

The Creative Knowledge Sector in Birmingham and the West Midlands

A preparatory analysis for surveying selected target groups

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The creative knowledge sector in Birmingham and the West Midlands

A preparatory analysis for surveying selected target groups

ACRE report [4.3]

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Accommodating Creative Knowledge – Competitiveness of European Metropolitan Regions within the Enlarged Union

Amsterdam 2007
AMIDSt, University of Amsterdam

ACRE

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1. INTRODUCTION

The aim of this report is to gain detailed information about the structure (employment, number of firms, firm size, turnover, location etc) of the creative and knowledge economy in Birmingham and the West Midlands Region, in order to select suitable interview candidates for surveys of creative knowledge workers (UK-born employees as well as trans-national migrant employees), graduates, entrepreneurs and managers of firms.

The following sub-sectors were selected by the ACRE project team and CURS as the basis for this analysis:

- Advertising
- Video, film, music and photography
- Radio and TV
- Computer games, software, electronic publishing
- Finances
- Law and other business services
- R&D and higher education
- Crafts
- Music, Visual and Performing Arts

The first section of the report is a discussion of the development of the Creative and Knowledge sectors in Birmingham. This includes a discussion of the number of creative knowledge workers, firm numbers, sizes and turnover as well as the location pattern of the sectors in Birmingham. The composition of the target groups will also be discussed. These are graduates from Birmingham's five Higher Education Institutions, trans-migrant working population of Birmingham and the West Midlands and managers of firms in the creative knowledge sectors.

The second part of this report deals with the design and conduct of the forthcoming surveys. It addresses the question how the surveys can be conducted and which databases and professional associations are available in order to approach suitable interview candidates.

2. THE CREATIVE KNOWLEDGE SECTOR IN BIRMINGHAM AND THE WEST MIDLANDS

2.1. Definition of the Creative Knowledge Sectors

The following statistical analysis regarding the number of employees of Birmingham's Creative Knowledge sector is based on data from the Annual Business Inquiry (ABI). We also use local data from a survey carried out with 350 creative firms in Birmingham (Burfitt et al., 2006).

The Creative Knowledge sectors consist of following five sub-sectors as defined by the ACRE project team:

Creative Industries

1. **Creative Industries** which includes advertising, architecture, crafts, design, designer fashion, video, film, music and photography as well as publishing, computer games and software design and radio and television.

Knowledge Industries

2. **Information and Communication Technology** which comprises ICT manufacturing and ICT services including telecommunication,
3. **Finances,**
4. **Law and Other Business Services,** and
5. **Research and Development and Higher Education.**

2.2. Creative Industries Employment

There were 25,925 Creative Industries jobs in Birmingham in 2005, representing 5.2 per cent of the Birmingham economy (ABI, 2005) – Table 1. If employment alone is used to determine the importance of the sub-sectors, Arts/Antiques (25.8 per cent) and Architecture (24.5 per cent) dominate, followed by Computer Software (19.3 per cent of CIs jobs).

However statistics for Arts/Antiques and Architecture sub-sectors need to be interpreted with caution, as these two categories contain branches which can neither be regarded as creative nor as knowledge intensive. For example, the SIC codes covering architecture include many activities related to machinery and industrial plan design. It is difficult to extract from the SIC codes covering Arts/Antiques the creative parts of this sector, but it is likely that much of it refers to sales activities.

Of the other CIs sub-sectors in Birmingham, Screen Media and Radio, when taken together, accounting for 9.6 per cent of jobs; Music and Visual and Performing Arts (9.5 per cent) and Advertising (5.9 per cent) are less important in terms of pure job numbers.

Table 1: Employment in Creative Industries - Birmingham and Great Britain (2005).

	Birmingham		Great Britain	
	number	%	number	%
Advertising	1,522	5.9%	79,363	5.0%
Architecture	6,346	24.5%	314,590	19.8%
Arts and Antiques	6,680	25.8%	397,307	24.9%
Designer Fashion	627	2.4%	46,905	2.9%
Video, Film & Photography	992	3.8%	71,712	4.5%
Music and the Visual & Performing Arts	2,457	9.5%	141,266	8.9%
Publishing	809	3.1%	158,188	9.9%
Software	4,995	19.3%	314,783	19.8%
Radio and Television	1,497	5.8%	68,591	4.3%
Total CIs employment	25,925	100.0%	1,592,705	100.0%
Total employment	495,329		26,503,143	
CI's employment as proportion of total employment		5.2%		6.0%
CI's employment as proportion of GB CIs employment		1.6%		100.0%
Employment as proportion of GB employment		1.9%		100.0%

Source: ABI, 2005

2.3. Creative Firm Base, Size and Turnover

In 2005, there were 3,239 Creative firms in Birmingham according to the Annual Business Inquiry (ABI, 2005). This number represented around one tenth of all firms in Birmingham. Around 89 per cent of these firms in Birmingham had less than 10 employees. This is a higher proportion than found in the local economy as a whole (80.3 per cent) but lower than nationally for creative firms (92.1 per cent). Firms in Screen Media and Radio, Publishing and Music, Visual and Performing Arts were more likely to have medium and large firms. Overall, 0.4 per cent of CI firms had more than 200 employees in 2004 - above the national average of 0.2 per cent - Table 2.

Arts and Antiques (1,187 firms), Architecture (788 firms) and Software (633 firms) are the sectors with most firms in Birmingham. In comparison, there are only 102 Publishing firms and 159 Advertising firms in Birmingham. However, on average, around a third of Creative firms (31 per cent) were not registered for VAT in Birmingham in 2004 and there were approximately 21 per cent freelancers in the CIs sub-sectors (Burfitt et al, 2006). Not only does this indicate the importance of freelancers and self-employed people in the CIs sectors in Birmingham, it indicates that official figures underestimate, by nearly a third, the number of CI firms in the City.

The Creative industries are a dynamic sector in Birmingham: The majority of firms are less than 15 years old, except in Crafts and Jewellery, and 48 per cent of firms were created in the last 10 years (Burfitt et al, 2006). Furthermore, more than 5 per cent of firms were created in the last three years in Publishing, Software, Screen Media and Radio and up to 8.2 per cent in Music and Performing Arts.

Table 2: Creative Firms by Size and Sub-Sector - Birmingham (2005)

	1-10 employees	11-49 employees	50-199 employees	200 or more employees	Total
Advertising	81.1%	15.7%	1.9%	1.3%	159
Architecture	86.7%	10.4%	2.5%	0.4%	788
Arts and Antiques	89.9%	9.0%	1.0%	0.1%	1,187
Designer /Fashion	89.7%	10.3%	0.0%	0.0%	126
Video, Film & Photography	92.6%	2.9%	4.6%	0.0%	175
Music and the Visual & Performing Arts	92.0%	4.0%	3.4%	0.6%	323
Publishing	88.2%	6.9%	3.9%	1.0%	102
Software, Computer Games & Electronic Publishing	94.2%	3.9%	0.9%	0.9%	633
Radio and television activities	81.2%	11.6%	5.8%	1.4%	69
TOTAL CREATIVE INDUSTRIES	89.4%	8.4%	1.8%	0.4%	3,239
TOTAL ECONOMY	80.3%	14.4%	4.2%	1.0%	33,103

Source: ABI, 2005.

2.4. Qualification levels of Creative Industry Workers

The CIs sector in Birmingham is highly skilled. In 2004, 45 per cent of the CIs workforce had a first degree or higher. High levels of qualifications are particularly found in Screen Media and Radio (nearly 48 per cent of workers hold a first degree or higher) and Software (60 per cent of workers hold a first degree or higher). However, the pattern of qualification requirements varies among CIs sub-sectors. For example, nearly a third (32.4 per cent) of workers in Craft and Jewellery have no formal academic qualifications and just over a third (36.6 per cent) of workers in Advertising hold a first degree or higher – Table 3.

Table 3: Highest Qualifications in Creative Industry Sub-sectors - Birmingham (2004)

Average Highest qualification	Visual Arts (%)	Screen, Media & Radio (%)	Music & Performing Arts (%)	Craft & Jewellery (%)	Software (%)	Advertising (%)	Average (%)
No qualifications	10.4	7.7	6.7	32.4	3.2	10.0	13.4
GCSE/O Level	8.1	16.2	7.3	11.9	8.6	14.6	11.8
A Level	7.0	16.0	28.4	11.1	13.0	15.7	13.5
Technical vocational qualification	10.3	12.2	1.3	11.2	7.1	7.1	8.5
Degree	38.9	43.8	34.8	29.4	50.4	25.8	37.1
Postgraduate qualification	7.3	4.0	18.0	2.3	10.2	10.8	8.2
Professional qualification	18.2	0.0	3.5	1.7	7.5	16.0	7.5

Source: Burfitt et al., 2006

2.5. Knowledge Industry Employment

Finance, Law and Other Business Services together with R&D and Higher Education are important sectors in Birmingham's economy. These sectors have been part of the regeneration strategy pursued by the City and are sectors with a higher concentration of jobs in the City than the national average.

The Finance sector accounted for 2.9 per cent of Birmingham's firms and 4.9 per cent of the city's employment (24,331 employees) in 2005 – Table 4. This is higher than the national average of firms (2.3 per cent) and employment (4.0 per cent) in this sector. Law and Other Business Services accounted for 8.9 per cent of firms and 7.9 per cent of employment (39,085 employees) in Birmingham in 2005. Again, this proportion is higher than the national average (8.4 per cent of firms and 6.5 per cent of employment). There were 13,646 jobs in Higher Education and R & D in Birmingham in 2005 corresponding to 2.8 per cent of the city's employment.

Table 4: Employment in Knowledge Sectors in 2005; Birmingham and Great Britain

	Birmingham		Great Britain	
	number	% of all jobs	number	% of all jobs
Finance	24,331	4.9	1,051,647	4.0
Law and other business services	39,085	7.9	1,731,427	6.5
R&D and higher education	13,646	2.8	648,666	2.4
Finance employment as proportion of national total for sector	2.3			
Law and Other Business Services employment as proportion of national total for sector	2.3			
R&D and HE jobs as proportion of national total for sector	2.1			

Source: ABI (2005)

2.6. Knowledge Industry Firm Base

There were 4,042 firms in our three studied knowledge industry sectors in 2005, with the bulk being in Law and other Business Services (Table 5). Distribution of firm size varied across sub-sectors. 7 per cent to 9 per cent of firms in Finance, Law and other Business Services have more than 50 employees which is higher than the rest of the economy (5.2 per cent). On the contrary, firms in R&D and Higher Education are proportionally smaller: 90.2 per cent of firms in that sector have less than 10 employees compared to 80.3 per cent for the rest of the economy.

Table 5: Knowledge Sector Firms by Size and Sub-Sectors; Birmingham, 2005

	1-10 employees	11-49 employees	50-199 employees	over 200 employees	All firms (N)
Finance	68.1%	25.0%	4.8%	2.2%	968
Law and Other Business Services	52.0%	38.9%	6.0%	3.0%	2,954
R&D and Higher Education	90.2%	7.4%	1.8%	0.6%	120
Total knowledge sectors	81.2%	12.8%	4.2%	1.8%	4,042
Whole economy	80.3%	14.4%	4.2%	1.0%	33,103

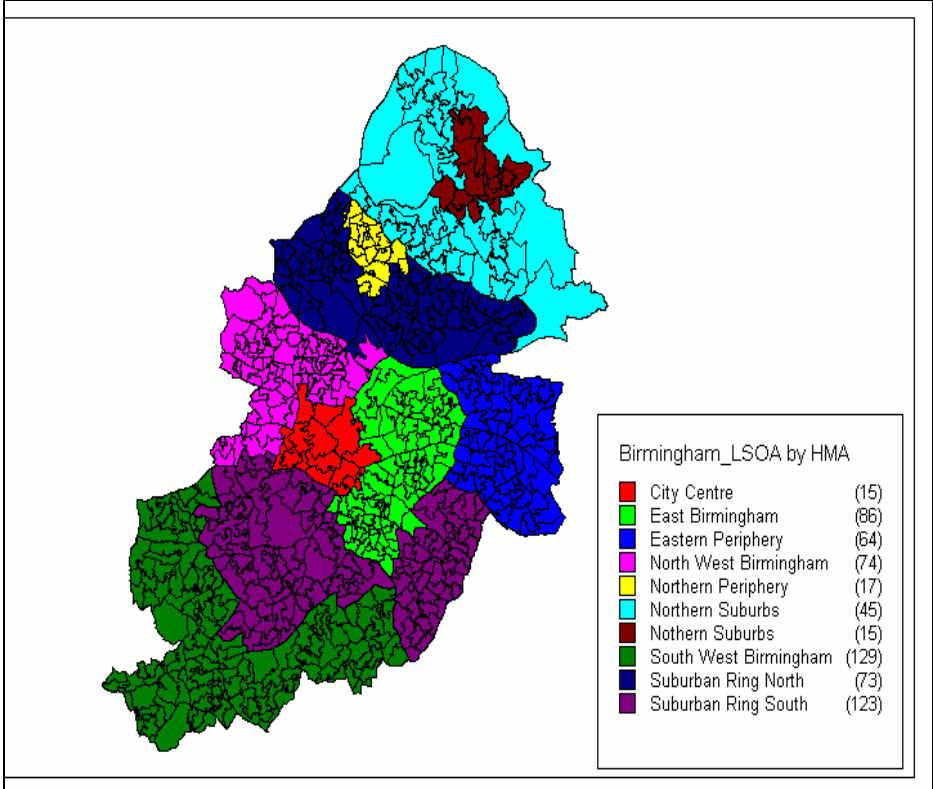
Source: ABI (2005)

2.7. Creative Knowledge Industry Firms: Employment and Location

Table 6 present the distribution of employment and firms for the different Creative Knowledge sectors according to different housing market areas in Birmingham in 2005 (Map 1). Overall, firms are located in two major areas in Birmingham: the City Centre (35.8 per cent of all firms) and the Suburban Ring South (21.2 per cent of all firms).

Creative Knowledge firms are distributed unevenly across Birmingham. Although there is a spatial concentration of firms in the central area, there is a differentiated pattern of land use with firms favouring particular locations, for example Software firms are highly dispersed within the South part of the City. Publishing firms are also dispersed with some clusters in the City Centre, East Birmingham and the Suburban Ring South. Creative and Knowledge larger firms tend to locate in the City Centre. For example, around 45 per cent of firms in Finance and Law and other Business Services are located in the City Centre but they account for 70 per cent of employment in both sectors.

Map 1: Housing Market Areas in Birmingham – 2005.



Source: JCIS/Birmingham City Council

Table 6: Distribution of Creative Knowledge Employment and Firms According to Different Housing Market Areas in Birmingham – 2005.

Firms	City Centre	East Birmingham	Eastern Periphery	North West Birmingham	Northern Periphery	Northern Suburbs	Northern Suburbs	South West Birmingham	Suburban Ring North	Suburban Ring South	Grand Total
Advertising	35.8%	7.5%	1.3%	3.1%	0.6%	8.8%	3.8%	7.5%	8.8%	22.6%	159
Architecture	26.9%	6.3%	4.2%	4.2%	0.3%	14.1%	3.8%	10.2%	6.1%	24.0%	788
Arts and Antiques	27.0%	12.8%	5.6%	5.6%	1.1%	6.1%	4.7%	8.5%	8.8%	19.8%	1187
Designer Fashion	19.8%	9.5%	0.8%	52.4%	0.0%	2.4%	0.0%	0.8%	2.4%	11.9%	126
Video, Film & Photography	37.1%	9.1%	1.1%	6.3%	0.6%	7.4%	2.3%	10.3%	4.6%	21.1%	175
Music and the Visual & Performing Arts	28.2%	6.8%	1.5%	8.0%	0.3%	9.9%	4.6%	8.4%	5.3%	26.9%	323
Publishing	32.4%	10.8%	4.9%	2.9%	0.0%	2.9%	2.9%	8.8%	3.9%	30.4%	102
Software	16.1%	7.4%	5.7%	6.6%	0.8%	12.6%	3.0%	13.0%	6.3%	28.4%	633
Radio and Television	44.9%	4.3%	2.9%	2.9%	0.0%	1.4%	2.9%	7.2%	4.3%	29.0%	69
Finance	44.9%	6.2%	4.0%	3.2%	1.1%	5.7%	2.9%	5.8%	6.1%	20.0%	968
Law and Other Business Services	44.9%	4.7%	2.7%	4.0%	0.4%	11.5%	3.2%	5.5%	4.4%	18.7%	2954
R&D and Higher Education	22.5%	5.0%	9.2%	8.3%	0.8%	5.0%	3.3%	12.5%	5.0%	28.3%	120
TOTAL	35.8%	7.0%	3.7%	5.4%	0.6%	9.6%	3.4%	7.5%	5.8%	21.2%	15208
Employment	City Centre	East Birmingham	Eastern Periphery	North West Birmingham	Northern Periphery	Northern Suburbs	Northern Suburbs	South West Birmingham	Suburban Ring North	Suburban Ring South	Grand Total
Advertising	46.3%	2.0%	0.3%	1.9%	0.1%	2.3%	3.8%	6.8%	6.3%	30.2%	1528
Architecture	59.8%	2.8%	1.5%	4.0%	0.0%	3.9%	1.5%	5.4%	1.9%	19.2%	6375
Arts and Antiques	47.9%	6.4%	3.6%	2.1%	0.8%	3.1%	6.0%	5.5%	11.3%	13.3%	6704
Designer Fashion	19.3%	13.0%	0.5%	45.7%	0.0%	3.3%	0.0%	0.9%	2.5%	14.8%	637
Video, Film & Photography	37.9%	12.4%	0.2%	1.9%	0.5%	2.9%	3.3%	24.2%	7.6%	9.0%	999
Music and the Visual & Performing Arts	46.3%	11.0%	0.3%	5.4%	0.0%	3.6%	1.1%	8.0%	2.5%	21.7%	2473
Publishing	37.2%	31.0%	1.2%	0.5%	0.0%	0.5%	1.5%	3.3%	1.5%	23.3%	815
Software	19.2%	9.8%	1.6%	23.6%	0.2%	3.2%	0.7%	7.7%	5.2%	28.8%	5030
Radio and Television	44.0%	0.6%	0.1%	0.2%	0.0%	0.1%	0.2%	0.4%	3.1%	51.2%	1501
Finance	69.4%	1.4%	3.2%	1.1%	0.4%	1.7%	1.8%	2.8%	2.1%	16.0%	24338
Law and Other Business Services	69.4%	6.0%	2.0%	1.8%	0.2%	3.2%	1.1%	1.5%	5.0%	9.8%	39132
R&D and Higher Education	27.0%	0.9%	0.4%	0.9%	0.0%	0.3%	1.2%	5.8%	12.2%	51.3%	13648
TOTAL	32.8%	9.5%	4.6%	7.4%	0.6%	4.9%	2.5%	9.5%	10.3%	18.0%	495496

Source: ABI (2005).

3. GRADUATES IN BIRMINGHAM AND THE WEST MIDLANDS REGION

3.1. Introduction

As the structure of educational systems varies widely between countries, to allow for comparison of educational qualifications with similar levels of educational content across the other participating ACRE partner countries, we use the International Standard Classification of Education (ISCED-97) as a framework to report data. For the purpose of this report, we focus on ISCED 5 (ISCED 5A ‘theoretical’ and 5B ‘vocational’ qualifications) and ISCED 6: First stage of tertiary education (first degree of equivalent) and second stage of tertiary education (leading to an advanced research qualification).

Higher education in the UK is provided mainly in universities and higher education institutions (HEIs). There are 168 university and other HEIs that are permitted to award a degree (*‘Recognised Bodies’*) in the UK. The following can be awarded at those institutions: Doctorates, Masters Degrees, Bachelors Degrees, Ordinary Degrees, Foundation Degrees and a variety of other higher education qualifications including diplomas (for example, Higher National Diploma – HND) teaching qualifications (Postgraduate Certificate in Education – PGCE) and certificates (for example, Higher National Certificate - HNC). In terms of the ISCED-97 classification for ISCED 5A and 5B and ISCED 6, we use the UK qualifications shown in table 7.

Table 7: UK qualifications corresponding to ISCED-97 framework (ISCED 5 and ISCED 6).

ISCED 5A	
First	Bachelor's Degree “BA, BSc, etc” (3-4 yrs); Bachelor of Education “BEd” (4 yrs); Bachelor of Medicine “MB” (5 yrs+)
Second	Master's Degree taught “MA, MSc, MBA, etc” (1 yr); "Postgraduate Diploma/Certificate “PG Dip/PG Cert” (9m); Teaching Qualification - Postgraduate Certificate in Education “PGCE” (1 yr); Master's Degree by Research “Mphil, etc” (2 yrs+)
ISCED 5B	
First	Higher National Certificate “HNC” (1 yr); Diploma of Higher Education “DipHE” (2 yrs); Higher National Diploma “HND” (2 yrs)
Second	a
ISCED 6	
	Doctor of Philosophy “Ph.D.” (3 yrs+)

Source: HEFCE

In 2004, according to most recent available OECD statistics, 29 per cent of the UK population aged 25 – 64 had obtained a tertiary (ISCED 5A or 5B, or ISCED 6) level qualification, higher than the OECD average of 25 per cent and the EU19 average of 23 per

cent (OECD, 2006). The most recent UK figures report 28.1 per cent of the working age¹ population in England holding qualifications at NFQ 4 or above (first degree or equivalent or above) (ONS, 2007 based on DfES estimates from the Labour Force Survey, 2006, Quarter 4). This equates to 8.6 million people from a UK working age population of 30.7 million, an increase of 4.4 per cent since 2001. However, there are large regional differences in the proportion of people qualified to this level, with the highest being London, at 36.3 per cent of the working age population, and the lowest being the North East, at 23.2 per cent. The West Midlands ranks behind six of the eight English regions and London at 24.7 per cent.

3.2. Higher Education Institutions in Birmingham and the West Midlands

There are 12 HEIs in the West Midlands: nine universities and three higher education colleges with a HE student population of nearly 177,000 students or 124,000 full-time equivalent (FTE) students (HEFCE, 2005)². Most of the higher education provision is in the East of the region, with the largest concentration in Birmingham (38 per cent) which has three universities (University of Birmingham, University of Central England, and Aston University) and two higher education colleges. In 2004-05, the five HEIs in Birmingham together had a total student population at all levels of nearly 68,000, with the three universities accounting for 91 per cent of this student population. Each institution has a different academic profile:

- **University of Birmingham (UoB) (30,520 students)**, is the largest HEI in the West Midlands region and has a ‘traditional’ academic profile. It is one of the major centres of academic research in the UK.
- **The University of Central England (UCE) (23,070 students)**, formerly Birmingham Polytechnic, is the fourth largest HEI in the Region and was formed from 11 colleges of art, education, music, acting and PE. The Birmingham Institute of Art and Design (BIAD) at the University is one of the largest faculties of art, design and media education in the UK. It includes the renowned School of Jewellery and the Jewellery Innovation Centre. Birmingham Conservatoire, also a faculty, is recognised as one of the most prestigious national colleges of music centring on performance and composition. The Birmingham School of Acting³ provides performance related education courses.
- **Aston University (8,475 students)** is the eighth largest HEI in the region and is research-led with a focus on business science, but it also has a research cluster related to application of leading-edge technology.

Birmingham’s two HE colleges are: Birmingham School of Food, Tourism and Creative Studies (Birmingham College) (3,530 students), which is the UK’s only specialist HEI to provide vocational training and education courses in the hospitality industries. It awards degrees from the University of Birmingham. Newman College of Higher Education (2,385 students) specialises in teacher training programmes. The college awards degrees from the University of Leicester.

¹ Working age is defined as males aged 16 - 64 and females aged 16 - 59.

² Excluding students in Further Education Colleges

³ Formerly known as Birmingham School of Speech and Drama

3.3. Student and Graduate Numbers

Of the total student population in the five Birmingham HEIs in 2004-05, 55 per cent (37,530 students), were studying for a first degree and 27 per cent (18,450) were studying for a higher degree or other postgraduate qualification. This figure includes both full-time and part-time students. This represented 3.0 per cent of the UK and 3.7 per cent of the English undergraduate first degree student population and 3.5 per cent of the UK and 4.1 per cent of the English postgraduate student population.

UCE Birmingham (39.0 per cent) had the highest proportion of undergraduate students of the five HEIs followed by University of Birmingham (37.9 per cent); Aston University (12.4 per cent); Birmingham College (6.4 per cent); and Newman College (4.2 per cent). Two thirds (63.6 per cent) of postgraduate students were studying at Birmingham University; 20.3 per cent at UCE Birmingham; 12.6 per cent at Aston University; 1.8 per cent at Birmingham College; and 1.7 per cent at Newman College – Table 8.

Table 8: Undergraduate and postgraduate university students 2004-05

HE students 2004/5			
University	All UG students	All PG students	All HE students
Aston	6,160	2,315	8,475
Birmingham	18,785	11,735	30,520
UCE Birmingham	19,325	3,745	23,070
Birmingham College	3,190	340	3,530
Newman College	2,070	315	2,385
Sub Total	49,530	18,450	67,980
Total UK	1,754,910	532,630	2,287,540
Total England	1,448,385	447,440	1,895,825

Source: HESA, Students in Higher Education Institutions 2004/05

Table 9: First and higher degree qualifications awarded; 2004-05

Qualifications obtained			
University	First degrees¹	Higher degrees²	Total
Aston	1,245	575	1,820
Birmingham	4,790	2,885	7,675
UCE Birmingham	2,955	725	3,680
Birmingham College	490	40	530
Newman College	310	10	320
Sub Total	9,780	4,235	14,015
Total UK	341,470	191,820	533,290
Total England	279,985	160,585	440,570

Source: HESA, Students in Higher Education Institutions 2004/05

Notes:

¹ Bachelor degrees and ‘other’ first degree qualifications including HND and DipHE but does not include foundation degrees

² Higher degrees (Masters and Doctorates) and ‘other’ postgraduate qualifications including PGCE

There were a total of 14,000 graduates (Bachelor degrees and ‘other’ first degrees including HND and DipHE and higher degree including Master and Doctorates and ‘other’

postgraduate qualifications including PGCE) for the academic year 2004-05 within the five HEIs in Birmingham. Of these, more than two thirds (69.8 per cent) were first degrees and just under a third (30.2 per cent) were higher degree qualifications. This represented 3.3 per cent of the UK and 4.0 per cent of English first degree and higher degree qualifications in 2004-05 – Table 9.

3.4. Students by Country of Birth

Over recent years the number of overseas students studying in the UK has risen markedly. In 2004-05, 13.9 per cent of the entire HE student population came from countries other than the UK. In 2005-06, just under 10 per cent of undergraduates studying in the five Birmingham HEIs were domiciled in non-UK countries – Table 10. This figure was significantly higher for postgraduate students, where a 35 per cent were non-UK domiciled. However, UK domiciled students still made up the majority. Postgraduate students are therefore more international, and noticeably, there were a greater number of postgraduates from Non-EU countries (28.0 per cent), when compared with undergraduates (7.0 per cent). Birmingham College had the largest Non-UK student population. Only 19.3 per cent of postgraduates were UK domiciled with two thirds (68.2 per cent) from Non-EU countries.

Table 10: All students by institution, level of study and domicile (2005/06).

	UG students			PG students		
	% UK	% EU	% Non-EU	% UK	% EU	% Non-EU
Aston University	87.2	2.4	10.5	55.6	11.6	33.0
University of Birmingham	92.1	1.9	6.0	66.7	7.3	26.0
UCE Birmingham	95.3	1.5	3.2	84.5	2.7	12.8
Birmingham College	80.1	5.0	15.0	19.3	11.4	68.2
Newman College	96.6	3.1	0.2	95.9	5.5	0.0
Average	90.3	2.8	7.0	64.4	7.7	28.0
Total UK	91.2	3.3	5.6	68.5	8.6	22.8
Total England	91.1	3.1	5.9	68.4	8.6	23.1

Source: HESA, Students in Higher Education Institutions 2005/06

3.5. Level of Qualification by Broad Subject Category

The Higher Education Statistics Agency (HESA) has defined nineteen subject areas in terms of JACS (Joint Academic Coding System) codes for reporting information broken down by subject. The subject areas give a useful broad-brush picture. The subject areas do not overlap, and cover the entire range of JACS Principal Subjects. Detailed tables (Table A1 and A2) in Appendix 1 give the full breakdown for first degree and higher degree qualifications awarded in 2004-05 in Birmingham HEIs by this 19 subject group.

In 2004-05, the ‘top five’ broad subject areas in Birmingham HEIs in terms of first degree qualifications awarded were:

- Business and administrative studies (1560 degrees awarded; 16.5 per cent of degrees awarded);
- Subjects allied to medicine (1020; 10.8 per cent);

- Social studies (1005; 10.6 per cent);
- Creative arts and design (835; 8.8 per cent);
- Engineering and technology (825; 8.7 per cent)

Of higher degree qualifications awarded in 2004-05, the ‘top five’ subject areas were:

- Business and administrative studies (1245 degrees awarded; 29.5 per cent of degrees awarded);
- Social studies (530; 12.5 per cent);
- Engineering and technology (505; 12.0 per cent);
- Subjects allied to medicine (280; 6.6 per cent);
- Biological sciences (240; 5.7 per cent).

When grouped into discipline, there was a nearly equal split between first degrees awarded in Social Sciences (30 per cent) and in Natural Sciences (28 per cent). Humanities (19 per cent) and Creative Arts and Design (15 per cent) were next, with only 8 per cent of first degrees awarded in Engineering and Technology – Table 11

Nearly half (44 per cent) of higher degrees were awarded in Social Science disciplines, but less than 20 per cent in Natural Sciences and 16 per cent in Humanities – Table 12. There were proportionately more higher degrees awarded in Engineering and Technology (12 per cent). Notably, only 9 per cent of higher degrees were awarded in Creative Arts and Design. This has implications for our sampling strategy, discussed in section 6.

Table 11: First degrees awarded in Birmingham HEIs according to discipline, 2004-05

	Total First Degree Qualifications obtained						
	JACS code	Aston	UoB	UCE	B'ham College	Newman	TOTAL
Natural sciences	A;B;C;D1/2;D0/3/4/5/6/7/9;F;G0/1/2/3/90/91/99	395	1735	540	30	60	2,760
Creative arts and design	G4/5/6/7/92; K;W	145	240	1015	0	25	1,425
Engineering & technology	H, J	130	360	335	0	0	825
Social Sciences	L;M;N	505	1255	745	415	10	2,930
Humanities	P;Q;R;T;V;X	70	1200	320	45	215	1,850
TOTAL		1,245	4,790	2,955	490	310	9,790

Source: HESA, Students in Higher Education Institutions 2004/05

Notes: In this table 0, 1, 2 are rounded to 0. All other numbers are rounded up or down to the nearest 5.

Table 12: Higher degrees awarded in Birmingham HEIs according to discipline, 2004-05

		Total Higher Degree Qualifications obtained					
	JACS code	Aston	UoB	UCE	B'ham College	Newman	TOTAL
Natural sciences	A;B;C;D1/2;D0/3/4/5/6/7/9;F;G0/1/2/3/90/91/99	70	730	15	0	0	815
Creative arts and design	G4/5/6/7/92;K;W	45	145	200	0	0	390
Engineering & technology	H, J	35	390	80	0	0	505
Social Sciences	L;M;N	405	1090	320	40	0	1,855
Humanities	P;Q;R;T;V;X	20	530	110	0	10	670
TOTAL		575	2,885	725	40	10	4,235

Source: HESA, Students in Higher Education Institutions 2004/05

Notes: In this table 0, 1, 2 are rounded to 0. All other numbers are rounded up or down to the nearest 5.

3.6. Birmingham Graduates in Creative and Knowledge Category Subjects

This section provides breakdown of qualifications awarded to 2004 Birmingham HEI graduates in subjects directly related to Creative Knowledge sectors under investigation in the ACRE project. More detailed tables of all qualification awarded by subject can be found in Appendix 1 of this report.

3.6.1. Creative Industries

In 2004-05, 1,180 first degrees and 320 higher degrees were awarded by the 5 HEIs in Birmingham in subjects directly related to the Creative Industries (CIs) sector. This figure excludes Computing and Software related degrees. Tables A3 and A4 in Appendix 1 provide a complete breakdown of first and higher degree qualifications obtained in each subject area.

More than four fifths (83.3 per cent) of CIs related first degrees were awarded in five subjects:

- Design studies (37.2 per cent),
- Music (12.8 per cent),
- Architecture and related studies (11.5 per cent);
- Media Studies (11.1 per cent),
- Drama (10.7 per cent).

Of higher degrees awarded in CIs related subjects, the majority (73.4 per cent) were in three subject areas:

- Design studies (32.8 per cent)
- Marketing (25 per cent)
- Architecture and related subjects (5.6 per cent)

The majority of first degrees (84.2 per cent) and higher degrees (68.8 per cent) were awarded by UCE Birmingham, with University of Birmingham awarding the greater part of the remainder (14.0 per cent of first degree and 31.3 per cent of higher degree awards).

3.6.2. *ICT and Software Engineering*

Birmingham HEIs have a small proportion of ICT and Software Engineering graduates, with just 450 first degrees and 160 higher degrees awarded in these subjects in 2004-05 (see Tables A5 and A6 in Appendix 1 provide a detailed breakdown). This represents 2.2 per cent of UK and 2.6 per cent of England total first degree qualifications in these subjects, and the same proportion of higher degree qualifications.

Of relevance to the ACRE project is that Software Engineering is poorly representing with only 4.4 per cent of first degree qualifications in Birmingham HEIs in this category and no higher degree qualifications in this subject awarded in 2004-05. The majority of qualifications are in Computing Science (93.3 per cent of first degree and 81.2 of higher degree qualifications awarded).

3.6.3. *Finance, Law, Accounting and Other Business Studies*

In 2004-05, 1,640 first degrees and 1,240 higher degrees were awarded in Birmingham in subjects directly related to Finance, Law, Accounting and Other Business Studies. There were a significant number of Business studies graduates, representing 5.1 per cent of the England total of first degree graduates in this subject area and 6.7 per cent of higher degree graduates. Aston university is particularly strong in this area, accounting for more than half (53.6 per cent) of all business studies first degree and higher degree graduates (57.0 per cent) in Birmingham. Whereas the majority of Finance qualifications were awarded at higher degree level, Law qualifications were mainly awarded at first degree level.

Tables A7 and A8 in Appendix 1 provide a detailed breakdown. The vast majority (90.1 per cent) of first degrees were awarded in three subject areas:

- Business studies (51.2 per cent)
- Law (21.6 per cent)
- Management studies (17.7 per cent)

More than four fifths (83.1 per cent) of higher degrees were awarded in three subject areas:

- Business studies (57.3 per cent)
- Management studies (15.7 per cent)
- Finance (10.1 per cent)

3.6.4. *R & D and Higher Education*

This category includes research and development on natural sciences and engineering (mathematics, physics, astronomy, chemistry, life sciences, medical sciences, earth sciences, agriculture, etc.) and social sciences and humanities (economics, psychology, sociology, legal sciences, linguistics and languages, arts, etc.).

Higher education includes first, second and third stages of higher education. This category is excluded from data calculations as university graduates in any discipline or subject area would be eligible to be included in this broadly defined category. However, included are degrees in research & study skills in education and academic studies in education.

Tables A9 and A10 in Appendix 1 provide a detailed breakdown. However, the 'top-five' first degree subjects in terms of number of qualifications awarded in 2004-05 were:

- Medicine, Dentistry and allied subjects⁴ (17.4 per cent);
- Languages (12.3 per cent)
- Electronic and Electrical Engineering (7.4 per cent)
- History (5.7 per cent)
- Psychology (5.4 per cent)

The pattern is broadly similar for higher degree awards. The 'top five' according to qualifications awarded in 2004-05 were:

- Medicine, Dentistry and allied subjects⁵ (15.6 per cent);
- Social policy (10.1 per cent)
- Languages (9.5 per cent)
- Electronic and Electrical (6.6 per cent)
- Politics (6.1 per cent)

⁴ This figure excludes nursing.

⁵ This figure excludes nursing.

4. TRANS-NATIONAL MIGRANT WORKERS IN THE BIRMINGHAM AND WEST MIDLANDS CREATIVE KNOWLEDGE ECONOMY

4.1. Introduction

For the purposes of this report, trans-national migrant workers are defined as people in work in the UK (employed or self-employed) who were born outside the UK. Three categories of migrants are distinguished: those born in the rest of the 15- member EU; those born in the 10 accession countries, including the ‘A8’ countries, which joined the EU in 2004, and those born elsewhere in the world.

There is no single comprehensive data source of information on international migration to and from England and its regions, or of the characteristics of migrants and their motivations for moving. The overall picture has to be assembled from sources that vary in their coverage, detail and accuracy. The Labour Force Survey (LFS) is the main source of statistics on overseas-born migrants working in the UK. The LFS is a sample survey of households living at private addresses in the UK. Its main purpose is to provide information on the UK labour market. It is the key source for data on stocks of international in-migrants resident in the UK, since it collects information on country of birth, nationality, year of arrival and where the respondent was living 12 months ago. However, the small sample size at the regional level limits the detail that can be provided.

The Annual Population Survey (APS) is a boosted LFS to provide sufficient analyses (500) in each Local Authority. Available quarterly from Spring 2004, the APS still provides a small sample size for the Region which restricts analyses possible at Local Authority District (LAD) level. Standard tables have limited detail although a ‘special license’ version is available providing data for LADs.

Statistics from this section of the report are taken from the 2005 LFS survey and the APS survey for the year to June 2006. Much of the data is taken from the Institute for Employment Research (IER) ‘*Regional Profiles of the Workforce by Ethnicity and Migrant Workers*’ report (Green, Owen and Wilson, 2005).

Estimates of the number of overseas-born residents are also available from the Population Census. As the Census is carried out every 10 years, it is not able to take into account short term fluctuations in the migrant population. Also, as the last Census was carried out in 2001, statistics do not take into account the influx of trans-national migrants since 2004, and so this source severely underestimates the number of migrants in the UK. There is also limited detail on countries of birth.

The source of data on employment of people who are subject to immigration control is the Home Office’s Work Permits (UK). The Worker Registration Scheme (WRS) was introduced in 2004, allowing A8 citizens to take up work with an employer in the UK, although self-employed workers are not required to register. WRS data may be used as a measure of the numbers of A8 citizens coming to work in the UK. WRS data on registrations are only available via ‘freedom of Information’ requests and provide limited detail. They also

give no data on the duration of stay in the UK and, because they exclude the self-employed, they are an underestimate of those actually taking up work.

The other main source of data is National Insurance Number (NINo) registration. Every foreign worker who is legally employed in the UK requires a NINo, so the allocation of new numbers should give an indication of the annual (year running April-March) increment to the workforce. NiNo information is available via a ‘freedom of Information’ request, and so detail is limited by the need to preserve confidentiality. Also, NINo data take no account of the length of time an individual allocated a number spends working in the UK and so they may include equally people who work for one week in the year with those working fifty two. Overall, they probably present a fuller picture of the foreign inflow of trans-national migrants to the UK workforce than any other single source, but should be used only with appropriate caveats.

4.2. Country of Birth of Birmingham and West Midlands Population

Statistics from the last national census (ONS, 2001) estimate that around 10 per cent of the English and 7.6 per cent of the West Midlands population were non-UK born in 2001. In Birmingham, this figure rises to 16.5 per cent. The majority of non-UK born population were from ‘Rest of the World’, especially new Commonwealth countries (India, Pakistan, Bangladesh, African Caribbean in particular). Approximately 1 per cent of non-UK born people were from other EU countries and 1-3 per cent from non-EU European countries – Table 13.

Table 13: Country of birth for West Midlands and Birmingham population - 2001

Country of birth	Population		
	England	West Midlands	Birmingham
UK	44,594,817	4,868,609	816,054
Non-UK	4,544,014	398,699	161,033
Other EU	660,061	38,548	6,869
Non-EU	790,199	72,930	26,967
Rest of world	3,093,754	287,221	127,197
ALL PEOPLE	49,138,831	5,267,308	977,087

Source: ONS 2001 Census

4.3. Trans-National Migrant Workers in Birmingham and the West Midlands

Economic migration to the UK has grown considerably over the last decade and particularly over the last three years, with the opening up of the labour market to citizens of the new member states of the European Union (EU) from May 2004. In 2005, the total number of foreign citizens in the UK was estimated at 3.035 million. There were 1.505 million foreign migrants in employment in 2005, representing 5.4 per cent of the total in employment (LFS, 2005). A total of 195,000 people from the new accession states were recorded in the WRS in 2005. The majority (61.5 per cent) were Poles, with Lithuanians and Slovaks the next largest groups (WRS, 2005). For the year 2005-06, there were 662,400 new non-UK national NINo registrations, a 50 per cent increase on the year before. The EU Accession countries

accounted for 270,200 new registrations; 41 per cent of the total. However, there are considerable variations between regions.

LFS statistics estimate that around 6 per cent of workers in the West Midlands were born outside the UK in 2004. Around 70 per cent of the migrant workers who resided in the West Midlands lived in the West Midlands Metropolitan County. The APS data for the year to June 2006 provides an estimate for Birmingham of 540.4 thousand UK nationals of working age and 53.9 thousand non-UK nationals; non-UK nationals making up 9 per cent of the working age population. Numbers of working age in employment were 345.4 thousand UK nationals and 28.4 thousand non-UK nationals (APS, 2006)⁶. Numbers of overseas nationals registering for NINOs in Birmingham were 11,060, and increase of more than 16 per cent on 2002-03 figures. As these are annual figures, they provide an idea of flux over time, not stock. There is no industrial breakdown available with these figures.

In 2004, only 2.1 per cent of white workers in the West Midlands had been born outside the UK, with 0.8 per cent born in the rest of EU-15. There were too few workers from some ethnic groups for percentages to be reported (e.g. Bangladeshi and Chinese people). However, nearly all Black-African, 80.1 per cent of workers from 'Other' ethnic groups, over half of Indian workers, just under half of Pakistani and 40.5 per cent of Black-Caribbean workers were born outside the UK (Green et al, 2005).

4.4. Skills and Occupation of Trans-National Migrant Workers in the West Midlands

In 2004, LFS data reports that migrant workers in the West Midlands were concentrated in Machine and Transport Operative (9.9 per cent), Professional (8.4 per cent) and Elementary (7.6 per cent) occupations. The proportion of non-UK Workers in Associate Professional and Technical occupations (6.8 per cent) was also above the average for all occupations (6.3 per cent). Migrant workers were least prevalent in skilled trades occupations (3.4 per cent) – Table 14. The percentages born in Europe were too small to report except for professional occupations, for which 1.4 per cent of workers had been born in other EU-15 countries. These statistics are indicative of a polarised occupational distribution amongst trans-national migrant workers. The high proportion of Professional and Associate Professional and Technical occupations is important for the ACRE study as it indicates that a proportion of trans-national migrants are highly skilled and may conceivably be employed in the creative knowledge sector, although no detailed statistics are available to reinforce this statement.

Migrant workers were concentrated in hotels & catering, health & social work, and food, drink & tobacco (Table 15). Again, this may be indicative of a split in terms of highly skilled migrants choosing health and related occupations. For men, the percentage working in health & social work was 17.9 per cent in 2004, significantly higher than the 6.5 per cent for all industries. Although only 8.1 per cent of female migrants worked in health & social work in 2004, this was also higher than the 6.1 per cent for all industries.

⁶ Confidence levels are large so estimates should be treated with caution

Table 14: Percentage of Migrants by Occupation, West Midlands, 2004

	All in work (000)	Born in UK (%)	Born in EU 15 (%)	Born in Accession 10 (%)	Rest of World (%)
Managers & senior officials	322	93.8	-	-	5.2
Professional occupations	271	91.6	1.4	-	6.9
Associate Professional & Technical	290	93.2	-	-	5.7
Administrative & Secretarial	299	95.7	-	-	3.2
Skilled Trades Occupations	302	96.6	-	-	3.0
Personal Service Occupations	186	95.0	-	-	4.1
Sales & Customer Service Occupations	187	95.3	-	-	3.8
Machine and Transport Operatives	246	90.1	-	-	9.1
Elementary Occupations	315	92.4	-	-	6.3
All occupations	2,217	93.7	0.8	0.3	5.3

Source: IER estimates based on LFS

Note: Following ONS guidelines, percentages based on numbers below 6,000 individuals are suppressed

Table 15: Migrants in the Employed Workforce by Industry; West Midlands - 2004

	Males in work (000s)	Country of birth				Females in work (000s)	Country of birth			
		UK	Other EU 15	Accession 10	Rest of world		UK	Other EU 15	Accession 10	Rest of world
Agriculture etc	21	100.0			4	-				
Mining & quarrying	3	-			1	-				
Food, drink & tobacco	27	83.4	-	-	13	83.5	-	-	-	
Engineering	70	95.1	-	-	23	94.2	-	-	-	
Rest of manufacturing	254	93.8	-	-	72	93.4	-	-	-	
Electricity, gas & water	10	96.8	-	-	5	-	-	-	-	
Construction	168	97.8	-	-	15	94.3	-	-	-	
Distribution	182	94.6	-	-	5.0	192	96.8	-	-	
Hotels and catering	38	79.8	-	-	15.7	52	92.8	-	-	
Transport & telecommunications	139	90.9	-	-	8.0	42	92.4	-	-	
Banking & insurance	31	93.9	-	-	42	94.3	-	-	-	
Other business services	132	93.1	-	-	6.0	98	93.2	-	-	
Public admin and defence	64	96.5	-	-	67	95.6	-	-	-	
Education	59	94.4	-	-	170	94.2	-	-	4.5	
Health and social work	50	82.1	-	-	17.3	243	91.9	-	6.3	
Miscellaneous services	58	98.0	-	-	69	95.1	-	-	-	
Total	1,306	93.5	0.6	-	5.7	1,109	93.9	1.0	4.8	

Source: IER estimates based on the LFS.

Note: Following ONS guidelines, percentages based on numbers below 6,000 individuals have been suppressed and replaced by the symbol "-".

4.5. Education Levels of Trans-National Migrant Workers

We currently do not have data for education levels of trans-national migrants in Birmingham or the West Midlands. Some of the skills levels may be inferred from the analysis of occupational class presented above. Nationally, evidence from the Labour Force Survey suggests that, overall, non-UK born migrants are more highly skilled than UK-born population: 21 per cent of non-UK born migrants had a degree-level qualification compared with 16 per cent UK-born nationals in 2000. However, overall, non-UK born migrants are more polarised in terms of educational attainment. The proportion of the trans-national migrant population both who have a degree and have no qualifications is higher than the UK-born population (Dustman et al. 2003).

There are also significant differences in this finding according to country of birth. For instance, in 2000, the proportion of immigrants with degree level qualifications was substantially higher than the UK-born population for Black Africans (33 per cent), Chinese

(31 per cent) and people from other English speaking developed countries (26 per cent) such as the US, Australia or New Zealand and those categorised only as 'other white' (32 per cent). In contrast, the West Indian, Pakistani, and particularly, the Bangladeshi communities contained fewer graduates than the national average and many more individuals with no formal qualifications.

5. SELECTION AND SAMPLING OF TARGET GROUPS

5.1. Introduction

This section of the report describes the methods we will use for the selection and sampling of the target groups chosen by the ACRE project team, namely: creative knowledge managers and entrepreneurs, UK-born employees and trans-national migrants employed in creative and knowledge industries, and graduates. The following are the minimum sample sizes that must be achieved:

Workers and graduates (WP5)

- Employees in creative industries (50)
- Employees in Knowledge intensive industries (50)
- University and Art/media school graduates (75 first degree + 25 higher degree)

Managers and entrepreneurs (WP6)

- Managers (15 interviews)
- Entrepreneurs (5 interviews)

Trans-national migrants (WP7)

- Trans-national migrants (50 + 10 interviews)

Specific sub-sectors of the creative and knowledge economy have also been selected by the ACRE project team. The candidates chosen for interview will be employed in these sectors or, in case of the graduates, will have qualifications in subjects allied to these sectors. The following sub-sectors have been selected:

Creative Industries:

- 1) 722: Computer games, Software, Electronic publishing; Software consultancy & supply.
- 2) 921 and 922: Motion pictures & Video activities; Radio& TV activities
- 3) 744: Advertising

Knowledge Industries:

- 1) 741: Law; Legal, Accounting, Book keeping, Auditing, etc.
- 2) 65: Finance
- 3) 73 and 803: R & D, and Higher Education⁷

⁷ Here the selection of type of institutes should be aimed to connect with the sectors selected above.

5.2. Key Statistics for Selected Creative and Knowledge Industry Sub-Sectors

Key statistics for Birmingham for the chosen Creative sub-sectors are shown in Table 16. There were around 2,000 workers in Motion Picture, TV and Radio in 2005 in Birmingham, which represented slightly less than 10 % of Creative jobs. With the information technology revolution, the sector has been undergoing many technological changes in the past 20 years. However, employment has been stable and productivity is quite high in the last 8 years. Birmingham also displays a higher proportion of jobs in TV and Radio compared to the national average. This explains partly why the sector has been targeted by policy makers at local and regional level in recent years. This sector has a mix customer focus between the general public and other businesses.

Table 16: Key statistics for chosen Creative Industries sub-sectors

Sector	Jobs (% of Creative Sectors) 2005	Trad./ New Manuf./ Services	Growth 1998-2005/ GVA per job in 2004	Location coef. UK - 2005	Free-lancers - 2004	Average Firm Size - 2005	General Public/ Business - 2004
Radio & TV	1,497 (4-6%)	New/ Serv.	Stable High GVA	Above one	Low	22	Mix
Video, Film & Photography	922 (3-4%)	New/ Serv	Stable Screen Media targeted by policy makers	Below one	NA	6	Mix
Craft	3,500 (15-20%)	Trad./ Manuf	Decline, Low GVA	High	High	10	Mix
Music, Visual & Performing Arts	2,457 (6.4%)	Trad/New Serv./ Artistic	Lagging but recently targeted by policy makers Low GVA	Below one	High	8	General Public
Software	5,000 (20-25%)	New/ Serv.	Growing GVA above average	Above or around one	Low	8	Business
Advertising	1,522 (4.7%)	Trad. /Serv.	Stable GVA above average	Above or around one	Low	10	Business

Source: Compiled using data from ABI (2005) and Burfitt and al. (2006).

As in the rest of the country, Software is an important Creative sector in Birmingham. The sector represented 20 per cent of employment in 2005. Employment in the sector has grown in recent years and value added is high. Advertising has traditionally been a strong feature of Birmingham economy and accounts for 1,500 jobs in 2005. Average firm size in these two sectors is around 10 and both are mostly destined to business to business type of activities (Table 17).

In addition to the above selection of creative industries, we also add the following sub-sectors, based on our analysis of the profile of these sectors and their relevance to the Birmingham's economy:

- 4) 261, 362, 363: Craft
- 5) (parts of) 923, 927: Music, Visual and Performing Arts.

The rationale for inclusion of the additional sub-sectors is that, despite declining in terms of growth and constituting low GVA per job, the Craft sector is a traditional, manufacturing sector in Birmingham, accounting for a significant proportion (15 – 20 per cent) of jobs in CIs in Birmingham. Music, Visual and Performing Arts has been targeted by policy makers in Birmingham and are a growth sector. Unlike many of the other CIs sectors, they are general public rather than business-to-business companies, which may have an impact in terms of soft location factors.

Key statistics for the chosen Knowledge sectors are presented in Table 17. The three Knowledge sectors chosen for the ACRE study (Finance, Law and other Business Services and R&D and Higher Education) represent strong economic specialization of the local economy and accounted for 15 per cent of Birmingham employment in 2005. The most important sector, Law and other Business Services, employ 40,000 people and has been growing in the last 8 years particularly in services related to Labour Recruitment. With 5 universities/colleges, the Higher Education sector is important for Birmingham. Combined with R&D, the sector employs 14,000 people. Finally, even though, the Finance sector has been declining in recent years, it employs 25,000 people. Monetary Intermediation and Insurance and Pension funding is particularly strong in the City. Average firm size is generally higher in the Knowledge sectors compared to Creative Knowledge sectors (Table 16 and 17), which will be taken into account in the survey.

Table 17: Key statistics for chosen Knowledge sub-sectors

Knowledge sectors	Jobs and % of local jobs - 2005	Growth (1998-2005)	Location coef. UK - 2005	Average Firm Size - 2005	Sub-sectors to target
Law and other business services	39,085 (8%)	Growing +22%	1.2	13	745 – Labour recruitment and 741 - Law
R&D and Higher Education	13,646 (2.8%)	Stable/Growing +3.7%	1.125	114	803-Higher Education
Finances	24,331 (4.9%)	Declining -10.7%	1.238	25	651 – Monetary intermediation 660 – Insurance and pension funding

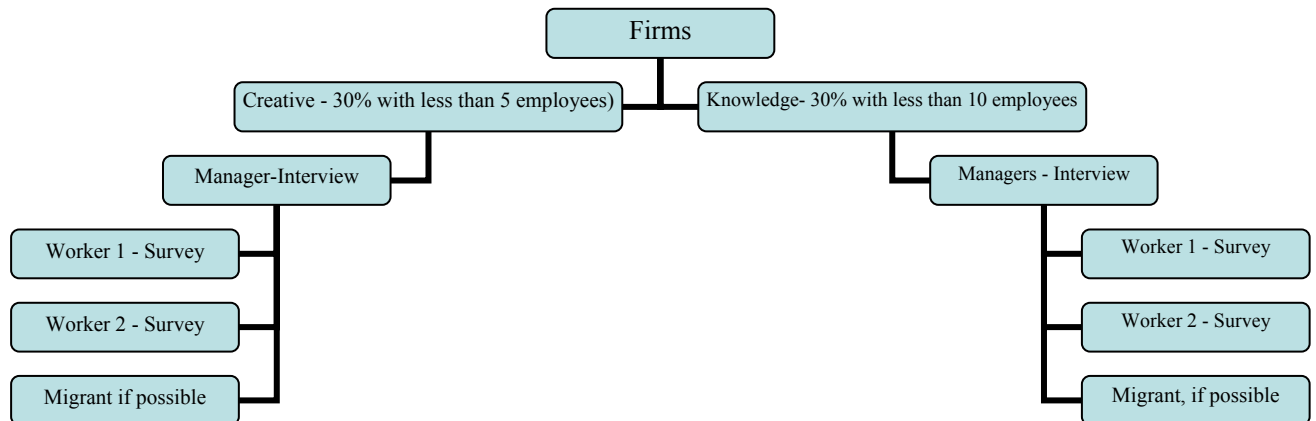
Source: Compiled using data from ABI (2005).

5.3. Sampling of Target Groups

To facilitate the survey process, we will proceed through a cascading method of sampling and surveying for managers, workers and trans-national migrant workers (Figure 1). The point of entry will be the firm. A mix of firm sizes will be selected with at least 30 per cent of the sample from small firms. In the Creative industries, this has been defined by ACRE as firms with 5 or fewer employees and in the case of Knowledge firms, 10 or fewer employees.

Managers will be interviewed and up to 2 workers surveyed per firm. When possible, migrant workers will also be surveyed. A separate method will be used for the selection of graduates and a complementary method will also be used for migrants to ensure necessary success rate.

Figure 1: Sampling Method



5.4. Selection of Creative and Knowledge Managers and Workers

We will use two methods to select our creative and knowledge firm base, which is our point of entry for managers, workers and part of our trans-national migrant sample.

The first one will be done using a local registry database: the Birmingham Company Information System (BCIS). BCIS is a database of firms in Birmingham compiled and maintained by Birmingham Chamber of Commerce. It represents the largest database of Birmingham firms, providing data on firm contact details, address, employment size and firm activity classified by SIC codes. The 2006 version of BCIS contained over 32,000⁸ records for Birmingham. As more than 10 per cent of all firms in Birmingham are Creative Industry companies, this indicates that there are more than 3,400 creative industry firms in Birmingham, and it is anticipated the database will capture a high proportion of these firms. These firms will be sampled according to our target creative knowledge sub-sectors, their size and their geographical location. The geographical sampling will be done by targeting the two or three most important locations for the sector as defined in Map 1 of this report.

The second method for selecting firms will be through our local partner contacts. For example, via the Creative Republic, a representative body for the Creative Industries and cultural sectors in Birmingham which has a membership of some 200 creative entrepreneurs and businesses. Questionnaires will be distributed to our target groups at Creative Republic meetings and seminars to our target groups.

A maximum of two UK employees per firm will be surveyed and where possible one migrant worker. A minimum of 20 managers of these creative knowledge firms will be interviewed in depth. Candidates will be selected from the creative knowledge firms identified from the BCIS database. The sample will be split equally between the ‘creative’ and ‘knowledge’ sub-sectors. We aim to include entrepreneurs in this sample as well as managers of larger firms and so we will also select firms of different size. In the Creative industries sub-sectors, small

⁸ This includes some duplicates.

firms have been identified by ACRE as those firms with five or fewer employees, and in the knowledge sector, firms with 10 or fewer employees. According to this framework, we will select managers/entrepreneurs of six small firms and managers of 14 medium to large firms. Detailed sampling is presented in Table 18.

Table 18: Detailed Sampling Framework for Managers, Workers and Migrant Workers

	Creative Industries	Knowledge Industries
Firms 30% small 6 firms in each sector located in the City Centre and 2 other areas.	At least 25	At least 25
Managers – 1 per firm	10 (3 entrepreneurs)	10 (3 entrepreneurs)
Workers – 2 per firm	50	50
Migrants - +1 per firm if possible	Up to 25	Up to 25

5.5. Selection of Graduates

Here, we use the graduate inflow to the workforce as a basis for selection, as this will allow us to model the future development of the creative knowledge sector. A total of 125 surveys will be carried out on recent graduates of Birmingham HEIs. Based on the analysis presented in the previous section (degree qualifications awarded, subject areas, disciplines, awards per institution etc), the following sampling framework will be used. University of Birmingham and UCE Birmingham will be selected as they are the largest HEIs both by student population and by number of first degree and higher degree qualifications awarded per academic year. UCE Birmingham’s focus on Creative Arts and Design also complements Birmingham’s more traditional academic focus on Engineering and Technology, Natural Sciences, Social Sciences and Humanities, so we are able to cover all recognised disciplines of interest.

Surveys will be carried out across the five identified disciplines: Natural Sciences; Creative Arts and Design; Engineering and Technology; Social Sciences and Humanities. Graduates in specific subjects will be chosen to parallel the industry sectors we are most interested in, and weighted according to the proportion of degrees awarded in these subjects. Half of interviewees will be ‘creative’ graduates and half ‘knowledge’ graduates. Furthermore, two thirds of surveys will be first degree graduates, and a third will be carried out on higher degree graduates, again this corresponds to the proportion of degrees awarded at these levels

Interviewees will be identified by means of Alumni databases, which provide information on year of graduation, subject of study, and contact details including last known area of residence. For example, the University of Birmingham holds over 140,000 graduates on its database, which includes 40,000 Non-UK nationals. A total of 100 graduates will be sampled according to the framework presented in Table 19.

Table 19: Sampling framework for selection of graduates

Disciplines	Subjects	UoB (N=64)		UCE (N=36)		Total
		First Degree	Higher Degree	First Degree	Higher Degree	
Creative Arts & Design	Design			25%	25%	9
	Music			25%	25%	9
	Media			25%	25%	9
	IT/Comp Software			25%	25%	9
Physical and Mathematical sciences	Medicine	22.5%	25%			14
Engineering & Technology	Electrical & Electronic engineering	16%	15%			10
Social Sciences	Law	16%	15%			10
	Finance	16%	15%			10
	Business studies	16%	15%			10
Humanities	Languages	16%	15%			10
TOTAL		44	20	24	12	100

5.6. Selection of Trans-National Migrants

The skilled trans-national migrant analysis includes in-depth interviews (10) and surveys (50). Again, candidates will be selected from the chosen creative knowledge sub-sectors. There are several ways we will target these individuals. First, candidates will be selected from firms already targeted for the initial survey of UK workers. Secondly, we will use our LOP network as well as contacting associations of the different foreign national groups in Birmingham. Third, we will sample foreign nationals employed at Birmingham University - Around a quarter of Birmingham University academic staff are of non-UK nationality.

6. APPENDICES

Appendix 1: Data tables of graduate first degree and higher degree qualifications

Notes:

Source for all tables: HESA, Students in Higher Education Institutions 2004/05.

In all tables, 0, 1, 2 are rounded to 0. All other numbers are rounded up or down to the nearest 5.

Table A1: First degree qualifications obtained by subject - 2004/05

		Total First Degree Qualifications obtained					
Subject area	JACS code	Aston	UoB	UCE	B'ham College	Newman	TOTAL
Medicine & dentistry	A	0	305	0	0	0	305
Subjects allied to medicine	B	205	280	535	0	0	1,020
Biological sciences	C	165	620	0	0	55	840
Veterinary science	D1/2	0	0	0	0	0	0
Agriculture & related subjects	D0/3/4/5/6/7/9	0	0	0	30	0	30
Physical sciences	F	10	430	0	0	0	440
Mathematical sciences	G0/1/2/3/90/91/99	15	100	5	0	5	125
Computer science	G4/5/6/7/92	145	120	160	0	15	440
Engineering & technology	H, J	130	360	335	0	0	825
Architecture, building & planning	K	0	15	125	0	0	140
Social studies	L	50	795	160	0	10	1,015
Law	M	0	180	175	0	0	355
Business & administrative studies	N	455	280	410	415	0	1,560
Mass communications & documentation	P	0	45	105	0	0	150
Languages	Q, R, T	70	460	90	0	45	665
Historical & philosophical studies	V	0	420	15	0	30	465
Creative arts & design	W	0	105	730	0	10	845
Education	X	0	275	110	45	140	570
Combined	Y	0	0	0	0	0	0
TOTAL		1,245	4,790	2,955	490	310	9,790

Table A2: Higher degree qualifications obtained by subject - 2004/05

Subject area	JACS code	Total Higher Degree Qualifications obtained					TOTAL
		Aston	UoB	UCE	B'ham College	Newman	
Medicine & dentistry	A	0	85	0	0	0	85
Subjects allied to medicine	B	25	240	15	0	0	280
Biological sciences	C	10	230	0	0	0	240
Veterinary science	D1/2	0	0	0	0	0	0
Agriculture & related subjects	D0/3/4/5/6/7/9	0	0	0	0	0	0
Physical sciences	F	5	155	0	0	0	160
Mathematical sciences	G0/1/2/3/90/91/99	30	20	0	0	0	50
Computer science	G4/5/6/7/92	45	105	15	0	0	165
Engineering & technology	H, J	35	390	80	0	0	505
Architecture, building & planning	K	0	15	40	0	0	55
Social studies	L	0	510	20	0	0	530
Law	M	0	80	0	0	0	80
Business & administrative studies	N	405	500	300	40	0	1,245
Mass communications & documentation	P	0	0	65	0	0	65
Languages	Q, R, T	10	195	10	0	0	215
Historical & philosophical studies	V	0	165	5	0	5	175
Creative arts & design	W	0	25	145	0	0	170
Education	X	10	170	30	0	5	215
Combined	Y	0	0	0	0	0	0
TOTAL		575	2885	725	40	10	4,235

Table A3: First degree qualifications awarded in Creative Arts and Design related subjects - 2004/05

First degree								
Creative arts and design	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Architecture and related studies	6,510	4,900	0	15	120	0	0	135
Fine art	3,925	3,300	0	0	80	0	0	80
Design studies	13,110	11,490	0	0	435	0	0	435
Music	3,570	3,030	0	50	100	0	0	150
Drama	4,575	3,975	0	55	70	0	5	125
Dance	600	590	0	0	0	0	0	0
Cinematics & photography	3,100	2,755	0	0	0	0	0	0
Crafts	295	265	0	0	0	0	0	0
Imaginative writing	420	400	0	0	0	0	0	0
Others in creative arts & design	1,005	915	0	0	50	0	5	50
Media studies	5,690	5,040	0	45	85	0	0	130
Publishing	270	240	0	0	0	0	0	0
Journalism	1,355	1,145	0	0	0	0	0	0
Marketing	3,550	2,975	0	0	45	20	0	65
TOTAL CIs	47,975	41,020	0	165	985	20	10	1,180

Table A4: Higher degree qualifications awarded in Creative, arts and design related subjects - 2004-05

Higher degree								
Creative Arts and Design	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Architecture and related studies	2,820	2,400	0	15	35	0	0	50
Fine art	860	765	0	0	15	0	0	15
Design studies	1,695	1,560	0	0	105	0	0	105
Music	725	620	0	15	20	0	0	35
Drama	550	520	0	5	0	0	0	5
Dance	60	60	0	0	0	0	0	0
Cinematics & photography	505	490	0	0	0	0	0	0
Crafts	10	5	0	0	0	0	0	0
Imaginative writing	345	275	0	0	0	0	0	0
Others in creative arts & design	285	230	0	0	0	0	0	0
Media studies	1,115	1,065	0	0	30	0	0	30
Publishing	175	130	0	0	0	0	0	0
Journalism	495	325	0	0	0	0	0	0
Marketing	2,635	2,135	0	65	15	0	0	80
TOTAL	12,275	10,580	0	100	220	0		320

Table A5: First degree qualifications awarded in Computer, IT and related subjects - 2004/05

First degree								
Computer, IT and related studies	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Computer science	13,450	11,210	145	100	160	0	15	420
Information systems	5,240	4,780	0	0	0	0	0	0
Software engineering	1,275	1,070	0	5	0	0	15	20
Artificial intelligence	100	75	0	10	0	0	0	10
TOTAL	20,065	17,135	145	115	160	0	30	450

Table A6: Higher degree qualifications awarded in Computer, IT and related subjects - 2004/05

Higher degree								
Computer, IT and related studies	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Computer science	4,615	3,790	10	105	15	0	0	130
Information systems	2,235	1,885	30	0	0	0	0	30
Software engineering	440	420	0	0	0	0	0	0
Artificial intelligence	70	25	0	0	0	0	0	0
TOTAL	7,360	6,120	40	105	15	0	0	160

Table A7: First degree qualifications awarded in Finance, Law and Other Business subjects - 2004/05

First degree								
Finance, Law and other business studies	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Finance	1,845	1,435	0	30	0	0	0	30
Accounting	5,175	4,140	0	80	45	0	0	125
Law	13,735	11,440	0	180	175	0	0	355
Business studies	19,675	16,340	450	160	230	0	0	840
Management studies	8,090	6,570	5	10	95	180	0	290
Human resource management	895	720	0	0	0	0	0	0
TOTAL	49,415	40,645	455	460	545	180	0	1,640

Table A8: Higher degree qualifications awarded in Finance, Law and Other Business subjects; 2004/05

Higher degree								
Finance, Law and other business studies	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	TOTAL B'ham
Finance	3,935	3,435	0	125	0	0	0	125
Accounting	965	875	0	70	45	0	0	115
Law	5,785	4,860	0	80	0	0	0	80
Business studies	12,350	10,580	405	210	95	0	0	710
Management studies	7,075	6,155	5	30	130	30	0	195
Human resource management	1,890	1,605	0	0	15	0	0	15
TOTAL	32,000	27,510	410	515	285	30	0	1,240

Table A9: First degree qualifications awarded in R&D and Higer Education subjects - 2004/05

First degree								
	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	Total B'ham
Medicine, Dentistry & allied¹	21,960	17,550	210	535	190	0	0	935
Life sciences	27,000	21,715	170	620	0	0	60	850
Biology	60	3700	40	220	0	0	10	270
Psychology	1195	9455	130	140	0	0	20	290
Physical and Mathematical sciences	11,735	9,500	10	430	0	0	0	440
Physics	2235	1925	0	85	0	0	0	85
Geology	1170	910	0	85	0	0	0	85
Mathematics	4575	3805	10	95	5	0	5	115
Engineering & technology	19,550	15,715	130	360	335	0	0	825
Electronic & electrical engineering	5630	4545	20	155	225	0	0	400
Mechanical engineering	3400	2650	15	75	35	0	0	125
Social studies	24,795	20,965	50	715	115	0	10	890
Economics	6,555	5,795	0	130	0	0	0	130
Politics	5,155	4,090	20	155	60	0	0	235
Sociology	5,985	4,975	30	65	40	0	0	135
Social policy	1,605	1,400	0	220	5	0	0	225
Anthropology	915	740	0	0	0	0	0	0
Human & social geography	3,145	2,755	0	110	10	0	10	130
Others in social studies	1,435	1,210	0	35	0	0	0	35
Humanities	34,195	28,290	70	875	110	0	75	1,130
Languages	20,025	16,860	70	460	90	0	45	665
History	9,630	7,825	0	275	15	0	15	305
Archaeology	920	755	0	45	0	0	0	45
Philosophy	2,080	1,710	0	50	0	0	0	50
Theology & religious studies	1,540	1,140	0	45	5	0	15	65
Education	3360	2795	0	5	45	45	60	155
Research & study skills in education	100	100	0	0	0	0	0	0
Academic studies in education	3260	2695	0	5	45	45	60	155
TOTAL	150,535	122,995	650	3,640	800	75	210	5,375

Notes: ¹ Medicine, Dentistry & allied subjects excluding nursing

Table A10: Higher degree qualifications awarded in R&D and Higher Education subjects - 2004/05.

Higher degree								
	Total UK	Total England	Aston	UoB	UCE	B'ham College	Newman	Total B'ham
Medicine, Dentistry & allied¹	7,745	6,325	25	320	10	0	0	355
Life sciences	7,440	6,055	10	225	0	0	0	235
Biology	1255	820	0	35	0	0	0	35
Psychology	3305	2880	10	110	0	0	0	120
Physical and mathematical Sciences	5,535	4,515	0	150	0	0	0	150
Materials science	95	80	0	30	0	0	0	30
Physics	895	785	0	45	0	0	0	45
Engineering & technology	11,135	9,630	30	390	75	0	0	495
Civil engineering	1670	1470	0	130	0	0	0	130
Electronic & electrical engineering	3390	2940	20	90	40	0	0	150
Social studies	10,460	9,385	0	450	20	0	0	470
Economics	3,090	2,785	0	95	0	0	0	95
Politics	3,930	3,475	0	120	20	0	0	140
Sociology	1,515	1,380	0	5	0	0	0	5
Social policy	1,295	1,175	0	230	0	0	0	230
Anthropology	630	570	0	0	0	0	0	0
Human & social geography	635	600	0	0	0	0	0	0
Others in social studies	1,165	1,100	0	25	0	0	0	25
Humanities	10,140	8,740	10	365	15	0	5	395
Languages	5,520	4,820	10	195	10	0	0	215
History	2705	2380	0	70	5	0	0	75
Archaeology	490	440	0	25	0	0	0	25
Philosophy	550	475	0	5	0	0	0	5
Theology & religious studies	875	625	0	70	0	0	5	75
Education	4140	3655	0	85	30	0	5	120
Research & study skills in education	195	155	0	0	0	0	0	0
Academic studies in education	3945	3500	0	85	30	0	5	120
TOTAL	59520	50605	105	2005	150	0	10	2270

Notes: ¹ Medicine, Dentistry & allied subjects excluding nursing

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