



Quality and relevance of doctoral graduates
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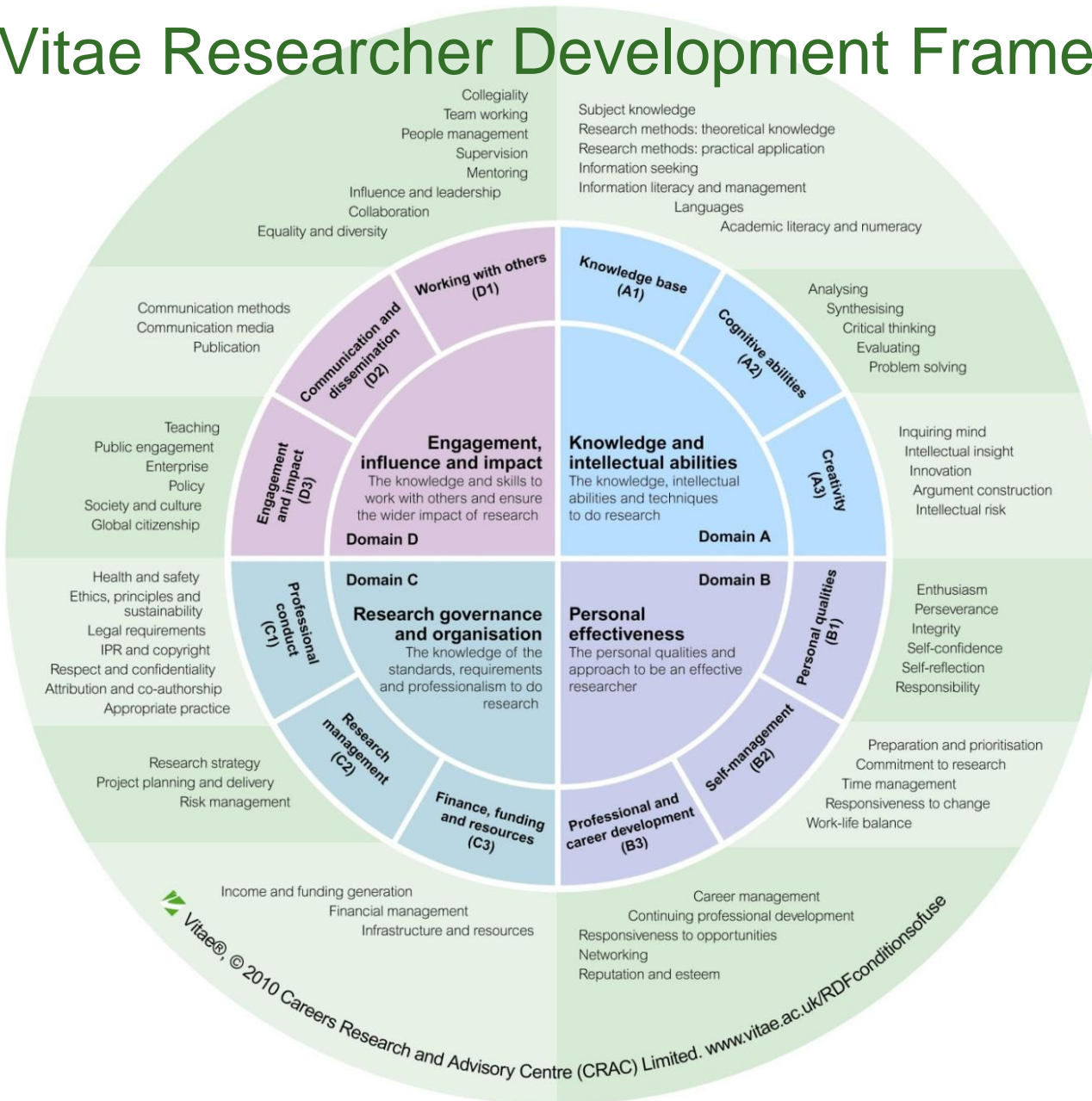
The way research is done is changing



- Adapting to Bologna Process / implementing Salzburg
- Interdisciplinary research / multidisciplinary research teams
- International experience
- Intersectoral readiness
- Open access / publication
- Open data / reproducibility
- Open science / innovation - engaging society

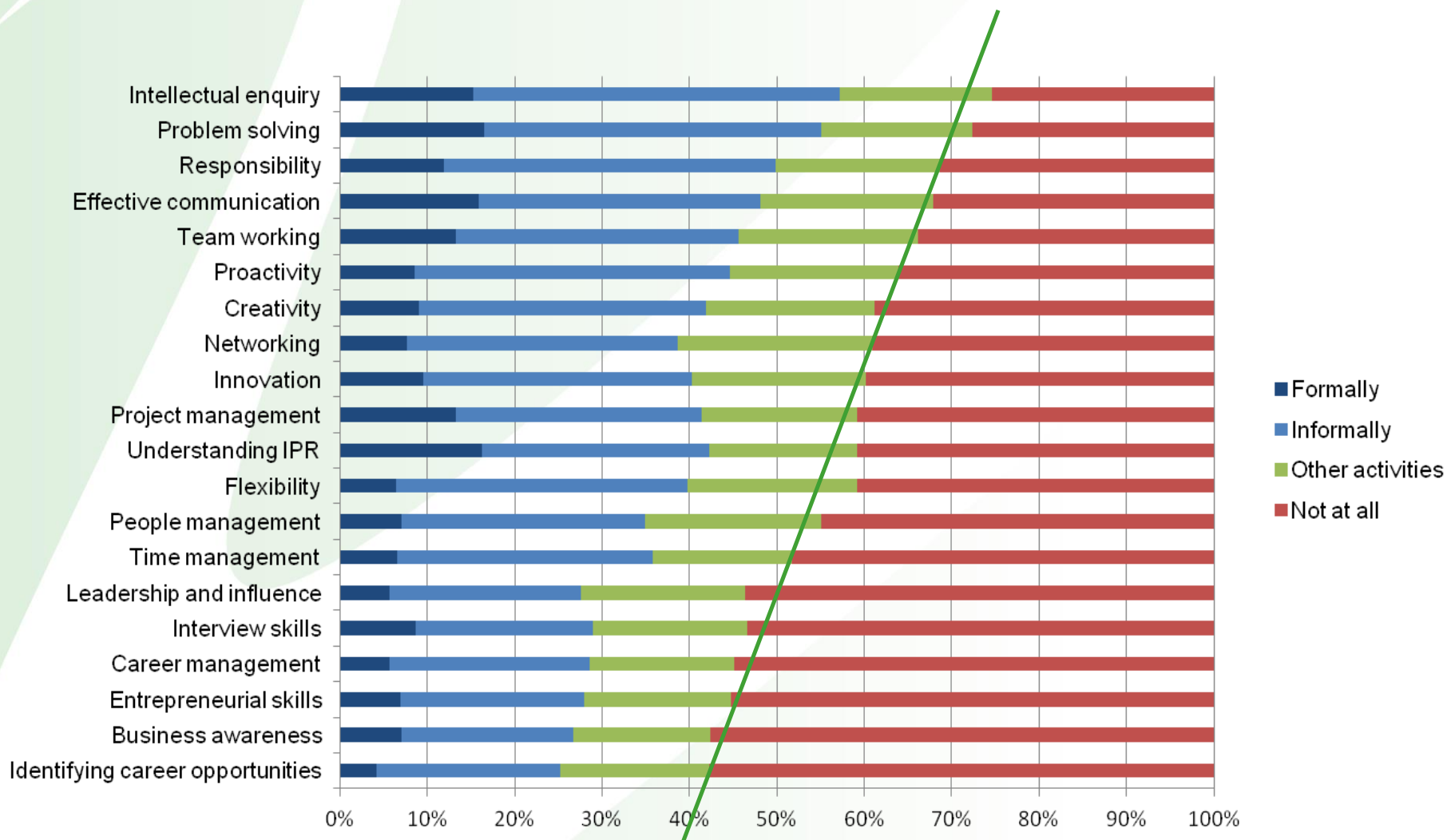
Being an excellent researcher is not enough...

Vitae Researcher Development Framework



- Framework of the knowledge, behaviour and attributes of successful researchers
- Recognise researchers as professionals
- Encompass the breadth of researcher activities
- Anticipate future needs
- Enables self-assessment of strengths and areas for further development
- Common language for researchers capabilities

Development of competencies during doctoral programme

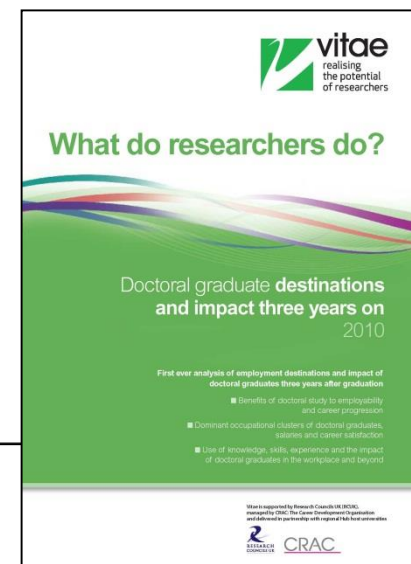


What do researchers do?

Destinations and impact three years on



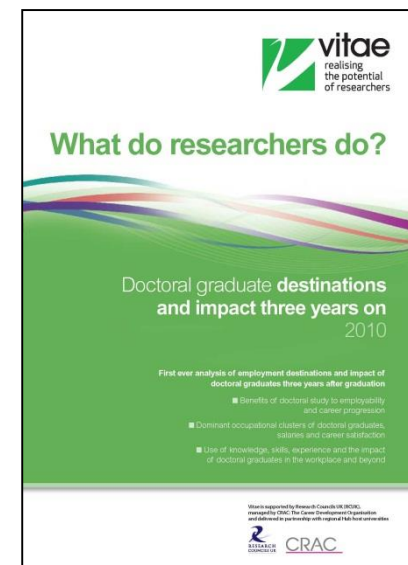
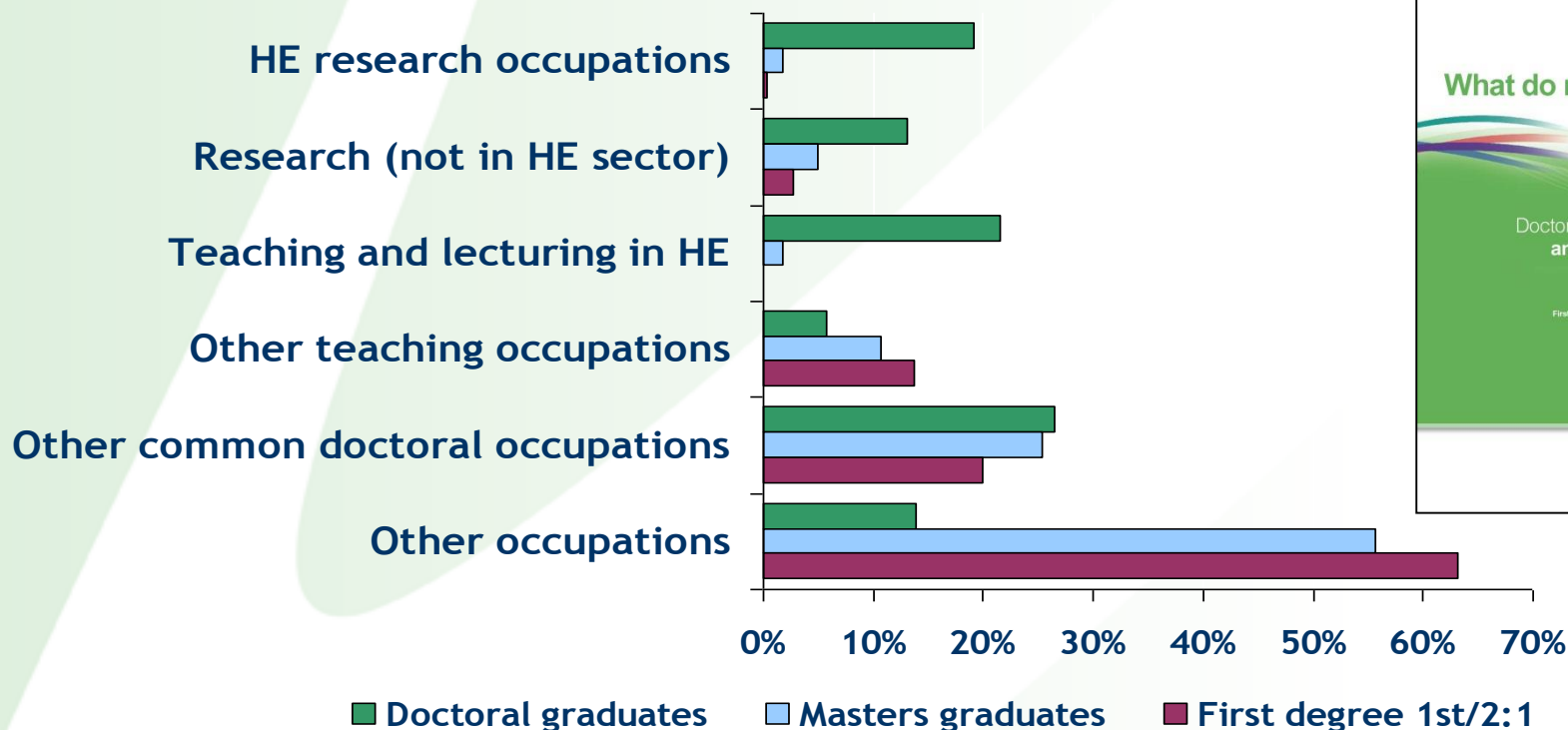
- Higher employment than bachelors and masters (2% unemployed)
- Median annual salary: 36% premium over bachelors degree
- Value of the doctorate: 82% requirement or important for current employment
- 93% satisfied or very satisfied career to date
- 74% stated current employment fitted into career plans
- 66% stated it was exactly the type of work wanted
- 65% conducting research some or all of the time
- Unique doctoral occupations



What do researchers do?

Destinations and impact three years on

Doctoral occupations (86%)



'My doctorate changed my life. It opened doors, and it also opened my mind. I take on challenges now, in my life and my career, because I have faith in my own abilities.'

Cora Beth Knowles (Latin literature), Open University

Employers' expectation of researchers' performance (high and very high)

	Group 1	Group 2	Group 3	Group 4
Data analysis	100%	100%	91%	91%
Problem Solving	100%	88%	89%	83%
Drive and Motivation	100%	84%	59%	74%
Project Management	83%	36%	70%	39%
Interpersonal Skills	67%	56%	39%	26%
Leadership	67%	28%	24%	17%
Commercial awareness	50%	20%	28%	22%
Overall	81%	59%	57%	50%

Employer categories

Group 1: actively target doctorates

Group 2: strong interest

Group 3: some interest, occasionally recruit

Group 4: no interest

Employers' views from tech industries



- ✔ 63% actively target doctoral graduates
- ✔ 60% unable to maintain competitive performance without recruiting doctoral graduates
- ✔ 83% state doctoral graduates improved their company's position relative to competitors
- ✔ 92% state doctoral graduates take less or similar time to adapt to their new role compared with other graduates
- ✔ 73% highly rate doctoral graduates influence on standards and good practice
- ✔ 74% state doctoral graduates achieve high impact results within two years of joining

Survey of 86 research intensive companies in IT, aerospace, pharmaceuticals and automotive, EPSRC, 2012

Impact of doctoral careers

Employers

- ✔ Value capacity for critical thinking, ability to solve problems, bring fresh perspectives and systematic approach
- ✔ Value self confidence, dedication, resilience and motivation
- ✔ Excel in report writing and presentation
- ✔ 75% report loss of doctoral graduates would have a major impact on operations
- ✔ Over 20% report that doctoral graduates are mission critical and loss would be catastrophic
- ✔ Enhances organisation's profile and credibility
- ✔ 40% state that work experience as important as doctorate – take less time to adapt to pace and demands of work
- ✔ Could invest more in interpersonal skills, leading and working with others

Impact of doctoral careers, RCUK 2014
survey of 1839 doctoral graduates
96 employer interviews

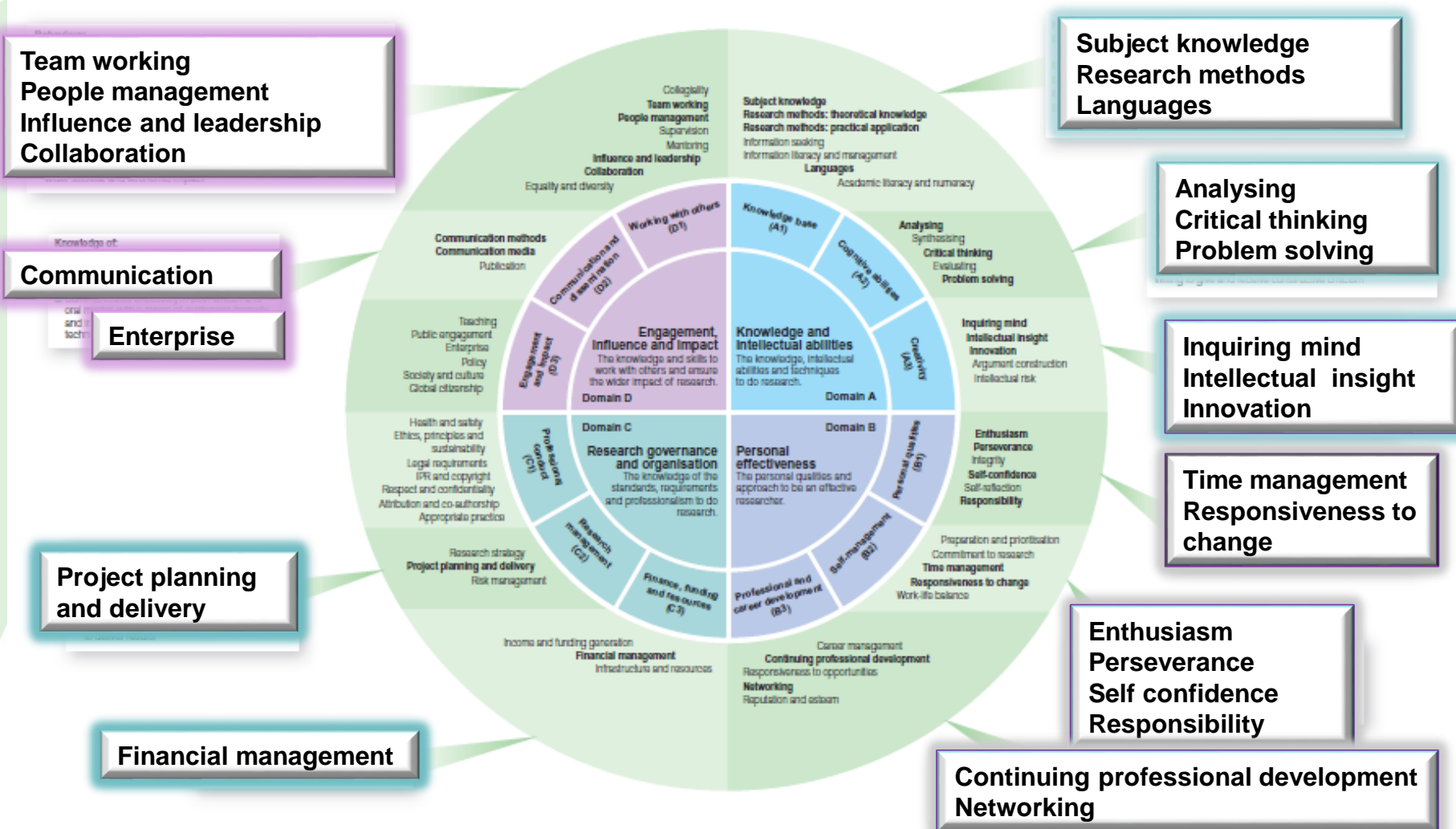
Doctoral graduates 7-9 years on

- 87% stated their doctorate helped them progress to their long term career goals
- 74% satisfied or very satisfied with their current job
- Intellectual challenge is the most satisfying aspect of their work
- 71% do research some or most of the time
- 75% had done collaborative projects with business in doctorate
- Spill over effect evident – influencing the performance of others

“There is a polarised reaction: some people look at you as if you are some kind of genius and some people look at you as some kind of freak.”

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Common competencies for employability



Preparing researchers for an unknown future

- Broaden their researcher competencies
- Develop their emotional intelligence – self awareness / working with others / leadership
- More exposure to other environments
- More intellectually 'mobile'
- Agility to adapt to unknown future research environment

Broadening horizons will benefit all