



The
Careers
Service.

Survey of employer attitudes to postgraduate researchers

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1 Executive Summary

In 2004, against the 'SET for Success' agenda, the University of Sheffield appointed a Careers Adviser with specific responsibility for the careers education and guidance of PhD research students. In 2005, this role was enhanced to include research staff on fixed term contracts and an additional Careers Adviser post was created. One element of this project was to initiate an analysis of employer attitudes to PhD applicants. A pilot was undertaken in 2005 and, following feedback from employers and careers service colleagues, the survey was sent to over 1,000 employer contacts in early 2006.

The aim of the survey was to inform the training and professional development of researchers within the Institution and to explore attitudes to the recruitment of PhD researchers in non-academic environments. The context for this work begins with earlier research completed by other university Careers Services. (See, for example: '*Survey of Employer Attitudes to Postgraduates and Contract Researchers*' by Sandra Wright of the University of Strathclyde, 2000). This was followed by '*University Researchers: Employers' Attitudes and Recruitment Practices*' commissioned from the Association of Graduate Careers Advisory Services (agcas) by the Research Careers Initiative under the direction of Professor Gareth Roberts (2001). While this survey was being conducted, Clair Souter from the University of Leeds Careers Centre published: '*Employers' Perceptions of Recruiting Research Staff and Students*', which gives another valuable insight into this issue.

The information presented in this survey represents a sample of views from recruiters within organisations of varying sizes and a wide range of businesses. It is hoped that their feedback, coupled with research mentioned above, will continue to inform work already underway in many academic departments, the Careers Service and the Graduate Research Centre in the University of Sheffield.

- For the majority of respondents, the key benefits of recruiting postgraduates included: specialist knowledge, research/analytical skills, future potential and maturity. This picture has not changed significantly in the last five years (see earlier research as mentioned above). What does seem to have changed, however, is the steady increase in PhDs going into small and medium-sized companies. Recruiters in these companies praise these recruits highly in terms of their specialist skills and ability to move quickly within the organizations.
- Potential barriers to recruiting PhDs included: lack of commercial awareness, over-specialisation, difficulty in adapting to non-academic work cultures and unrealistic expectations. When the PhD candidates held industrial experience, they were considered to be highly commercially aware and showed great capacity to learn.
- Salary levels – most of the recruiters took experience and skills into account when deciding salaries for PhD candidates. Only 21% would take on PhDs at same salary level as other university candidates, but most acknowledged that progression through grades was faster than for other candidates.

Recommendations

- Work with employers. Raise awareness of the nature of the PhD and postdoctoral experience. For example, stressing the extent to which multi-disciplinarity in research is promoted in the University of Sheffield.
- Work with PhD and postdoctoral researchers on **identifying** the skills and experiences they have acquired and **translating** these into commercially understood skills and experiences.
- Continue to develop PhD and postdoctoral researchers' career management skills so that they **market their skills and experience effectively** on CVs and application forms, at interview and in assessment centre situations.
- Encourage researchers to **explore commercial awareness** through industrial placements, Knowledge Transfer Partnerships, employer-led skill workshops and research-specific seminars in areas such as grant writing, intellectual property and budgeting.
- Use **support from employers** who have volunteered to run skills sessions or other activities on campus and network with those who have already employed PhD and postdoctoral researchers to provide case studies for dissemination to current researchers.
- Develop **awareness of job seeking strategies** which, for researchers, can be more diverse than the traditional graduate training scheme opportunities offered by many employers.

2 Introduction

The aims of this survey were twofold; to inform the training and professional development programme on offer to researchers of the University and to explore attitudes to the recruitment of PhD researchers in non-academic environments. This approach flowed from data (our own destination data and national data) showing that less than 40% of researchers remain in academia following their PhD.¹

The survey was conducted in early 2006, after an initial pilot in the summer of 2005. The list of potential respondents was taken from the Careers Service database of recruiters with strong links to the University.

3 Method

The initial draft survey² was assessed by 12 major recruiters via on-campus contact and alterations made following their recommendations. Alterations suggested by Careers Service colleagues were also incorporated and the final document was sent by email attachment (see example of Questionnaire, Appendix One). A separate mailshot was sent to a number of employers for whom we did not have email addresses. Due to increased online security, many online surveys had to be resent by post. Follow-up was conducted by telephone to key employers who had not completed either the online or the paper survey. This process was completed in June 2006.

4 Responses

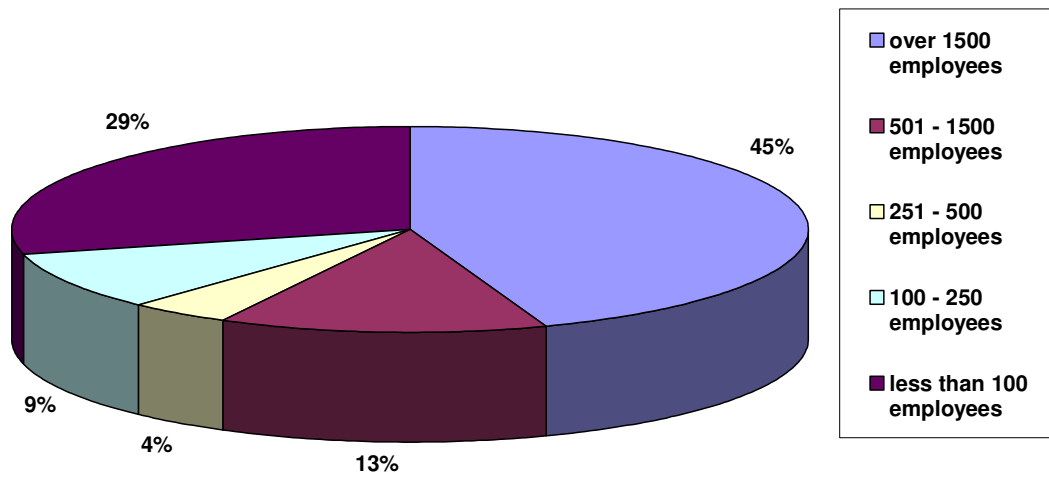
1436 questionnaires were emailed and 397 sent by post. 104 responses were received (5.7% response rate), making this one of the largest surveys of its kind undertaken by a single university in recent years.³ Not all responses elicited fully completed questionnaires, but we have analysed all feedback received for the purposes of this report. A table, showing many of the employers who participated in this process, has been attached at the end of this document (see Appendix Two).

¹ Survey of destination data of Sheffield PhD researchers from 1999 – 2005. ‘What do PhDs Do?’, publication by UKGrad, 2004

² Design based upon questionnaire used in ‘Survey of Employers views on the Employability of Oxford Postgraduate Students & Recruitment Practices’, Oxford University Careers and Appointments Service, 2001

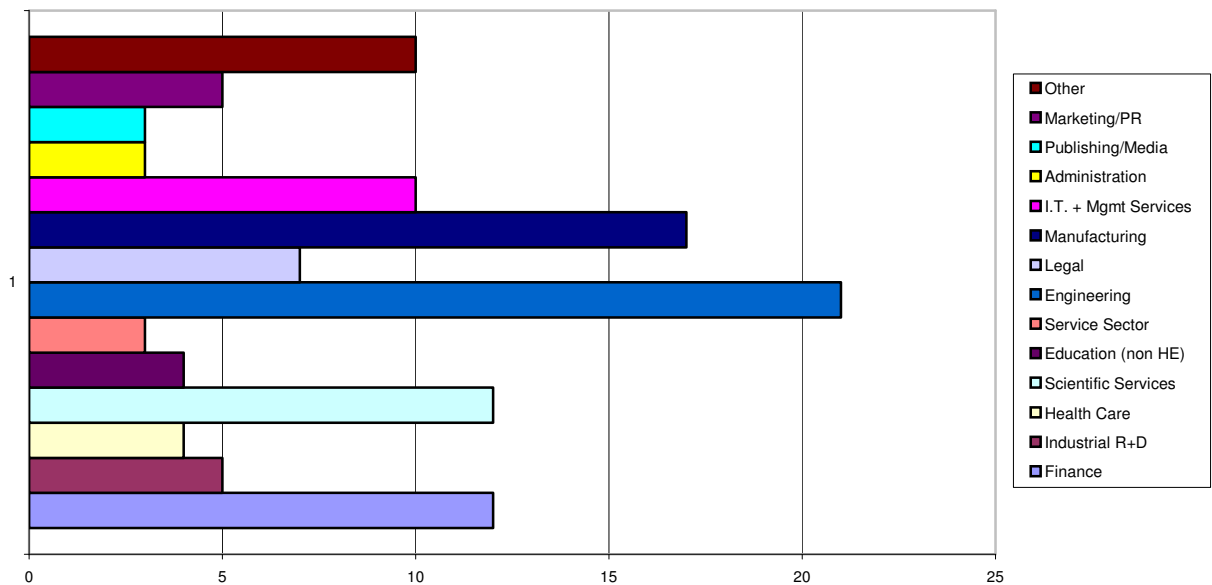
³ The 2005 EMPRESS Survey from the University of Leeds Careers Service elicited 47 responses, and the survey conducted by Oxford University in 2001 resulted in 67 responses. In 2000, the University of Strathclyde Careers Service completed an investigation into employer attitudes resulting in 80 responses. For further details, see Bibliography at end of Report

Response by size of organisation



We targeted each of the main sectors of employment, as defined by the Higher Education Statistics Agency (HESA) and used in the Destinations of Leavers from Higher Education Survey. A good spread of responses across the sectors was obtained.

Areas of Business



'Other' includes transport and distribution, retail, not for profit, recruitment and training and sales.

5 Questionnaire analysis

Question 1 Do you accept/encourage applications from PhD researchers?

69% of recruiters responded positively to this question.

Question 2 If 'yes', for which job functions?

The majority of recruiters would consider PhD applications for R + D and consultancy functions. Slightly fewer were open to applications from PhDs across the spectrum of functions. However, the telephone survey revealed more information about potential roles researchers could apply for. (See further analysis under Question 6.)

Question 3 Does your recruitment process for postgraduate researchers differ from that for other university applicants?

81% of respondents said the process was the same, emphasising the need for researchers to be aware of mainstream employer recruitment processes.

Where the process was different this was mainly due to PhDs being recruited directly into specialist functions and not via the normal graduate training scheme route.

"In my view, the recruitment of PhD researchers is substantially different to the recruitment of postgraduates, e.g. an MBA" (Small financial firm)

Question 4 Would you like more postgraduates* to apply to your organization?

Almost 80% of respondents to this question said 'Yes'

"An increased pool of well qualified applicants is always welcome"
(Large manufacturing firm)

* 'Postgraduates' had been defined in the covering letter as "postgraduate researchers (PhD students/graduates)".

Question 5 We outlined the skills regularly sought by employers and asked respondents to prioritise from a list provided⁴

The list covered: Research, Project management, Personal (creativity, flexibility, using initiative, independent working), Communication, Team-working, Career management and Job-specific skills (see Questionnaire, Appendix One). Results of the rankings can be seen on the following table.

⁴ Skill set based on research by UKGrad and others, published in: 'What Do PhDs Do?', 2004

Skill	Ranked First	Ranked Second	Ranked Third	Ranked Fourth	Other ranking
Personal skills	23	7	9	2	5
Communication	21	10	10	7	2
Research skills	20	2	4	3	3
Project management skills	18	8	8	4	7
Teamwork	17	9	10	8	6
Job related	15	9	3	3	7
Career management	7	3	2	2	15

Career management skills, although not featuring amongst the top five rated skills, did appear regularly in the responses to this question. A number of respondents stated that other skills would depend on the specifics of the job description.

Question 6 How do you view postgraduate qualifications and research experience in subjects not directly related to a field of work?

50% of employers did not respond to this question. Out of the 52 respondents who did put forward their views, 20% held a negative view.

a) Relevance of area of study

The majority, 30 respondents, replied that their view depended mainly on the area of research and position applied for. PhD applicants could be considered but would be limited to specific fields of work.

“Very positively but would probably need to be limited to social sciences or humanities” (Public sector employer)

“For positions in technical roles we do require...a related degree subject/experience in the particular field. For business management roles there is more flexibility” (Large telecommunications firm)

b) Experience and skills

Another factor influencing employers’ views was the range of experience and skills of the applicant. The majority of employers emphasised the need for applicants to have the necessary skills to be considered for recruitment but a PhD degree did not automatically translate as more skills or experience in the eyes of employers.

“It would depend on what function they were applying for and whether the applicant had the right skills set” (Large pharmaceutical firm)

“We would accept applications from this group as long as they meet the competencies – similar to other applicants” (Large engineering firm)

“Fine provided they can fit into company culture values and have key competences required” (Large manufacturing and processing firm)

“... if the applicant is therefore able to provide such evidence (capabilities such as team work, communicating and influencing) the qualification/ research experience is not an over-riding factor” (Large telecommunications firm)

c) PhD versus other graduate applicants

Some respondents stated that PhD applicants would be considered – but that it would be on similar terms to first degree and taught course higher degree graduates. A number went further and stated a clear preference for applicants with first degrees only - and postgraduate degrees in some cases – but in disciplines related to their field of work and preferring masters level candidates over PhDs in the same discipline:

It is acceptable for PhD students doing R&D work but not useful for specific delivery technical roles where relevant masters level students are more useful” (Large IT firm)

“(We) prefer them to have a relevant degree” (Small research firm)

“(a PhD is) indicative of ability but not as useful as specific knowledge” (Small engineering firm)

Several respondents were suspicious of PhD applicants and intrigued as to why they would want to apply.

“we would question why a PhD in an unrelated field of work would apply to the job (...); however we would not turn individuals away as it shows a higher level of academia [sic] and commitment” (Large manufacturing and processing firm)

“...if anything, there could be a concern that they are too comfortable in academia and less hungry for a fast-paced commercial environment” (Medium marketing/PR firm)

d) Negative aspects of recruiting PhD candidates

As mentioned before, 10 employers held negative views on postgraduate qualifications and research experience in subjects not directly related to respondents’ fields of work; PhD applicants were seen as not bringing anything of relevance since they were generally considered to be lacking in experience.

“We do not encourage postgrads whose experience is outwith the engineering specialisms we employ” (Small manufacturing and processing firm)

“(view) unfavourably” (Medium manufacturing and processing firm)

“unlikely to consider them” (Large construction firm)

“of little relevance save to indicate level of intelligence or motivation” (Medium legal services firm)

“give no additional value” (Medium finance and consultancy firm)

“we would not bother to interview” (Medium software engineering firm)

“not particularly relevant if no experience to back it up” (Large IT firm)

e) Positive aspects of recruiting PhD candidates

Yet others did see benefits in hiring such applicants. Benefits listed were: research and analytical skills; problem solving; maturity; faster career progression.

“We do not have many applications from PhD students; however as a solicitor, research is vitally important and experience of research in any topic will be relevant and useful in some way” (Large law firm)

“We expect this to allow more rapid career progression” (Small medical services)

“Very often relevant, especially for problem solving and maturity with clients”
(Small financial consultancy firm)

It is interesting that only one respondent – a large law firm - mentioned that research in itself was a skill which could be useful in their field of work; other respondents from the same sector considered PhD/ postdoctoral training to be irrelevant to their business, and indicated a preference for the formal training required by the relevant profession.

Where employers were not inclined to consider PhD applicants as relevant to their field of work, some still acknowledged positive qualities in these applicants. These positive qualities were mentioned even if they would have been insufficient in themselves to justify recruitment. Qualities such as level of intelligence and academic achievement, motivation, commitment and perseverance were quoted.

Question 7a What, for you, are the perceived benefits of recruiting postgraduates?

Respondents could tick as many boxes as they wished and were given five options: specialist knowledge; maturity; research/ analytical skills; future potential and IT skills, plus space to expand this list under ‘other’. 50% of the respondents considered that specialist knowledge and research skills were a benefit. 30% of respondents considered that the future potential and maturity of PhDs were benefits of recruiting them, while only 11% considered PhDs had IT skills of benefit to them.

- Specialist knowledge: **40 responses**
- Research/ analytical skills: **38 responses**
- Future potential: **26 responses**
- Maturity: **24 responses**
- IT skills: 13 responses

These findings mirror research carried out by the Association of Graduate Careers Advisory Services on behalf of the Higher Education Staff Development Agency (HESDA) a few years earlier.⁵ When asked a similar question in this survey a number of employers from varying fields of work mentioned analytical thinking, maturity and “highly

⁵ ‘University Researchers: Employers’ Attitudes & Recruitment Practices’, Survey conducted by agcas on behalf of the Higher Education Staff Development Agency, 2001

developed research skills” as key benefits of recruiting experienced researchers. Interestingly, a number also mentioned the ability of such candidates to work on their own – a skill which tends to have a lower priority at the moment than the perceived need for teamwork skills within all types of organisations.

A small number of employers praised the particular excellence of PhD applicants in specialised fields which were expanding within the economy.

Other skills were added by 10 employers: these were: dedication (PhDs being “*good at applying themselves*”); global outlook; motivation and ability to self-manage; commitment; perseverance; investigative skills; trouble-shooting; creative skills. PhDs were said to be an asset to an organization by “*adding to the (firm’s) credibility – excellent to have leaders in the field*” (Small training and recruitment consultancy).

“Recent PhD recruits have shown a good deal of maturity and have been able to move through their early career faster than undergraduate recruits.” (Small financial consultancy firm)

Other respondents commented positively on the commercial awareness of some of their applicants:

“Industrial experience (gained) during placements collaborating during PhD.” (Large scientific services)

“This will apply to some individuals but not all: applicants via university technology centres are very commercially aware.” (Large engineering firm)

“We view PhD applications as having a technological edge for about the first 2 years of work. After that, they are assimilated into a wider group. A major benefit to us would be PhD students/projects that have a strong industrial base that provides the opportunity for individuals to work closely with business and understand commercial issues.” (Large engineering firm)

Although 25% of all respondents (being those who did not accept/encourage applications from PhD researchers) ticked none of these boxes, six employers considered that PhDs offered all of these qualities.

<p>Question 7b What might you consider to be the key issues of / barriers to recruiting PhDs?</p>
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Respondents could tick as many boxes as they wished out of 7 options:

The left column lists the options while the number of respondents who opted for them is listed on the right – there were over 80 responses to this question. Many respondents would have answered this question with regard to their own organization, but others may have interpreted the question as their views of how other organizations may behave.

- Lack of commercial awareness **38 responses**
- Difficulty in adapting to non academic work culture **35 responses**
- Over-specialisation **34 responses**
- Unrealistic expectations **26 responses**
- Limited experience 22 responses
- Inability to market skills 13 responses
- Limited skills (please elaborate) 9 responses

The biggest barriers to recruiting PhDs are lack of commercial awareness, difficulty in adapting to non-academic work culture and over-specialisation with 48% of respondents selecting these options. Here again, our findings mirror those of the HESDA survey. Lack of commercial awareness, including lack of exposure to the commercial world (via work experience), was suggested as a major drawback for a number of recruiters. It was suggested that this could result in a conflict of workstyles and difficulty in moving from the academic to the non-academic workplace.⁶ Unrealistic expectations, limited experience and inability to market skills elicited fewer responses with less than 33% of respondents ticking these options.

Perceptions of the skills which might be lacking were either work specific (legal sector, public relations sector, media sector) or general skills: meeting deadlines; lack of generic business-related skills; a narrowness of perspective; lack of adaptability or inflexibility in career outlook.

“Not always clear about working with deadlines: outside academia, can be far more pressurized.” (Large scientific services and engineering firm)

“We need engineers who can do engineering; PhDs are 3 years out of date”
(Medium-sized Engineering Firm)

There were 35 positive comments in this section and 16 negative ones. Only 25% of respondents’ answers gave what we might interpret as a balanced view. This could be the result of the ambiguity of the question but could also flow from a lack of understanding of the PhD process and the exceptional research and project management skills required to complete the process successfully. Some comments:

Over-specialisation:

“(Over-specialisation) occasionally but depends if can apply transferable skills to situation” (Large scientific services firm)

“Over-specialization for some posts but this can be overcome in a strong applicant” (Large manufacturing and processing firm)

“can be too narrow-minded” (Large IT firm)

“PhD can be too specialized but not always; over-specialization and lack of other experience can be an issue” (Medium scientific and engineering recruitment consultancy firm)

⁶ ‘University Researchers: Employers’ Attitudes & Recruitment Practices’, *op.cit.*

Lack of **commercial awareness**

“is not necessarily true; PhDs have the capacity to learn; we do not expect them to have any knowledge of what we do but they can learn and pick it up. Important asset to stress: they have work experience. Lack of commercial awareness will apply to some but not all; applicants from university technology centres are very commercially aware.” (Large engineering firm)

Unrealistic expectations:

“they must realize that they compete with MSc applicants and more experienced candidates (Small training consultant)

“They tend to have unrealistic salary expectations” (Large engineering firm)

Inability to **market skills**:

“both PhD and CRS have found it difficult to analyse, identify and provide evidence of not only research skills but also project management, team working etc.” (Large manufacturing firm). (This informs some of the comments received under Question 7b).

In relation to this ‘barrier’ question, 7 respondents listed both specialist knowledge and over-specialisation. This would indicate that, whilst acknowledging a PhD’s greatest asset is their detailed research in one discipline, this could also raise issues as to their employability in non-specialist posts.

Question 8 How do you determine starting salaries for postgraduates?

Interestingly, the position seems to have changed quite substantially since Oxford University asked this question in 2001. Over 48% of their respondents said the salary level would be the same as for graduate entrants. In 2006, only 23% of our respondents said the salary level would be the same as for first degree entrants, 22% would determine salary according to level of qualifications, 27% according to work experience, 11% according to transferable skills, 6% by length of research experience and 9% according to level of specialist knowledge.

“Starting salary same as graduate entry, but will pay off later in career”
(Large financial organization)

“May attract a premium but only if the job requires a specific post-grad qualification e.g. economist role.” (Major financial consultancy firm)

Question 9 What are your views on applications from PhD graduates with up to 3 years' experience in academic research?

A number of respondents were unclear about or misinterpreted this question. Most answered vaguely or commented on masters' level postgraduates and PhDs instead. (Comments relating to these cohorts have been taken into account in the next section.)

This is telling in itself and signals a lack of awareness from employers about this category of qualified researchers. The confusion could also arise from the terminology used, as members of this workforce may be called "Contract Research Staff (CRS)", "Postdoctorates" or "Research Assistants", for example, within one university. It should also be noted that this category will also include experienced researchers in some departments who do not hold a PhD. The authors of this study chose to opt for the University of Strathclyde Survey definitions.⁷ More work seems to be needed to raise awareness of the existence of this highly qualified workforce and the skills and experience they bring with them to employment outside of academia.

Looking more closely at employers' feedback on postdoctoral researchers, various themes emerge:

a) These candidates are not considered to be of relevance to the respondents' organisation, either because no research is carried out there or because the type of research carried out is considered to be different from the research an applicant may have experience in.

"We would not be interested in employing these researchers. All of the software engineering work we do involves research to some extent but it is not blue skies research but focused, problem solving within resource budgets to achieve goals".
(Small engineering and IT firm)

b) There is a perception that experienced PhD holders are not suited to a commercial environment:

"Not that relevant for majority of our roles as too specialised and could find it difficult to work in the business environment" (Large IT firm)

"We would have some concern on whether they would have difficulties in adapting to a non academic work-culture." (Large health care organisation)

"We are open to those provided they can demonstrate an aptitude for a commercial environment and are prepared to move on from a pure research-based role." (Large engineering firm)

c) Applications will be accepted but considered on a par with those from graduates. Postdoctoral research, by and large, is not considered to give an edge to applicants where specialist knowledge is not needed. Instead they are seen as lagging behind graduates so that, in some cases, first degree graduates are even preferred to

⁷ See 'Survey of Employer Attitudes to Postgraduates and Contract Researchers' Sandra Wright, University of Strathclyde Careers Service, 2000 Appendix 1.

experienced researchers, reflecting the situation for PhDs seen in question 6 (section 'd', page 5).

"We welcome applications from this type of postgraduate as long as they are comfortable to start at the same level as any other graduate." (Large finance and management consultancy)

"[they have] limited experience of relevant work compared to graduates of a similar age; as it is unlikely that we would have an opportunity directly related to this research expertise, it would depend on whether they wanted to move into a different area and whether they were prepared to "start from scratch" to some extent in order to catch up with the experience gained by graduates who had gone straight into employment." (Large construction and engineering firm)

"Generally over specialised for the roles we recruit for and we have managed to find suitable graduate employees." (Small finance and management consultancy)

d) There are no graduate training schemes which cater for applications from postdoctoral researchers (or PhDs for that matter). Many respondents who provide graduate recruitment schemes believe them to be inappropriate for these highly qualified candidates. Some employers do comment on the need for applicants to be aware of varying entry points into organisations – as PhDs and postdoctoral researchers often apply for the wrong scheme and their application is not taken into account. Candidates are strongly advised to check with the recruiter before applying.

"Probably not suited to our graduate leadership programme as skills (are) too specialist" (Medium contract hire company)

e) Applications will only be considered for research specific posts – which may be rare in the respondent's organisation; therefore postdoctoral applicants may be considered over-specialised, or of limited value, if their area of expertise is not relevant to the employing organisation.

"Only good if academic research is relevant to industry" (Small manufacturing and processing firm)

"We would look at such applications carefully to determine whether the work carried out was relevant to our business" (Small manufacturing and processing firm)

f) The length of time spent in academia is rarely seen as giving an edge to a candidate and too many postdoctoral positions are considered detrimental (two seemed to be the optimum number):

"If the PhD grad is experienced in the technology area of the position s/he's seeking then the number of years s/he has been in academia is not important." (Large electronics manufacturing firm)

"Rightly or wrongly, there is a view that candidates who have spent many years in academia are lacking in skills and as a result it is hard for us to sell these candidates". (Large IT and management services)

“Concern over applicants who have done too many postdocs... we feel they would have problem adapting to a non academic work culture, perhaps wrongly. We feel HE is a protected working environment and many postdocs have been too much in an ivory tower.” (Large scientific healthcare services)

“We [would be] very happy to welcome and would encourage; [however, if they] have been a postdoc for over a decade, we would have some concerns about whether they would have difficulties in adapting to a non academic work-culture.” (Large healthcare organisation)

“3 to 4 postdocs can be a problem.” (Medium scientific services)

“Too many postdoc positions can mean over-specialised; 1-2 are good way of rounding off research experience” (Large resource management)

- g) Similarly to PhDs, postdoctoral researchers must market their skills and experience and prove that these are transferable to the organisation applied to. As with PhDs, advice was forthcoming on how to make these candidates more employable.

“We also recruit postdocs/ PhDs into non-research posts but they must be able to capitalize on “transferable skills” – research occupations, job market etc.” (Large scientific services)

“Very positive, [we] very regularly recruit postdoctoral candidates if they have relevant skills/ experience. Must be motivated and interested in working in a contract research organisation and understand what the business involves. We would expect [them] to have a good knowledge of the contract research industry and to be able to identify and describe, not only research-led skills but the wider range of transferable skills a PhD/ postdoc must demonstrate. Ideally postdocs/ PhDs would be prepared to hit the ground running and make an immediate contribution to business.” (Large scientific services)

“Some may like the lifestyle of contracts and portfolio careers. Otherwise, a postdoctoral applicant can put across far more experience than a new PhD if they can produce effective applications and come across well at interviews.” (Small training consultant)

“PhDs and contract researchers are very poor at self marketing and need to be made aware of what skills they can offer, how to apply and be interviewed successfully” (Large health care organisation)

“If [they] have right skill sets and have researched themselves, the company and can market their skills and experience on paper and at interview, we are keen to see them.” (Large engineering firm)

- h) There are some success stories, especially when respondents had direct experience of having employed such candidates - similar to respondents' experience of recruiting PhDs:

“[Postdoctoral experience] Can be valued if relevant ... and can contribute to

industry needs; some applicants have researched with us and other [similar] companies so can be a real asset. Welcomed if keen to work in this particular environment and understand nature of industry.” (Large resource management)

“No problem; in fact that is how I came to join the company!” (Small scientific services)

“We recruited such a person last year and I would say that the extra 3 years research is beneficial because it develops research and analytical skills and may develop relevant specialist knowledge. However salary expectations are higher and there is less development of soft skills than would be expected of a graduate who spent 3 years in industry.” (Small engineering firm)

- i) Another benefit contract researchers bring with them is the link with Higher Education Institutions, which was seen as beneficial by a couple of respondents:

“We would encourage applications and recruit into our business. We have specific links with HEI such as the University of Sheffield. Many postdocs apply to us on the basis of contacts/ networks with research supervisor meetings and at conferences.” (Large scientific services)

“Because of the links we have with universities in a strategic sense we utilise this type of resource and find this very beneficial, this sometimes leads to permanent recruitment but more importantly helps us to continue and maintain strong relationships with the universities” (Large IT services)

6 Summary and Conclusions:

1. Some employers perceive real benefits to recruiting PhD and postdoctoral candidates, due to their interest in collaboration with HE Institutions. The researchers' experience of networking, international collaboration and bid writing can be seen as very marketable. If one's clients are HEIs and research departments, then such employees can give a clear commercial edge.
2. Maturity was quoted as a distinct bonus to the employment of PhDs and postdoctoral researchers, especially if roles involve contact with clients. This is good news for those candidates who think their age may be a barrier to recruitment.
3. Many organizations are keen to exploit the technological credibility of research candidates to drive their businesses forward, especially if operating within a global environment.
4. Although 70% of respondents stated that they accepted or encouraged applications from PhD researchers and contract researchers, less than half of these would consider them for posts outside research. 66% of respondents find more barriers than benefits to recruiting PhD researchers and postdoctoral applicants. PhDs are valued for their specialised skills (the biggest response on the perceived benefits of recruiting them); but this may mitigate against candidates for positions outside research departments.

5. A higher degree will not guarantee entry into commercial organisations at a level higher than might be expected for first or masters degree graduates, a finding also reflected by the HESDA report.

“The fact that someone has completed postgraduate study or research is not a positive or negative part of the application process”(Large law firm);

“We are happy to accept applications from postgraduate or PhD students but they hold no greater weight than a standard degree.”
(Medium marketing/PR firm)

But it is encouraging to see that a number of employers commented on the faster career trajectory of research candidates who did enter graduate training programmes alongside first degree and masters’ level graduates.

6. PhDs and contract researchers can be seen as lacking experience, although some respondents considered that three years’ research experience counted towards work experience. Even in the case of contract researchers, their projects either did not qualify as work experience or were not considered relevant to a commercial working environment. There is a perception that research experience in industry is not the same as research experience in academia.
7. PhD researchers and contract researchers can be perceived as lacking in skills. There is an assumption on the part of employers that PhDs do not have generic employment skills and that their three years of academic experience has not helped them to develop key competences.
8. Some employers see PhD researchers and contract researchers as being overqualified and over specialised. Over-specialisation was the third biggest reported barrier to recruiting, a view held by nearly 50% of respondents. PhD researchers and postdoctoral researchers do not compare favourably with first degree graduates who are still preferred by a majority of employers where areas of expertise are not required. 23% of employers still believe that the salary level would be the same as for first degree graduate entrants; however this figure is lower than the 2001 Oxford University survey where 42% employers said the salary level would be the same as for first degree graduate entrants.
9. PhD researchers and contract researchers were viewed as not being commercially aware and, as a result, might have difficulty in adapting to non-academic work cultures. Respondents doubted the ability of PhD and contract researchers to make the transition into a commercial environment from an academic one - which is still seen as a protective environment, an “ivory tower”. This echoes the findings of the 2000 Strathclyde University survey, the HESDA survey and the 2005 Empress survey.
10. Where research was carried out in the respondent’s organisation, it was presented as “practical” rather than “blue skies” research; the multidisciplinary aspect of the working environment was mentioned and it was feared PhD researchers and postdoctoral applicants may find difficult to adapt. Other characteristics of commercial culture given by respondents were: meeting tight deadlines; fast-moving environment; commercially-driven; working to tight

budgets. Arguably these features will be found in postdoctoral researchers' experience of grant searching, report writing and budgeting for grants, but these elements need to be 'spelt out' clearly on applications and at interview.

11. Another negative aspect of recruiting PhD researchers and postdoctoral applicants was unrealistic expectations, i.e. the perception that applicants' expectations -salary mainly - are disproportionate to their experience. This discrepancy between employers and candidates' expectations could be based on whether one includes the PhD research period and experience as a postdoctoral researcher as work experience. Applicants need to be more active in marketing the transferability of their research skills and experience.

Finally, one of the most revealing elements of this survey came from responses of employers who recruit small numbers of HE candidates or only recruit sporadically. It was extremely heartening to see that, where such employers have recruited PhDs, they are very pleased with both the work and the progression of these employees.

"Recent PhD recruits have shown a good deal of maturity and have been able to move through their early career faster than undergraduate recruits." (Small financial consultancy firm)

"We have employed one superb [PhD] software engineer...and he became a top notch software engineer within a year of starting work with us. He was brilliant...is now a full-time independent software consultant." (Small IT and Engineering firm)

"We recruited such a person last year and I would say that the extra 3 years' research is beneficial because it develops research and analytical skills... however, salary expectations are higher and there is less development of soft skills then would be expected of a graduate who spent 3 years in industry." (Small Engineering firm)

"All our graduates start at entry level, however often [PhDs] may progress faster than non-graduates but based purely on work performance." (Small media company)

"We recruited a Chemist who had just completed a PhD and they have become a valuable member of the team... We would certainly look at recruiting PhDs in the future, as long as they have previous work experience." (Small manufacturing firm)

Employers were forthcoming with **advice** and some volunteered help at training events. As part of the advice put forward, respondents intimated how researchers could become more **employable**; researchers need to (in order of number of mentions):

- Have the relevant **required skills** - skills most sought after by employers were communication; personal skills; team-working and project management.
- **Market** themselves more effectively:

- researchers need to have identified the skills they have developed during their academic experience and assess how transferable these can be to a non-academic environment.
 - they need to communicate better at interviews so as to give evidence of having the required skills and experience.
 - they need to show **motivation** as employers may either be suspicious of PhD researchers' reasons to change career or assume that they do not have the skills necessary for a commercial environment.
- Become more **commercially-aware**: An employer suggested that PhD students/projects with industrial training were needed; this was reflected by a couple of respondents who noted that some of the PhD they had employed had very good commercial awareness due to their research in technological centres. Experience outside of academia could be helpful here as could employer-led skills training.

Overall, it would be wrong to paint a bleak picture of the employability of researchers; in fact anecdotal evidence of employers who had recruited such candidates was, by and large, positive and beneficial. Whilst initially, PhDs straight from university might have been slower to integrate within a commercial environment than candidates with an equivalent three years experience in industry, the PhD candidates overcame initial difficulties and eventually moved on faster. The fact that very few negative comments were given on the recruitment of PhD researchers and postdoctoral applicants by people who recruited them would suggest that negative issues are partly based on some employers' unfounded perceptions of what PhD researchers and postdocs can or can not do.

7 Recommendations

As stated earlier, one of the key aims of this research was to inform the provision of training and professional development on offer to PhD researchers. A great deal of work is being done already, following successful bids under the 'Set for Success' agenda. As a result of this research we hope to enhance and strengthen existing provision and, where appropriate, take forward the following recommendations

:

- Work with employers. Raise awareness of the nature of the PhD and postdoctoral experience. For example, stressing the extent to which multi-disciplinarity in research is promoted in the University of Sheffield.
- Work with PhD and postdoctoral researchers on **identifying** the skills and experiences they have acquired and **translating** these into commercially understood skills and experiences.
- Develop PhD and postdoctoral researchers' career management skills so that they **market their skills and experience effectively** on CVs and application forms, at interview and in assessment centre situations.

- Encourage researchers to **develop commercial awareness** through industrial placements, employer-led skill workshops and research-specific seminars in areas such as grant writing, intellectual property and budgeting.
- Use **support from employers** who have volunteered to run skills sessions or other activities on campus and network with those who have already employed PhD and postdoctoral researchers.
- Develop **awareness of job seeking strategies** which, for researchers, can be more diverse than the traditional graduate training scheme opportunities offered by many employers

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Copy of Questionnaire [not in presentation format]

Survey of Employer Attitudes to Postgraduate Researchers

SECTION A Contact and organisation details

Name of company/organisation _____

Your name _____

Your job title _____

Telephone number _____ email address _____

Size of organization:

500+ employees 500 – 1500 employees
 250 – 500 employees 100 – 250 employees -100 employees

Main emphasis of business/activity

<input type="checkbox"/> Finance and management consultancy	<input type="checkbox"/> Legal services
<input type="checkbox"/> Research (commercial)	<input type="checkbox"/> Manufacturing and processing
<input type="checkbox"/> Health care, medical and social services	<input type="checkbox"/> IT, economics, statistics and management services
<input type="checkbox"/> Scientific services	<input type="checkbox"/> Administration
<input type="checkbox"/> Education	<input type="checkbox"/> Publishing and media
<input type="checkbox"/> Service sector	<input type="checkbox"/> Marketing and PR
<input type="checkbox"/> Engineering	<input type="checkbox"/> Other _____

SECTION B Recruitment

Q 1. Do you accept / encourage applications from PhD researchers?

Yes

No (please go to Q 7b)

Q 2. If 'Yes', for which job functions?

Scientific R + D
 Other scientific roles _____
 Other research roles _____
 Finance (including Consultancy)
 Engineering (including Consultancy)
 Management (including Consultancy)

ف IT (including Consultancy)

ف Other _____

Any comments you would like to add?

Q 3. Does your recruitment process for postgraduate researchers differ from that for other university applicants?

ف Yes

ف No

If 'Yes', please elaborate

ف We treat all graduate applications equally
Q 4. Would you like more postgraduates to apply to your organisation?

ف Yes

ف No

Any Comments?

SECTION C Skills sought by employers

Q 5. What particular skills are you looking for from postgraduate applicants?
Rate 1 to 8 in order of priority. 1 = Highest 8 = Lowest

ف Research skills: original thinking, research methodology, up-to-date knowledge, critical analysis

ف Project management skills: goal setting, time management, systems development, database skills

ف Personal skills: willingness to learn, creativity, flexibility and open-mindedness, motivation, initiative and being able to work independently

ف Communication skills: clarity of writing in a variety of styles, construction of coherent arguments, presentation skills

ف Team-working skills: developing and maintaining co-operative networks and working relationships

ف Career management skills: showing commitment to continued professional development, taking ownership for career progression

ف Specific job-related skills: e.g. specialist IT skills or specialist knowledge

ف Other skills:

Q 6. How do you view postgraduate qualifications and research experience in subjects not directly related to a relevant field of work?

Q 7a. What, for you, are the perceived benefits of recruiting postgraduates?

- | | | | |
|---|----------------------------|---|------------------|
| ف | Specialist knowledge | ف | Future potential |
| ف | Maturity | ف | IT skills |
| ف | Research/Analytical skills | ف | Other _____ |

Q 7b. What might you consider to be the key issues of / barriers to recruiting PhDs?
(The following list is based on issues raised in previous research conducted in this field)

- | | | | |
|---|---|---|--------------------------|
| ف | Lack of commercial awareness | ف | Over-specialisation |
| ف | Difficulty in adapting to non academic work culture | ف | Limited experience |
| ف | Inability to market skills | ف | Unrealistic expectations |
| ف | Limited skills (please elaborate) _____ | | |

SECTION D Salary information

Q 8. How do you determine starting salaries for postgraduates?

- ف Same as graduate entry
- ف Varies according to level of qualifications
- ف Varies according to level of work experience
- ف Varies according to level of transferable skills
- ف Varies according to length of research experience
- ف Varies according to level of specialist knowledge
- ف Other _____

SECTION E Recruitment of contract researchers

Q 9. What are your views on applications from PhD graduates with up to three years' experience in academic research? (This group of University employees are on fixed term contracts and are often referred to as post-doctoral workers, contract researchers or research associates)

SECTION F

Is there anything else you would like to add?

Completed questionnaires can be returned to us by email or by post (a stamped, addressed envelope has been included with each hard copy of the questionnaire). PLEASE RETURN TO US BY Friday, 31st of March 2006.

Thank you very much for participating in this survey. If you have any questions or queries, please contact one of the Careers Advisers named below by telephone, email or letter.

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List of organisations that helped or participated in this Survey.

(Please note, a small number of companies wished to remain Anonymous)

Astra Zenica	Asian Absolute	Atherton Godfrey	Anthony Alan Foods Ltd
Asda	Belzona Polymerics Ltd	Balfour Beatty Plc	Bloomberg
Amec	British Nuclear Group	BT	Bealby and Jones Dental Practice
Covance	The Co-operative Group	CB&I John Brown Ltd	Cancer Research UK
Charities Advisory Trust	Comenius Language Assistants	Cadbury Trebor Bassett	Crown Prosecution Service
Corus	Challinors	Clyde Materials Handling Ltd	
DLA Piper Rudnick Gray Cary	Department for Work and Pensions	Dechert LLP	Elliott & Brown Ltd
Earth Tech	Euro RSCG Riley	EMB Consultancy LLP	Financial Services Authority (FSA)
Flurochem Ltd	GIEU, The University of Liverpool	Geosoft Ltd t/a Graticule	Geest Ltd
Heron Ed Ltd	Harvard Engineering	Harrison and Clough Ltd	IPA
IBM	ICI	IST	ITV Yorkshire
Informa	JP Morgan	John Lewis	
KTP Projects at Brunel	KBR	Ketchum Ltd	Lewis Comms Ltd
LG Electronics UK	LogicaCMG	Lexis	
Mapi Values	McCain Foods	MBDA	Morgan Stanley
Motability Operations	Mercer Human Resource Consulting	Norwich Union Life	Novartis, Grimsby Ltd
Northern Food	Nortel Networks UK Ltd	North Yorkshire Legal Services	Nelson Griffiths
NPL	NG Bailey	National Express	Oracle Corporation UK Ltd
Private Equity Intelligence	PA Consulting Group	Pilot Drilling Control Ltd	Proctor and Gamble
PricewaterhouseCoopers	Pendle Borough Council	QinetiQ	Roxspur Measurement and Control
Rolls Royce	Ricardo	Screen Yorkshire	Science Recruitment Group (SRG)
Sequoia	Slaughter and May	The Sports Turf Research Institute	Team Food Ltd
TG Europe	Unilever	Visualfiles Ltd	Westbourne School
Yorkshire Water	Zeon Chemicals Europe Ltd		