

## CAPABILITIES OF LOGISTICS AND PORTS IN THE HUMBER REGION

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### **Introduction**

The Humber Local Enterprise Partnership (LEP) requested a baseline review of the Humber region's capabilities to inform its development and investment strategy over the next five years. The Humber region needs to identify a strong competitive economic proposition. Office of National Statistics 2010 data shows distribution, transport, accommodation and food account for £3.02 billion or 21% of the Region's £14.3 billion gross value added (GVA), and Department for Transport 2012 data reveals that the Humber estuary ports are the largest UK ports conurbation in volume terms, handling 71.5 million tonnes of freight traffic and accounting for 14% of all UK port freight traffic (Grant, 2013).

The emerging offshore renewable energy industry sector appears to provide a significant opportunity for new business and employment, but otherwise the position inherited by the Humber LEP appears unchanged for the best part of a decade and has a concentration on traditional industry sectors focused on Ports and logistics, Energy including renewable, and Chemicals. The LEP asked the University of Hull to test this reliance on these three target sectors and to point the way towards a new economic strategy. In short, current strategy appears to be built upon internally identified regional strengths with little regard for how economically attractive this might be to external parties (deciding where to invest or re-locate) or otherwise stimulate business interest and activity to provide the levels of employment sought. The University of Hull agreed to provide this study drawing on its academics' professional objectivity and impartiality, and using an evidence-based approach based on current research and their understanding of the Humber region.

This paper reports on this research study, focussing on the capabilities of logistics and ports in the Humber region. The full report is available on the Humber LEP website at [www.humberlep.org](http://www.humberlep.org). This paper is structured as follows. First, the methodology used for the study is described. Then, the theoretical background and context for the study are presented in conjunction with an analysis of work due to the exploratory and iterative nature of the study, and includes an appreciation of the three target sectors as clusters, the sector reports for each of them and the other identified sectors, and findings from interviews conducted with individuals external to the Humber region. Third, overall findings from these pieces of primary research and our ports-related processing agglomeration are presented, along with policy considerations. Lastly, conclusions and suggestions for the LEP are set out given this overall analysis and limitations are future research are posited.

### **Research Methodology**

A study team was put together comprising a multidisciplinary group of academics at the University of Hull from the five disciplines of economics, regional and international business, geography, politics and the public sector, and logistics; one academic at the University of St Andrews; and a member of Hull University Business School's International Advisory Board. The project was coordinated by a leadership team from Hull University Business School and the University of Hull's Knowledge Exchange. The research methodology comprised seven main stages:

1. Conducting a literature review of cluster, regional competitiveness and policy theory to inform the baseline perspective and subsequent research.

2. Preparing sector analyses of the three target sectors to provide an appreciation whether any of them are technically 'clusters' as this is important regarding policy alternatives.
3. Preparing sector analyses of four other potential sectors identified in conjunction with the LEP of Agribusiness including food processing; Tourism; Digital services including both digital infrastructure and digital services, i.e. creative media and Manu-services including enhanced service propositions by manufacturers and outsourced services in logistics.
4. Conducting qualitative interviews of leading managers, academics and experts in the UK, Europe and Asia to provide an outside perspective on the Humber product.
5. Conducting a content analysis of the sectors analyses and interviews to generate SWOT assessments. SWOT analysis has its origins in the work of business policy academics in the US from the 1960s onwards. Hill & Westbrook (1997) consider the work of Kenneth Andrews has been particularly influential in popularising the idea that good strategy means ensuring a fit between the external situation a firm faces (i.e. threats and opportunities) and its own internal qualities or characteristics (i.e. strengths and weaknesses).
6. Preparing a TOWS analysis (Weirich, 1982) to review potential strategies in light of policy alternatives.
7. Developing conclusions and suggested actions for the Humber LEP to inform its development and investment strategy.

## **Background Theory and Analysis**

### **Sector Analyses**

The first step was to investigate the three target sectors as to whether they are economic clusters. The notion of clusters is not merely semantic, it is important from a policy perspective. Dohse & Soltwedel (2006) argue there is no single policy formula to encourage and maintain clusters in a region. They argue that the evidentiary base on the importance of clusters in regional and national economies is still limited, due in part to a lack of hard econometric evidence and possibly of theoretical rigour. Further, Martin & Sunley note cluster policy has been criticised for being a disguised form of industrial policy which continues to be based on 'picking winners,' in effect substituting clusters for industrial sectors or economic agglomerations and thus *"...in the absence of clear definitions of when a spatial collection of firms has sufficient critical mass, proximity and inter-relatedness to represent a cluster, the exhortation to support those clusters that are seeking policy help seems to be an inconclusive and risky policy recommendation"* (2011: 24).

Due to such problems surrounding definitions and applications of clusters, Kitson et al. (2004) consider that the *"definition and explanation of regional competitive advantage need to reach well beyond concern with 'hard' productivity to consider several other and softer dimensions of the regional or urban socio-economy"* (2004: 993) for example, human, social or institutional, cultural and knowledge or creative capital. This contention supports Dohse and Soltwedel's (2006) suggestion that the real 'magic' lies hidden outside of government within regional economies. Kitson et al. (2004: 996) go to define of regional or place competitiveness as *"the ability of an urban economy to attract and maintain firms with stable or rising market shares in an activity while maintaining or increasing standards of living for those who participate in it."*

Martin sums up the issues around understanding regional competitiveness, not least of which are the multitude of factors and models presented in the literature, as follows:

*"There is no single theoretical perspective that captures the full complexity of the notion of 'regional competitiveness';"*

*In one sense, regional competitiveness has to do with the ability of a region to generate sufficient levels of exports (to other regions or overseas) to sustain rising levels of income and full employment of its resident population. But, ...the productivity of locally-orientated economic activity is also crucial (especially given the trend, highlighted by some writers, for large city-regions to become increasingly dependent on non-traded services). In both cases, however, the role of regionally-based external increasing returns is key;*

*The notion of regional competitiveness is as much about qualitative factors and conditions (such as untraded networks of informal knowledge, trust, and the like) as it is about quantifiable attributes and processes (such as inter-firm trading, patenting rates, labour supply and so on). This has major implications for the empirical measurement and analysis of regional competitiveness;*

*The competitiveness of a region resides both in the competitiveness of its constituent individual firms and their interactions, and in the wider assets and social, economic, institutional and public attributes of the region itself;*

*The sources of regional competitiveness may originate at a variety of geographical scales, from the local, through regional, to national and even international. At the same time, there is no natural, pre-defined 'regional' unit at which issues of competitiveness are best theorised or analysed; and*

*The causes of competitiveness are usually attributed to the affects of an aggregate of factors rather than the impact of an individual factor. Therefore, the possibility of isolating correlation coefficients is limited" (2003: 2-35).*

Martin (2011) further considers regional competitiveness policy should have three main foci: policies aimed at tackling weaknesses and inadequacies in regional fundamentals; those aimed at enhancing the external economies associated with the region's existing and potential industries and clusters; and those aimed at improving the adaptive capability of a region's economic asset base and fundamentals.

The sector analyses undertaken by the study team indicated that the three target sectors in the Humber region were not true clusters and hence regional economic competitiveness was a more appropriate perspective and approach for examining them and other sectors for the SWOT and TOWS analyses. However, how should competitiveness be measured?

The World Economic Forum's Global Competitiveness Index (Schwab, 2012) proposes twelve factors of global competitiveness for nations: the UK ranks 8th out of 144 nations worldwide with an average score of 5.4 out of 7 across the twelve factors. Problematic factors for the UK include access to funding, tax rates and regulations, insufficient capacity to innovate, inefficient government bureaucracy and inadequate educated workforce and supply of infrastructure. Further, the Council on Competitiveness (2005) in the US and Martin (2003) also provide a set regional competitiveness factors.

The study team considered all these views and factors according to similarities and differences and combined them where appropriate, restating them into eight factors as follows *Infrastructure* (underlying, physical, technological and knowledge); *Quality of life* (place, health and primary education); *Human capital* (labour market efficiency, demographic trends, regional appreciation of people); *Skills* (higher education and training, workforce level, for example, high or low, development programmes, and entrepreneurial culture); *Innovation and enterprise* (research partnering between universities and businesses, incubators, business sophistication, specialisation, technological readiness, research and development institutions); *Financial capital* (investment and capital availability, financial market development, 'angel' capital networks); *Leadership and governance* (institutions, legal and

regulatory environment, governance and institutional capacity); and *Competition* (macroeconomic environment, degree to which businesses are willing to collaborate and share ideas, nature of competition, market size, industrial base, sector concentrations, goods market efficiency, collaborative economic development partnership involving business, education, government and non-profits, internationalisation, regional attitudes towards risk).

### **Interviews**

Face-to-face or telephone in-depth interviews were conducted with senior managers, government officials or academics in the UK, Europe and Asia to obtain an outside perspective on the research issues in terms of both a broad perspective as well their own specialism. The semi-structured interviews investigated factors and importance of competitiveness, important sectors in their region and the Humber region, a comparison of their region to the Humber region, and important SWOT elements in the Humber region. Forty-three interviewees were invited spread across all the sectors as well as other stakeholders such as government and academia. All interviewees were contacted at least twice via e-mail and/or telephone which resulted in 23 interviews conducted (54% acceptance rate).

The interview findings confirmed *a priori* suppositions about competitive factors and sectors. The most important competitive factors reside in some strong themes: infrastructure and human capital and skills were the overwhelming themes, with quality of life seen as an enabler to developing and retaining skills by many. Leadership and governance and innovation and enterprise were important but less so. Also mentioned as important were attracting foreign direct investment (FDI), providing a favourable tax regime or economic incentives and encouraging integration. Leadership and governance was often prioritised by those outside the UK but not by UK respondents. Another minority theme was that competition which resulted in efficiency and collaboration was valuable, but not all forms of competitive behaviour did. A number of respondents also highlighted demand or market size as being important to achieving economies of scale.

The interviews suggested a breadth of activity in the Humber region, a lot of which relies on the ports as opposed to the focussed sectors of economic activity in some interviewees' regions. In essence, the broad economic activity in the Humber region suggests it has a higher diversity of leading sectors than the European average. Major economic activities in the Humber region that were repeatedly raised unaided by interviewees were ports, logistics, and manufacturing (but not necessarily manu-services). Chemicals and agribusiness and food processing were in the next tier of frequency. Renewable energy, Digital and tourism were not widely discussed which suggests that while they are important to the Humber region they are not largely known outside of it. There also wasn't a respondent in the Tourism sector which limits the reliance that can be made on interview responses. Probing of all sectors took place if unaided responses were not forthcoming.

Going forward it was suggested that the Humber region focus on fundamentals such as infrastructure, education and skills and develop its breadth of sectors that are related to the region's largest natural resource – the ports. Manu-services, short-sea shipping and feeder traffic were highlighted as natural areas to follow the other port-related activities. There was specific support from several respondents for developing knowledge skills through initiatives with the University to increase professional services, technological innovation and start ups in order to support the above sectors.

There was limited awareness of companies that are currently leading economic activity in the Humber region or capable of stepping forward in future and there appears to be a correlation between distance from and awareness of the region as a whole.

## Findings

Strengths in the region include ports, logistics and infrastructure, particularly international connections, innovation and enterprise of local businesses, quality of life related to cost of living, and certain skills and human capital. Weaknesses include a lack of higher-level (college or university) skills and professional services compounded by a media image of quality of life and low levels of attainment in education, infrastructure and geographical isolation in the UK, and lack of leadership and governance, particularly across the four local authorities. Opportunities include growing SMEs, facilitating improved networks between the University and business, and improving intra-region infrastructure recognising the Region's interconnectedness and labour through market efficiencies. Threats include EU control and legislation and a lack of sufficient, available financial capital.

Given the relatedness among the economic sectors observed in the sector studies, a distinctive economic agglomeration for the Humber region, related to processing through the ports, is proposed as shown in Figure 1. While interviews only focused on competitive factors and sectors, this agglomeration was nevertheless supported by a majority of responses in conjunction with sector analyses.

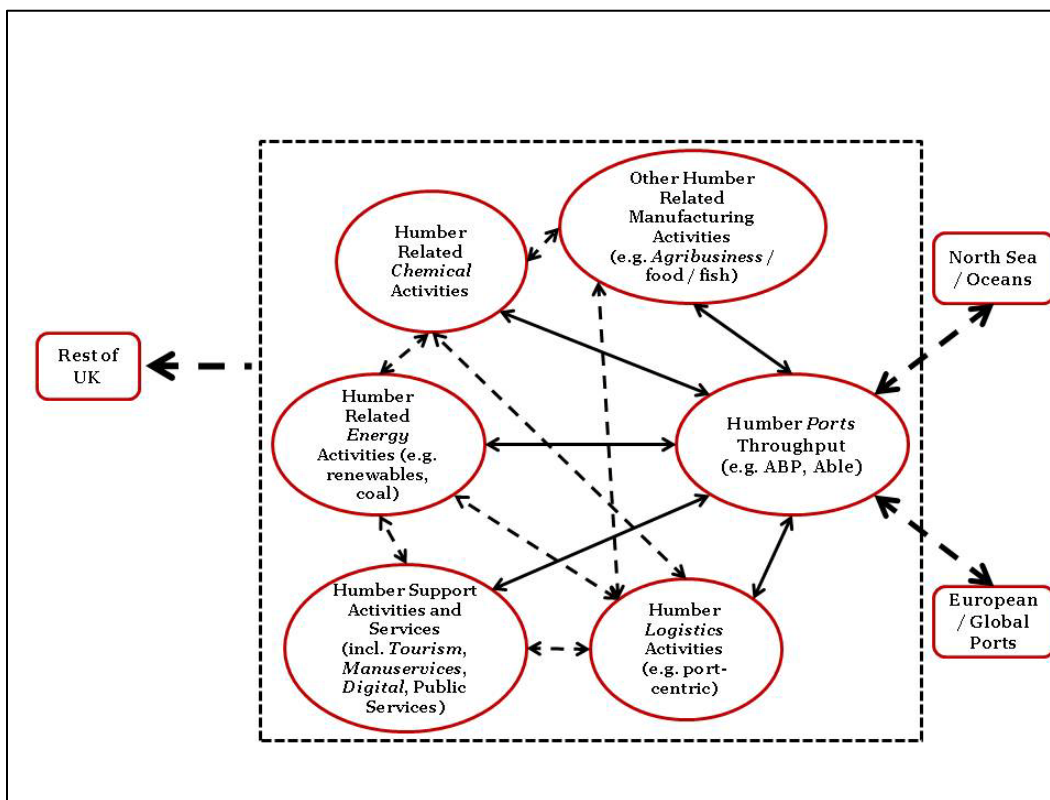


Figure 1: A Humber region ports-related processing agglomeration

The basis for this agglomeration proposition is that:

- The Humber Ports complex principally leverages its geographical access to European and global ports and to the North Sea and further oceans to provide a conduit for regional processing activity;

- Principal tonnage includes primary manufacturing and energy related feedstocks;
- the energy sector is highly inter-dependent with the Humber Ports for access to feedstocks both historic (coal) and new (woodchips), and access to offshore wind farms (for renewable energy);
- Chemicals and other manufacturing and processing activity segments also use the Humber ports for access to raw materials;
- The local labour market would potentially be best suited to basic, physical processing activities or primary manufacturing; and
- The complex supports a focus on wider (non-port) logistics and support activities, which would include an assessment of current infrastructure and required development for road and rail.

This proposition is also supported by the current economic structure of the Humber region as noted in the Introduction above. This agglomeration appears to have parallels to other observed areas where related diversification is continuing to provide growth, for example, in Aberdeen, with post oil-related growth and in Bremen, Germany, with offshore wind.

Turning to policy issues, Tödtling & Trippl (2005) have provided a framework that designates three model types of regions: peripheral, old industrial (locked-in) and fragmented metropolitan. They also suggest some possible policy approaches to certain types of regional problems based on the model type of region as shown in Table 1.

<i>Types of region</i>	<i>Peripheral regions (organisational thinness)</i>	<i>Old industrial regions (locked-in)</i>	<i>Fragmented metropolitan regions</i>
Strategic orientation of regional economy	Strengthening/upgrading of regional economy	Renewal of regional economy	Improve position of regional economy in global knowledge economy
Innovation strategy	Catching up on learning (organisation, technology) Improve strategic and innovation capabilities of SME's	Innovation in new fields/trajectories Product and process innovation for new markets	Science based and radical innovation, new ventures Enhance interaction between industry and knowledge providers
Firms and regional clusters	Strengthen potential clusters in the region Link firms to clusters outside the region Attract innovative companies New firm formation	Support clusters in new/related industries or technologies Restructuring of dominant industries Diversification New firm formation: attract cluster related FDI	Support emerging clusters related to region's knowledge base Develop specialisation advantages to achieve synergies and international visibility Attract cluster related FDI Support start ups and spin-offs in knowledge based industries
Knowledge providers	Attract branches of national research organisations with relevance to the regional economy	Set up research organisations and universities in new relevant fields	Expand and set up high quality universities and research organisations in relevant fields
Education skills	Build up medium level skills (e.g. technical colleges, engineering schools, management schools) Mobility schemes (e.g. innovation assistants for SME's)	Build up new skills required (technical colleges, universities) Attract new skills	Set up universities/schools for highly specialised qualifications and skills required
Networks	Link firms to knowledge providers and transfer agencies inside the region and beyond, demand-led approach	Stimulate networking with respect to new industries and technologies on regional, national and international levels	Promote regional networks among firms, encourage local research-industry interfaces

Table 1: Policy approaches (adapted from Tödtling & Trippl, 2005)

Depending on how the LEP views what type of region the Humber belongs to, for example, peripheral, old industrial or a combination of types, certain strategies may or may not be entirely appropriate. Recent literature on regional competitiveness policy has considered either macroeconomic and territorial targets and styles (Camagni & Capello, 2009) or resilient regions (Bristow, 2010). Bristow cites Tödting & Tripl but does not add to their argument nor provide an alternative. Hence, the Tödting & Tripl framework appears to be a useful tool for the LEP to consider.

It is inaccurate to suggest the Humber region fits only one type; however it does bear many of the problem symptoms in a peripheral region such as weak clusters discussed above, dominance by SMEs, low levels of product innovation and R&D, and low to medium level skill qualifications. It also features some symptoms of an old industrial (locked-in) region such as several mature industries and a traditional or primary industry orientation, for example, chemicals and ports, the presence of a few large firms like ABP, Smith & Nephew and Reckitt Benckiser, and technical skill qualifications. The evidence suggests the Humber region is a hybrid of these two types and thus various policy suggestions for both contained in Table 1 are worthy of consideration by the LEP if it shares this assessment.

### **Conclusions and Suggestions**

Based on the research and our proposition of the ports-related processing agglomeration, we suggested to the LEP that they support the traditional industries: ports, logistics, chemicals, agribusiness and food processing, and other production (manufacturing and processing) in the short-term to encourage the development of more added-value interrelatedness and hence GVA. This may need to be led by the SMEs as the larger, older firms are mature and potentially restricted or constrained in their scope for regional growth due to structure, ownership or factors and forces external to the region.

In the medium term the Humber LEP could help establish proper operating conditions for the digital services and manu-services sectors and explore whether either or both could have a significant impetus for the Humber region. The development of both sectors is dependent on factors which may not exist for the region. For example, infrastructure, higher-level skills required for creative media, and other digital services may need fostering in the digital sector. Regarding production and manu-services, engineering firms may require transition assistance to provide additional service-based offerings to enhance their activities while infrastructure improvements, some of which are currently planned by Associated British Ports and Able UK, might provide additional port capacity to allow third-party logistics services to thrive.

The renewable energy sector appears well-served by various associations at present and is working its way towards higher activity levels which the arrival of Siemens and Able UK or another significant operation will accelerate. The Humber LEP and its partners have already recognised the potential offered by this sector and are working to establish operating conditions and facilities to capitalise on it. The region has many tourism assets as outlined in the sector report and the award to Hull of the UK City of Culture 2017 after the study was concluded highlight the potential of this sector. However, we did not obtain any outside perspectives on tourism in the primary research-interview process and thus were unable to provide a deeper analysis of it, despite its obvious benefits.

As a follow-up to the study, we note that the LEP has considered and adopted some of our suggestions. Their *Review 2013-2014* released in mid-June 2014 notes the following: *“Our Strategic Economic Plan was informed by a series of consultation events and a fundamental review of the Humber’s competitiveness by the University of Hull. We expanded our sector focus, adding Engineering/Manufacture, Food, Digital and the Visitor Economy [Tourism] to our first three priority*

sectors of Energy, Ports and Logistics and Chemicals. We also introduced new objectives for mitigating flood risk, developing our infrastructure and improving our housing and place offers” (Humber LEP, 2014: 7).

As with all research there are limitations to this study. From a theoretical perspective the agglomeration proposition has not been fully tested and requires further assessment to properly validate it. Also, an appropriate methodology needs to be designed for a full comparison of the various areas and factors of competitiveness, including like-for-like comparisons and weighting of individual factors, to ensure a more rigorous and robust analysis. These aspects would form the basis of future research into these issues either on behalf of the Humber LEP or as independent academic research studies.

### **Acknowledgement**

We would like to acknowledge and thank the Humber LEP, particularly the members of its Strategy Unit, for its support and the opportunity to conduct this research study.

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