INSIGHTS INTO THE OVERLAP BETWEEN CONSTRUCTIONSKILLS' FOOTPRINT AND OTHER SECTOR SKILLS COUNCILS

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The current UK government VET[2] (Vocational and Education Training) system is subject to a structural change with the launch of a UK Commission for Employment and Skills (UK CES) in April 2008. The UK CES is reviewing the cluster of sectors making up the overall VET system in order to support the implementation of the government skills policy. In that context, this paper is timely by trying to address the overlaps of ConstructionSkills, Sector Skills Council (SSC) for construction, with other SSCs and their corresponding sectors. Despite the challenge of defining the construction industry, the Standard Industrial Classification (SIC) offers a common and consistent metrics across different sectors of the economy. Sectoral definitions using SIC, available from the Annual Business Inquiry (ABI) - published by the Office of National Statistics (ONS), was used as a basis for mapping the overlap of ConstructionSkills with other SSCs. It was found that ConstructionSkills has significant overlaps with the following sectors: building services, energy and utility, property/housing/facilities management. Whilst there are limitations offered by SIC definitions of sectors, it provides a useful starting point for attempting to understand the overlaps of construction with other sectors. These overlaps could help in informing the level of engagement of ConstructionSkills with other SSCs in terms of addressing common skills issues, such as joint planning for future workforce requirements in addition to enhancing the understanding of the mobility of the workforce across construction-related sectors.

Keywords: construction skills, footprint, overlaps, sector skills councils.

INTRODUCTION

The productivity performance of the UK economy is at the centre of government policy. As described by the Pre-Budget Report (1998), “Productivity ... is a fundamental yardstick of economic performance.… We are not as productive as our major partners and the extent of our under-performance is very substantial.... tackling it must be a central national priority”. More recently, the Budget Report (2005) mentioned that “despite some progress in the UK productivity performance, there remains a significant gap with the US”.

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[2] VET system encompasses: Further Education (FE) colleges, private training providers, and various government department and agencies, such as Department for Education and Skills (DfES), Learning and Skills Council (LSC), and Sector Skills Councils (SSCs). The scope of the VET system discussed in this paper is limited to SSCs. The footprint of SSCs covers 85% of employment in the economy.

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With the construction industry becoming an increasingly significant contributor to the UK GDP, in 2004 value added of construction activities contributed 6.5 % to the UK GDP as opposed to 5% in 1997, it is important to ensure that the construction industry is an enabler to further economic growth. Arditi and Mochtar (2000) argued that productivity improvement in the construction industry may have a significant impact on improving GDP. Indeed this improvement is more attainable when the effects of various factors affecting productivity are better understood.

According to the Budget Report (2005), the Government's strategy focuses on five key drivers of productivity performance, namely: improving competition, promoting enterprise, supporting science and innovation, raising UK skills, and encouraging investment. O'Mahony and de Boer (2002) estimated that as much as one-fifth of the productivity gap between UK and Germany is as a result of the UK's relatively poorly skilled workforce - using qualification levels as an indicator of skills. Dearden *et al.* (2000) found that an increase in the sector-wide training rate of 5% was associated with a 4% rise in productivity[3]. Spilsbury (2002) also found that 65% of employers in England attributed increase in their firm's productivity due to increased participation levels in training.

Thus, the UK government launched a network of Sector Skills Councils (SSCs) in 2002, which were licensed by the Secretary of State of the Department of Education and Skills, in order to tackle skills and productivity needs of their respective sectors (SSDA, 2005). Bartley (2002) explained that SSCs were launched to replace the NTOs (National Training Organisation) network which failed to deliver the fundamental changes that were needed for a step change in skills and productivity. This was evident through the continued lag of UK productivity behind other countries such as France, Germany and the USA. SSCs, which are licensed and monitored by the SSDA, have four key objectives: address skills gaps and shortages; improve performance and productivity; provide opportunities for training and development; and support the development of training standards and curricula (SSDA, 2005).

Recently, the UK government has recently undertaken a review of skills in order to: identify the UK's optimal skills mix for 2020 to maximise economic growth, productivity and social justice; set out the balance of responsibility for achieving that skills profile and consider the policy framework required to support it (Leitch Review, 2006). The review recommended a new and a clearer remit for Sector Skills Councils, which would be managed by a new UK Commission for Employment and Skills (UK CES), that would focus on: raising employer engagement, demand and investment; lead role in vocational qualifications; lead role in collating and communicating sectoral labour market data; and considering collective measures, such as imposing levy. It has to be noted that the recommendations of the Leitch Review of skills were limited to England, but they could also be useful to the devolved administrations in Scotland, Wales and Northern Ireland.

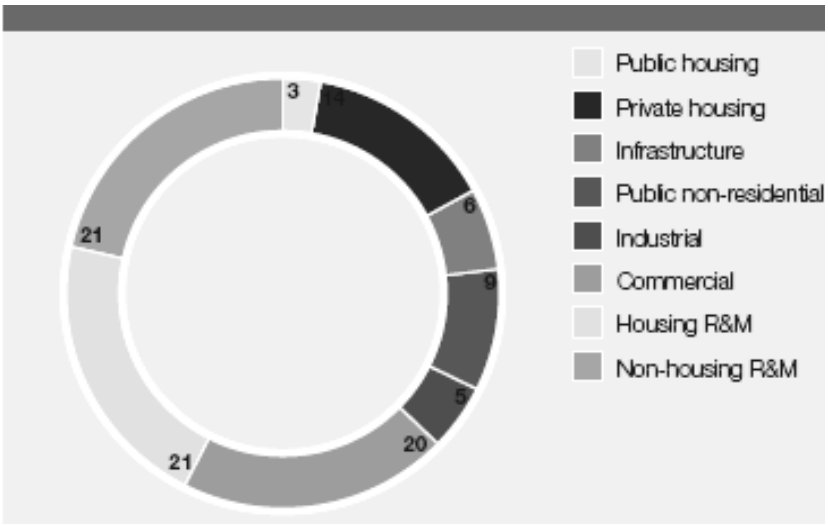
SSCs form a major part of the current VET system. Whilst there are 25 SSCs their numbers may be reduced to streamline and simplify the system - which is an indication that some SSCs might be amalgamated (Humphries, 2008). Thus, this paper is timely as it explores the overlap of ConstructionSkills with other SSCs which would help in mapping a cluster of sectors around the built environment.

[3] Training was measured as a proportion of trainees in the workforce of each sector and productivity as Gross Value Added (GVA) per worker

DEFINITION OF THE CONSTRUCTION INDUSTRY

A first challenge when attempting to look at the overlap of the construction industry with other sectors is the complexity of defining the construction sector. Ive and Gruneberg (2000) defined construction as all production activities contributing to the production of the built environment. This definition is not only confined to construction activities on-site, but also it includes other activities essential for executing a construction project, such as design of the building, supply of materials through quarrying activities. It is probably better to regard construction as a loose agglomeration of agents and activities, which can be unpackaged and packaged in different ways, rather than a discreet industrial sector (ILO, 2006). It follows that the scope of the industry is enormous and this would potentially complicate any studying of the industry performance and operations. However, the distinction between a 'narrow' as opposed to a 'broad' definition for construction provides a useful insight (Pearce, 2003). The former relates to activities on-site, whereas as the latter encompasses all other activities which do not take place on-site. Clearly, it is a challenge to capture the entire scale of all construction activities; nonetheless the official statistics provide a useful and perhaps the only available source, though it is indicative, for studying the construction industry as a whole. The construction industry activities, as per official statistics, can be defined by: the type of outputs produced by construction firms; and type and value of projects undertaken - which are subsequently discussed.

The output produced by construction firms could be defined through the Standard Industrial Classification (SIC), which classifies business establishments and other statistical units by the type of economic activity in which they are engaged. The classification provides a framework for the collection, tabulation, presentation and analysis of data and its use promotes uniformity. In addition, it can be used for administrative purposes and by non-government bodies as a convenient way of classifying industrial activities into a common structure (ONS, 2006). However, the official SIC definition for construction is not particularly useful when attempting to understand how the industry actually operates, for example, it ignores the difference between house building and other forms of construction (Morton, 2002). This brings in the importance of the Annual Construction Statistics, published by BERR (Department for Business, Enterprise and Regulatory Reform), which provides information on the type and value of projects undertaken. BERR classifies the types of construction projects into the following categories or sub-sectors: Repair and Maintenance (R&M), Housing, Infrastructure, Commercial and Industrial – as seen in figure1 below.



Source: Construction Skills Network (CSN), 2008

Figure 1: Construction industry sub-sectors

Annual econometric forecasts are produced by the Construction Skills Network[4] (CSN) which provides an indication of the expected level of growth across various industry sub-sectors. For example, recent CSN (2008) projections showed that infrastructure sub-sector as the most buoyant with an average annual forecasted growth of 5.7% over the next 4-years.

Whilst sectoral definition using SIC enables consistency for analysis and comparison with other sectors, there is a general concern across all sectors that SICs do not provide full sectoral coverage. As such, the SSDA (2005) recommended that SSCs should make sensible calculations and assumptions using the current SIC code system. Thus, ConstructionSkills core footprint is defined by SIC45 and SIC74.2 to capture both the narrow definition of construction and elements of the broad definition (CSN, 2008).

Attempts to assess the overlap of the construction industry in relation to other sectors are scarce due to the lack of common sectoral data. Ive and Guneberg (2000) estimated that 11.2% of employees in employment are engaged in the production of the built environment. The most significant sectors contributing to the built environment were the manufacturing and distribution sectors, yet they acknowledged that such estimates are only indicative because the industry definitions they used had different industrial classifications. This paper however attempts to map the overlap of CS and other SSCs using a consistent and common metrics - SIC92[5].

RESEARCH METHOD

According to the SIC92 classification, the footprint of each SSC is defined by core and periphery SICs. With reference to SSCs licensing agreement with the SSDA, a core SIC is unique to each SSC where it is directly held accountable to managing the

[4] CSN is a forum for sharing and collating labour market research. The forum includes various stakeholders, such as BERR, SSCs, construction companies, education and training providers, regional agencies.

[5] SIC92 refers to the Standard Industrial Classification revised in 1992. The SIC system is subject to a periodical review to reflect changes in the type of economic activities undertaken in the economy.

skills-productivity requirements for that SIC, whereas a periphery SIC indicates a particular interest of SSC in a specific type of economic activity. Below is a list of SSCs along with a description of their corresponding sector.

The overlap of ConstructionSkills (CS) with other SSCs is defined by: periphery SSCs footprint that falls within CS core footprint, in addition to periphery CS footprint that falls within other SSCs core footprint. The Annual Business Inquiry (ABI) - published by the Office of National Statistics (ONS), was used as a basis for estimating the overlap, in terms of employment levels, of the construction industry with other sectors. ABI provides employment and financial estimates of all UK businesses registered for Value Added Tax (VAT) and/or Pay As you Earn (PAYE), classified to the 1992 or 2003 Standard Industrial Classification ABI (ONS, 2007). Whilst the ABI offers a detailed activity description for each establishment, i.e. 4-digit SIC, it is only limited to enterprises employing 20 or more individuals. Below is the overlap found between CS and other SSCs.

Table 1: List of Sector Skills Councils (SSCs)

SSC	Sector Description
Asset Skills	Property, housing, cleaning, facilities management
Automotive Skills	Retail motor industry
Creative and Culture Skill	Advertising, crafts, cultural heritage, design, music, performing, literary and visual arts
Energy & Utility Skills	Electricity, gas, waste management & water
e-Skills	Information technology, telecommunications and contact centres
Lantra	Environmental & land-based industries
ProSkills	Process and manufacturing industry
SEMTA	Science, engineering & manufacturing technologies
Skillfast-UK	Apparel, footwear & textile industry
Cogent	Chemicals, nuclear, oil & gas, petroleum & polymer industries
ConstructionSkills	Construction industry
Skills for Logistics	Freight logistics industry
SkillsActive	Active leisure & learning (temporarily omitted from analysis)
Skillset	Broadcast, film, video, interactive media & photo imaging
Skillsmart	Retail industry
Summit Skills	Building services engineering (electro-technical, heating, ventilation, air conditioning, refrigeration & plumbing)

Source: Sector Skills Development Agency (SSDA)

CS OVERLAP WITH OTHER SECTOR SKILLS COUNCILS

Table 2 below shows the SSCs which have interest in core CS activities, these were namely: EU (Energy and Utility), Summit, Skillfast, and Asset Skills.

When considering the corresponding employment figures for the overlaps, shown above, it appeared that the most significant overlaps is with Asset and Energy and Utility (EU) skills, representing 25.8% and 23.8% of CS workforce respectively, as shown in table 3 below.

CS peripheral activities span across much more number of sectors when compared to table 3 above. It simply shows that CS has an interest in the economic activities pertinent to the following SSCs.

Table 2: Overlap of core CS and SSCs periphery footprint

45.1 Site preparation	
45.11 Demolition and wrecking of buildings; earth moving	EU Skills
45.12 Test drilling and boring	
45.2 Building of complete constructions or parts thereof; civil engineering	
45.21 General construction of buildings and civil engineering works	
45.21/1 Construction of commercial buildings	
45.21/2 Construction of domestic buildings	
45.21/3 Construction of civil engineering constructions	EU and Summit Skills
45.22 Erection of roof covering and frames	
45.23 Construction of highways, roads, airfields and sports centres	
45.24 Construction of water projects	EU Skills
45.25 Other construction work involving special trades	
45.32 Insulation work activities	EU Skills
45.34 Other Building Installation	EU Skills
45.4 Building Completion	
45.41 Plastering	
45.42 Joinery installation	
45.43 Floor or wall covering	Skillfast-UK
45.44 Painting and glazing	
45.45 Other building completion	
45.5 Renting of construction or demolition equipment with operator	
45.50 Renting of construction or demolition equipment with operator	

Table 2: Overlap of core CS and SSCs periphery footprint (Continued)

74.2 Architectural and engineering activities and related technical consultancy	
74.20 Architectural and engineering activities and related technical consultancy	Asset Skills
74.20/1 Architectural activities	Asset Skills
74.20/2 Urban planning and landscape architectural activities	Asset Skills
74.20/3 Quantity surveying activities	Asset Skills
74.20/4 Engineering consultative and design activities	Asset Skills
74.20/5 Engineering design activities for industrial process and production	Asset Skills
74.20/6 Engineering related and technical consulting activities	Asset Skills
74.20/9 Other engineering activities	Asset Skills

Table 3: Employment overlap – Core CS and SSC periphery

SSC	**Employment**	
	No. (000s)	**% of CS**
Asset	354	25.1%
EU Skills	336	23.8%
Skillfast	20	1.4%
EU & Summit**	49	3.5%
ConstructionSkills	1,411	N/A

* These figures are based on a 7-year average from the ABI data.

** EU & Summit share the same SIC overlap with CS and it is not possible to separate them to ascertain the overlap of employment between Summit and CS

Table 4: Employment overlaps – CS periphery and SSCs core*

	Employment	
SSC*	**No. (000s)**	**% of CS**
ProSkills	85	6.0%
SEMTA	193	13.7%
EU Skills	242	17.2%
Summit	290	20.6%
Cogent	28	2.0%
Asset Skills	889	63.0%
Lantra	488	34.6%
Automotive	184	13.0%
Skillsmart	126	8.9%
Skillfast	38	2.7%
Skills for logistics	299	21.2%
e-Skills	209	14.8%
Skills Active	93	6.6%
Creative & Cultural	32	2.3%

Overall, Figure 2 below shows that CS has significant overlaps with the following SSCs (respectively): Asset Skills, EU skills, Lantra, Skills for Logistics, and Summit skills.

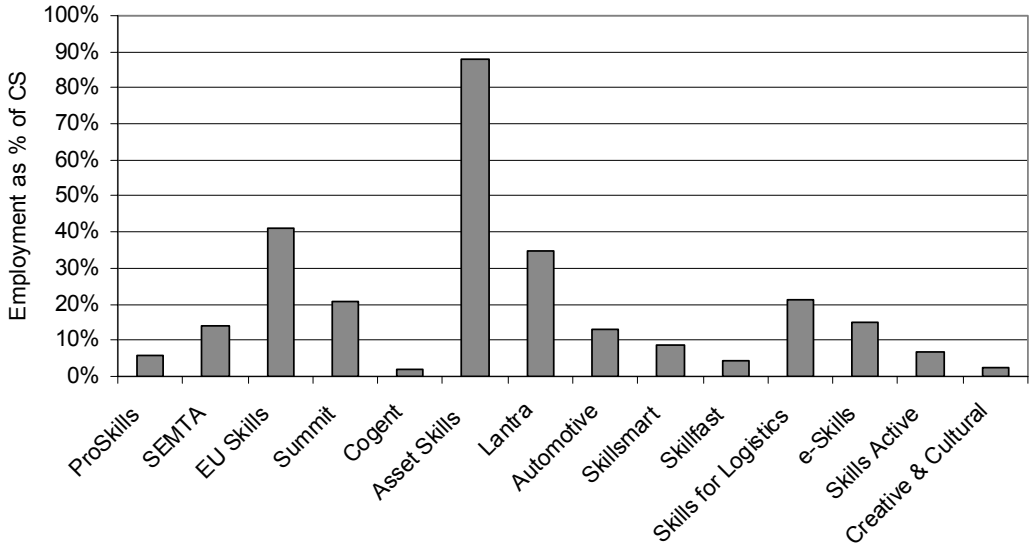


Figure 2: Aggregate overlap between CS and other SSCs

IMPLICATIONS TO CS OVERLAP WITH OTHER SECTORS

The findings highlight the overlap between CS and other SSCs, as per the SIC system. Asset skills have the most overlap with CS, which is not surprising considering that their remit is focused on property, housing and facilities management (see table 1 above). With the projected increase in construction activity (CSN, 2008) and government plans for building a quarter million houses each year, it is essential to ensure that there is enough supply of workers to manage and maintain the newly built homes and facilities.

As mentioned above, the infrastructure sub-sector is expected to be the most buoyant sub-sector in the construction industry over the coming few years (CSN, 2008). This is evidenced by the government plans of building a new generation of nuclear power plants. It is the onerous on the construction industry to work closely with EU skills to

ensure that the construction of such new plants is not constrained by skills shortages whilst ensuring that construction operatives working on such projects are complying with the regulations of the nuclear industry.

Projected increase in the industry's workload would also mean more building materials are needed to be transported on-site. Moreover, an increase in offsite production would mean that more prefabricated materials would be transported on construction sites, putting additional pressures on the haulage industry - Skills for Logistics. Thus, the availability of enough lorry drivers could be a real issue affecting the construction industry, especially when considering that offsite production is adopted on high profile projects, such as the London Olympic Village. When considering that late material delivery is a main cause for site interruptions on construction projects (see Horner and Duff, 2001), which might have a knock-on effect on productivity levels, the importance of having enough lorry divers becomes apparent. It follows that CS may need to consider working closely with Skills for Logistics to ensure that the demand for truck drivers is secured inline with the construction industry's requirements. It has to be noted that such demand, i.e. for drivers, would be predicted on the ability to assess the future demand for offsite production on construction projects.

Rising fuel prices, in addition to the demand place on construction industry to reduce its carbon footprint, would mean that the construction industry needs to consider alternative modes of transporting materials on-site, such as waterways. This would mean that the haulage industry, skills for logistics, would have to work in collaboration with the construction industry for providing these alternative modes of transportation, which are environmental friendly.

CONCLUSION

Given the imminent structural change of the VET system in the UK, this paper has provided an insight into the overlaps of CS with other SSCs. It has revealed that the cluster of sectors relating to the built environment includes: building services, energy and utility, property/housing/facilities management.

Thus, CS may need to consider proactively engaging with the aforementioned sectors and perhaps it is worth further exploring the idea of amalgamating sectors that has significant overlap with CS. This could help in addressing common skills issues, such as joint planning for future workforce requirements but this would require enhancing the understanding of the mobility of the workforce across different construction-related sectors. As such, the feasibility of this amalgamation needs to be further explored along with its wider implication to the VET system in order to minimise the disruption to the VET system. A mapping of the workforce, in terms of their industry activity, involved in the overall construction process from inception to completion is a possible avenue for further research.

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