capital costs
- Economy and government is responsible for giving people the ability to take risk in business start-ups.
  - o Austerity, spending out way out – relationship with risk taking and innovation?
- Do successful initiatives stop?
  - o Why don't we hear about continuing success stories?
- Why do we preferentially import?
  - o You can get reliable quantities from abroad
  - o Imported goods are also reliable
    - ▪ With respect to Sweden – Swedes have 'organised' culture, UK doesn't and is moved to import rather than have local
- Attitudes to start-ups
  - o Culture change (regional / national)
- Access to capital
- Do mechanisms exist in community manufacturing
- Textile quarter in Bristol is possible because a number of companies have been buying and sharing the equipment
  - o Manufacturing in London and Hong Kong are formed of small groups, small companies which are very dynamic
- Small businesses do not necessarily aspire to become mass producers. They can be more agile and produce bespoke products if they remain local (craft v mass produced beer)
- Big economic transformations happen through people or bubbles

- Encourage new businesses
- Provide new business models
- Greater equality throughout whole area not just pockets of wealth within a region
- "prosperity without growth" or "growth without bounds"
- Not enough flexible working possible
- Policy/environment more conducive in some places – culture
- Correct scale of policy (local / national)
- What is success
- Access to information – people are too busy. Identify needs, raise awareness, direct financial support
- Businesses can find help easily. Too many initiatives?
- Food manufacturers need purpose built premises – food business parks might help
- Awareness of Wales and where Wales is
- Cost of living could become a problem for the local workforce
- Lack of quality – ensuring product matches description (half good bought in China need to be shipped back because do not match description – defective and misrepresentation)
    - Symptom of cheap shipping and logistics? Where is the business risk / pressure?
    - Can this be curated in a way similar to buyer reviews on ebay a 'publically assessed standard'?
- Infrastructure changes require competency in technology
    - Infrastructure isn't a quick or easy solution
    - Changes in context/scope the problem
        - Cities have an existing infrastructure which can be hard to change
        - Rural area have poor infrastructure (broadband) – are we discussing city/urban/regional/rural?

Platforms
- E-platforms – which one? Confusing set of options (esp. for non experts)
- E-platforms – implications on logistics: sustainability of transport / returns
- E-commerce for a region:
    - Hard to beat something like ebay because it has a large customer base. A local version will implicitly have less visitors
    - Apps exist for selling within collection distance
- Distribution networks
    - Royal Mail is/was a centralised distribution scheme
        - Can hubs make city-wide distribution more efficient
    - Uber / Deliveroo style distribution service? Auction / JIT? Exists already – cycle couriers?
    - Could public transport be used for city wide distribution? E.g. retrofit carriage onto buses?
    - Train network has become cost prohibitive