

The comparative role of policies in low-tech industry development – evidence from Wales, Denmark and Ireland

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Introduction

- Following the current interest in studying 'micro-systems', we studied one, where links between sub-industries and activities are horizontally developed in three different environments, Denmark, Wales, and Ireland.
- The countries have similar regional mixed rural and urban settings, where food and drink are essential components of such local economies (Danson et al., 2015).
- We selected the Craft beer 'micro system' because:
 - It displays interesting dynamics.
 - Particularly vulnerable to external shocks.
 - Suffered a series of multiple shocks either simultaneously in the case of Wales or in a sequence as in Denmark and Ireland.

Topic Background

Research question

“What is the role of policy in low tech industry development: A case study of the craft beer industry in 3 countries across two economic shocks, Brexit and Covid-19”.

Contribution to research

We add to existing debates on resilience: the roles of policies and business model innovation in an industry that is rarely studied, especially not from a comparative perspective.

Regional Innovation Systems

Resilient RISs are crucial in times of large economic uncertainties and major global crises potentially leading to region-specific economic 'shocks' development trajectories.

It can be argued that we've moved to a state of 'poly-crisis' (Tooze, 2021) where different crises overlap and interact (for example, Covid-19, energy prices, Ukraine-Russia, interest/inflation rates, break-down of supply chains).

This accentuates firm- and region-level crisis management strategies that encompass the system as a whole, be it regional or business systems.

Low-tech Industry Innovations – the Beer Industry

- Common to find that small enterprises Low- and Medium-Tech industries have little R&D and rarely define their practice as innovation (remaining unreported 'hidden') (Dooley, Kenny, & O'Sullivan, 2017; Harel, et al., 2019; Clifton, Huggins, Pickernell, Prokop, Smith & Thompson, 2020).
- Micro breweries specialise in marketing innovation and product design understood as *'...introduction of significant changes in the form, appearance or taste of food or beverage products, such as the introduction of new flavors for a food product in order to target a new customer segment'* Oslo Manual 2005.
- Most often in accordance with local and regional resources and stories (Gatrell et al., 2017)
- Denmark, for example, had 2000 innovations In 2020 and 2021 (i.e. new beers), recently the trend is now for fewer diversified beers.

Industry shakeouts - Regional and firm-level strategies

- The beer brewing sector is subject to significant fluctuations in the numbers of high business entries and exits, including 'industry shakeouts' – overcapacity or consolidation.
- Craft brewery shakeouts were not reported - an indication of interesting and special industry dynamics.
- Causes of exits include new, higher trade barriers (e.g. Brexit), higher input costs (e.g. the recent energy crisis), and worldwide 'crises' (e.g. Covid-19). Wales saw 100 craft breweries leaving the sector in response to BREXIT.
- Shields from shakeouts - specific, dynamic firm capabilities and adaptability in structures and behaviours (Sutton and Arku, 2022). Clustering, risk awareness, diversification and specialisation (Giametti and Teräs, 2019). Post-BEXIT, clustering is gaining momentum in Wales.

Reconfiguration of the business model

- Exogenous shocks – Covid-19, UK Brexit, energy crises and war in Ukraine
 - Major disruptions to economic systems –disconnected supply chains, logistics challenges, shortages and unavailability of key resources.
- Small businesses - flexible, entrepreneurial, community embeddedness (Clauss et al., 2022).
- Can convert adversity into resilience, e.g., through business model adaptation (Guckenbiehl and Corral de Zubielqui, 2022).
- Capture value from reducing costs, incrementing funding streams and the use of additional funding and creating value from new ways of reaching customers (Guckenbiehl and Corral de Zubielqui, 2022).

Regional embeddedness, branding and neo-localism

- Microbreweries –
 - Are often based in local economies (Danson et al., 2015, Gatrell et al., 2017).
 - Geographies and place are important factors in branding (Gatrell et al., 2017) and how a local and regional market is established.
 - Local engagement, embeddedness, product differentiation, and complementary products such as links to tourism, can create a stable position in the market.
 - The local market provides some level of a shield against regional and national competition (Danson et al., 2015, MacDonald, 1986)

Covid-19 effects on the beer Industry

- Universal lockdowns across Europe.
- Disproportionate impact on the hospitality industry.
- 42% decline in beer hospitality sales in Europe in 2020.
- Detrimental effects on brewery outward supply chains .
- Travel restrictions halted tourism.
- Ban on pubs selling alcohol, breweries destroyed beer stocks.
- Wales - BREXIT - beer shortages from interrupted supply chain raw materials and shortages in return kegs. Job losses across the brewery sector, e.g. closure of 100 Brains brewery pubs.

Results – Coping with a difficult era

Wales

- Direct UK finance - £330 billion support (job retention & self-employment schemes, small business grants/loans), £400 million emergency grant fund.
- The Welsh Workforce Collaboration Group.
- Covid-19 Food and Drink Recovery Plan.
- Support schemes to increase resilience, Decarbonisation and Covid Challenge Fund (£2.4m), Project HELIX (extended funding), also free business training for Welsh breweries (Cardiff University-Co-operation for Growth Project (Co-Growth)).

Denmark

- Grants, loans, and VAT extensions, generally relatively large support offered compared to other European countries.

Ireland

- Many Covid-19 support schemes, including the Employment Wage Subsidy Scheme, Covid Restrictions Support Scheme, Business Resumption Support Scheme, Debt Warehousing, Suspension of Business Rates.
- Multiple government schemes to support small businesses from the effects of Brexit, including €300 million Brexit Loan Scheme for Business, Brexit Advisory Service, Brexit Customs Support, etc.

Diversification

Wales

- Opening of tap rooms, entertainment such as music nights, live bands, quizzes and Welsh language lessons.
- Environmental considerations, creating compost from used hops, zero waste brewing process, solar energy installation.

Denmark

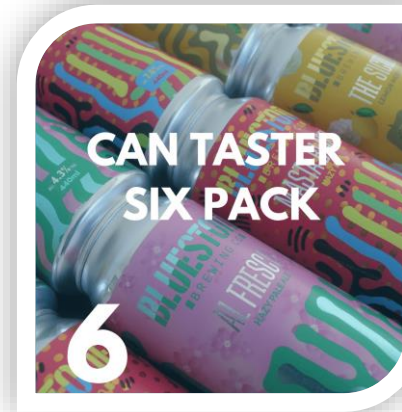
- Share of firms selling cans up from 9% - 27% => geographical scope of markets increased.
- After Covid-19, brewpubs and taprooms became increasingly popular.
- Less 'religious' about selling from supermarkets.

Ireland

- Craft brewers changed their business models - direct sales and online sales became increasingly important (online sales increased by over 50%).
- Increased collaboration with subscription box services.
- Became more active on social media, built taprooms and installed solar panels.

Business model reconfiguration

- Redistribution – self-delivery direct-to-customer delivery service, premises collection points, and community networking opportunities.
- Supermarkets larger role.
- Setting up websites, web shops and remodelling product offerings.
- Educating customers about the history of the business and product provenance.
- Online tastings.



Adaptation to new business partnerships and opportunities.



Increasing income from circular economy products (yeast, grains (hot trub for fertilizers animal feeds, including dog biscuits, human consumption), packaging waste, washing for distilleries).

Merchandising



Innovation

Wales

- New product flavours across old recipes: Copper Bitter Pale Ale and Black Treacle Stouts.
- Trends = Vegan, non-alcoholic, gluten-free.

Denmark

- Relatively little product innovation compared to pre-Covid. The vision of New Nordic food beer (Thisted Bryghus) complement never took off.
- Trends = non-alcoholic, still IPAs but more drinkable styles, light beers: Pilsner, Helles, even Kölsch. Czech pilsners bounce back. Organic. Terroir - as in wine (Herslev Bryghus).

Ireland

- Marketing developments in branding and social media engagement.
- Trends = New flavours and recipes: e.g. Pumpkin Pale ales and Tiramisu Stouts

Regional connotation - Wales



The regional connotations of language, place names and culture were most evident in the rural, coastal and old industrial districts of Wales. City districts relied more on diversified branding.

Regional connotation – Denmark



Half of the beers and breweries in Denmark have links to regional places, history and ingredients in their labelling and product branding.

Regional connotation – Ireland

Branding and labelling included a mixture of regional place names or localities, including the Gaelic language.

It includes historical links to areas and local stories.



Discussion – Comparative Perspective

- The role of policy
 - There were a series of pre-pandemic policy-derived initiatives for food and drink sector growth such as clusters and industry technical knowledge transfer support. Post 2020, business resilience funding, grants and business loans were available to qualifying businesses.
- Firm-level responses
 - Microbreweries responded to exogenous 'shocks' from business model reconfiguration and adaptation, diversification and sustainable product innovation, including local and cultural branding. Firm exits post-2020 suggest economic 'shocks' rather than 'shakeouts' were responsible.

Preparing for the unknown

- Parallel, intertwined crises require new ways of thinking about crisis management than what has been in the relevant literature to date. Handling crises one by one is now difficult.
- Regional and firm-level crisis management needs to consider how different crises are connected.
- We suggest a new paradigm of thinking about external shocks and crises –
‘firms and regions, rather than thinking about overcoming a particular external impact, need to learn to be in a constant state of dealing with uncertainties, shocks and crisis’.

Conclusions - a further think-point for the perception of regional innovation policies

- Two possible implications for regional innovation policies from our studies:
 - Small-scale producers with a significant orientation towards local and regional embeddedness who form links to complementary actors and activities have attracted less policy attention, but it appears they have viable resilience strategies vs. external shocks. Covid rendered consumers more loyal to the local despite increasing number of buying options through online sales. Indicates relative strength of neo-localism versus extended geographies.
 - Secondly, the extent of centralisation of policies has a substantial impact on the ability of the innovation system to cope with unforeseen changes. Policies have primarily been narrow in scope, understood as confined to vertical specialisations and been less alert to the geographies in how firms cope with external shocks.

**Thank you
Tack**