

# Module 5

## Evaluating Research Outputs and Researchers, and Non-Academic Impact

Erasmus+ Capacity Building in Higher Education  
Assessing and Improving Research Performance at South East Asian Universities  
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2. Research Environment
3. Successful Research Culture
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# EVALUATING RESEARCH OUTPUTS AND RESEARCHERS, AND NON-ACADEMIC IMPACT



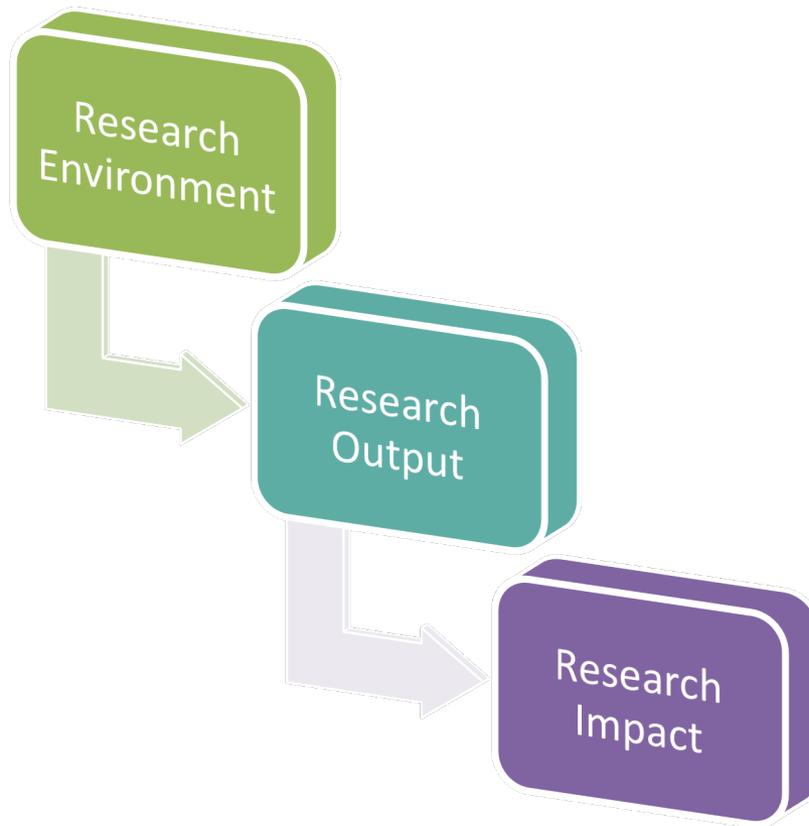
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This REPESEA module is for assessing research output and impact

It is designed to create an awareness that research performance and excellence roots from the basis of quality.

It is to assess performance in research- significance of research environment, output and impact.

# What is Module 5 about?



- Research environment and agenda are critical in determining researchers' performance. Both the internal and external environments necessitate research ideas to grow along a robust research agenda.
- Both research environment and agenda also precipitate the process of nurturing researchers among the young academics and doctoral students.
- Impact of research performance contribute to both academic and non-academic significance.

- Academic impact from research comes from two sources, the quality of the publishing outlet and the number of citations. The quality of the journal/publisher is important for both. The module will create awareness amongst the trainee about how to judge the quality of a journal and for administrators this will be useful in terms of rewarding academics.
- Non-academic impact is about the research having an impact on society or the economy. This should be important for academics in any case. To a larger extent, it is increasingly becoming important for universities to demonstrate that they create value for society, not just through their teaching, but research and other related tasks.

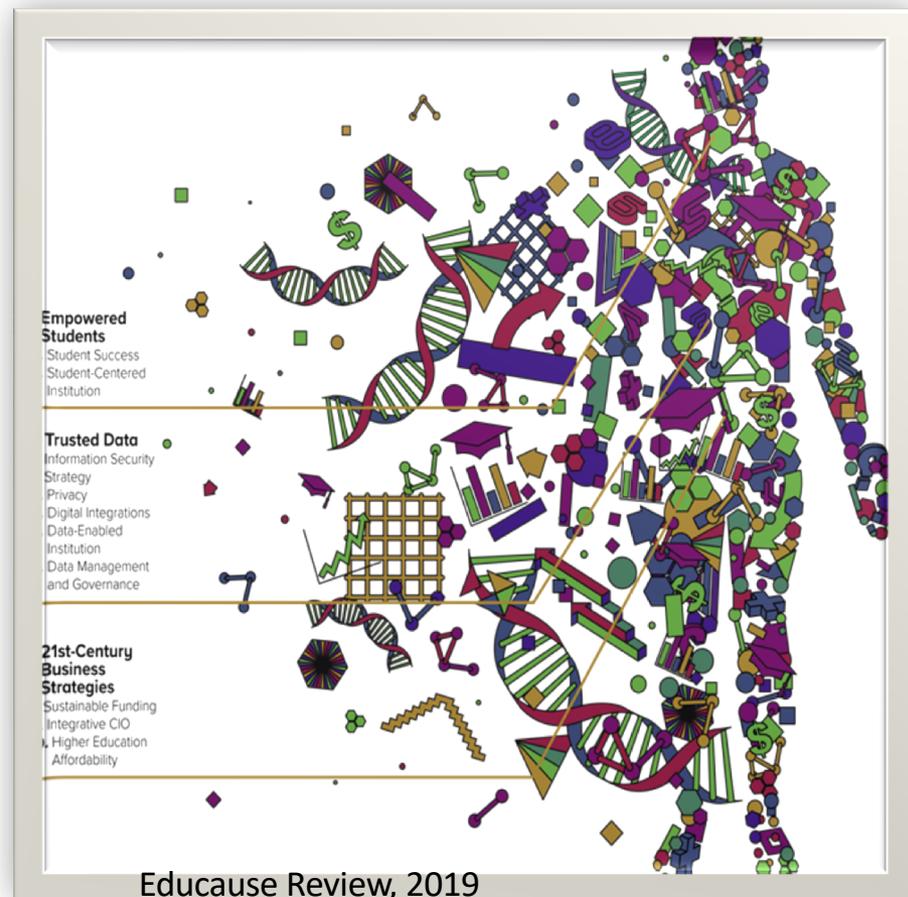
# By the End of Module 5, you should be ABLE to..

- 1) Familiarize with the critical elements of research environment and agenda in contributing research impact.
- 2) Gain awareness on how to evaluate a research impact.
- 3) Understand the importance of academic and non-academic impact
- 4) Identify some ideas on how to promote and achieve non-academic impact
- 5) Explore the needs of developing a ranking of publications which can suit your individual country or context.

# Introduction- Landscape of Research in Universities Now...

..in the past, teaching is the main professional pursuit of university academia

In 21<sup>st</sup> century- RESEARCH for Innovation is the new academe research as pivotal in maximizing institutional, cultural and societal wealth  
funding agencies, governments and the public society scrutinize how researchers translate their research results and reflection into impacts to relevant stakeholders.



# So.....

How best should we evaluate the performance of researchers, their outputs and impacts?

Should measurements be contextual in its formulation and form due to the disparate disciplinary demographics?

Could we develop inclusively common distinctions as what is generally and scholarly acceptable as an impact?

# Some existing metrics and tools

## Matures from the Leiden Manifesto

- Research Assessment Exercise (RAE)
- Research Excellence Framework (REF) in Europe
- The International School on Research Impact Assessment (ISRIA).

RAE – 1986, 1989, 1992, 1996, 2001, 2007  
It was then replaced by REF in 2014

While RAE and REF focus on European researchers and institutions, ISRIA (Adam et.al, 2018) spreads its tools to various regions including the Australia, Canada, United States, Europe and several countries in Asia such as Iran (Yazdizadeh et.al, 2016) and Qatar (Grant et.al, 2013).

# RAE

## Data requirements and definitions

General definitions

Section 1 Staff details (RA0 and RA1)

Section 2 Research outputs (RA2)

Section 3 Research students and studentships (RA3a and RA3b)

Section 4 Research income (RA4)

Section 5 Research environment and esteem (RA5a), individual staff circumstances, (RA5b) and Category C staff circumstances (RA5c).

# REF

## Assessment Criteria of REF 2021

Criteria	Weightage
Outputs	60%
Impact	25%
Environment	15%



# ISRIA

- Founded in 2013 by Jonathan Grant (King's College, London, UK), Paula Adam (AQuAS, Spain) and Kathryn Graham, (Alberta Innovates, Canada) in 2013
- It was introduced due to the growing demand for skilled people who can access the impact of research investments and activities

Nonetheless, a specific sub-region that has left obscured, beyond the microscope of research evaluation is **South East Asia (SEA)**!



Nikkei Asian Review, 2018



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Most countries in SEA are fostering research and innovation for the purpose of **economic growth, innovation and sustainable development**.

Governments of these countries may also crave for **blue-skies research**. Yet due to limited budget and pressing priorities, their focus is more honed toward **solutions for the real-world issues -flood controls, anti-corruption policies and framework, cultural and heritage preservation, water and energy usage or entrepreneurial-based innovation**.

Governments provide funds for universities' researchers to focus on not only generating **academic publications** for the grants they received, but also **contributing to the progress of culture, socio-economic enhancement, and environmental sustainability**.

Hence, it is critical to design and implement trainings for developing a critical mass of **researchers who is empowered to perform research** in tandem with the needs of SEA.



World of Buzz, 2018

# RESEARCH ENVIRONMENT

understand the importance of having the right research environment that support research performance

# Research Assessment Exercise (RAE)

- 1) RAE – 1986, 1989, 1992, 1996, 2001, 200
- 2) It was then replaced by REF in 2014
- 3) Part 3 Section 5 Research environment and esteem (RA5a)
  - information about the HEI's strategic investment in the UOA
  - their strategies for promoting and developing research staff, particularly those new to research
  - their strategies in relation to collaborative research with academic and non-academic bodies and with overseas HEIs
  - their strategies in relation to interdisciplinary research
  - the significance of their research on a range of academic and other audiences, including, where appropriate, practitioners, businesses and other users.

RA5a will also invite HEIs to describe where marks of esteem in research have been conferred upon the department, or individuals in the department, during the assessment period.

# REF 2021 - Institutional-level Environment Statement (REF5a)

## Institution:

## Unit of Assessment:

**Section 1. Unit context and structure, research and impact strategy** This section should provide evidence of the submitted unit's achievement of strategic aims for research and impact during the assessment period, and details of future strategic aims and goals for research and impact; how these relate to the structure of the unit; and how they will be taken forward

**Section 2. People** This section should provide evidence about staffing strategy and staff development within the submitted unit; support mechanisms for, and evidence of the training and supervision of, PGR students; and evidence of how the submitting unit supports and promotes equality and diversity.

**Section 3. Income, infrastructure and facilities** This section should provide information about the submitted unit's income, infrastructure and facilities pertaining to research and research impact.

**Section 4. Collaboration and contribution to the research base, economy and society** This section should provide information about the submitted unit's research collaborations, networks and partnerships, including relationships with key research users, beneficiaries or audiences; and the wider activities and contributions to the research base, economy and society.

# REF 2021 - Unit-level Environment Template (REF5b)

Institution:

Unit of Assessment:

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# Researcher Development Framework



# Domain C: Research Governance and Organisation

## **Professional conduct:**

Health and Safety

Ethics, principles and sustainability

Legal Requirements

IPR and Copyright

Respect and confidentiality

Attribution and co-authorship

Appropriate Practise

## **Finance, funding and resources:**

Income and funding generation

Financial management

Infrastructure and resources

## **Research Management:**

Research Strategy

Project planning and delivery

Risk management



- Facility – Research Management Centre
- Research publication and managing the distribution of the grant money
  
- Types of grant – FRGS, TRGS, LRGS

# What makes a research meaningful to the Performer and Stakeholders?



**Some research measures focus more attention to the results and therefore, volume and quantity of publications, graduated doctoral students and consultancy projects/earnings become a major thrust for individual researchers**

- The ones who receive stressful impacts are those who least excel.
- researchers at times are likened to soldiers
- the less performing ones based on specific criteria would be qualified as inferior and stumbled long into the “devil effect” (Thorndike, 1920).
- Others who saw such a ‘velcro effect’ (Coombs and Halladay, 2001) would struggle harder in crossing the chasm of ‘publish or perish’ and later may resort to insecurities, burnout and overly-competitive work behaviours.



Royal Examiner, 2018

**Let's join the call for a more realistic outlook of incorporating the research input into measures of output and impact.**



**Leadership, communication and good administrative order have a more significant impact on the institutions and group of researchers in comparison to bibliometric data (Karlsson, 2017).**



# Research Environment .....

measure precursors of research outputs and impacts. In Malaysia as well as ISRIA (International School of Research Assessment, 2018), this similar measure is constructed as ‘research process’ or “guidelines for an effective process of research assessment’.

# Elements of Research Environment



# Elements of Research Environment

**Context analysis-** This can be assessed from both internal and external environments.

The internal environment -leadership or support from top management, research strategy, staff and students, equality and diversity, research income, research centre's support (Karlsson, 2017), infrastructure and facilities, collaboration and contribution to the discipline (Adam et.al, 2018) can become strengths or weaknesses.

A strong leadership committed to research for instance, commonly develop a sense of direction toward international visibility, social value through good ethical practice and inspiring working climate (Schmidt and Graversen, 2017).

Incorporate staff satisfaction survey to know their level of feeling supported (Thorpe et.al, 2017) .

Likewise, the external environment which universities could apply established frameworks such as PESTLE (political, economic, social, technology, legal and environmental) and STEEPLED (social, technological, economic, environmental, political, legal, ethical and demographic) to develop a crystal clear mission, vision and strategies for research.

Researchers should be trained to be home-grown, encouraged to endeavour studies that benefit their contexts while the spill-overs could be relevant to larger contexts of the globe.

# Elements of Research Environment

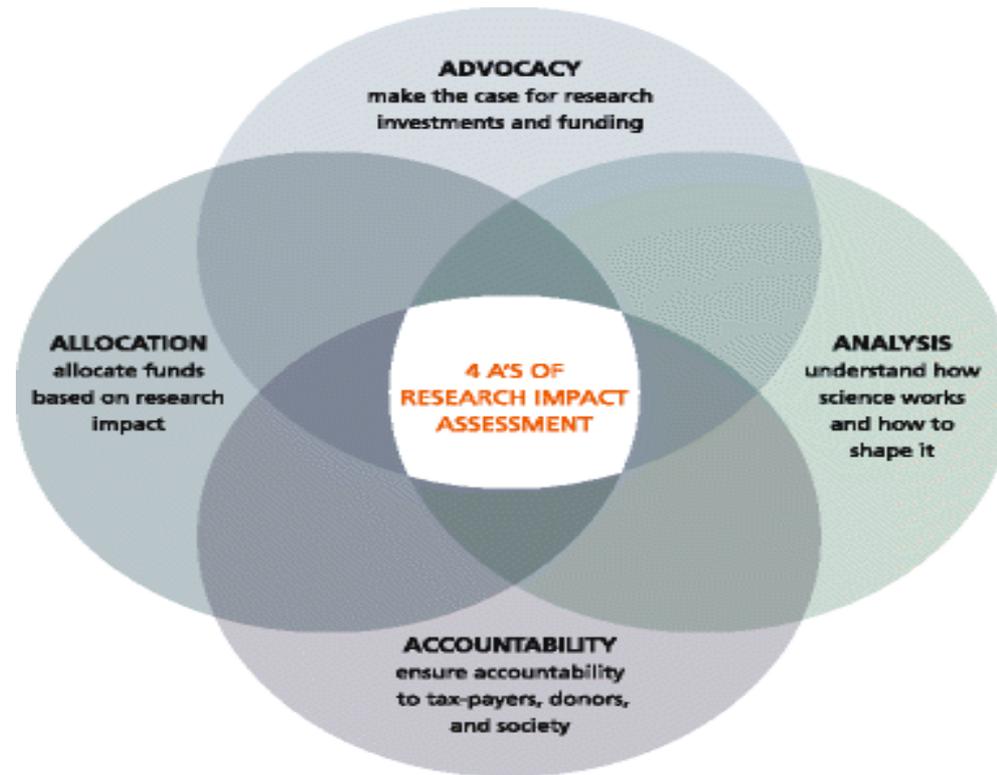
**Clarity of Purpose for Research.** A clear mission and strategy for research at the university and department level should enlighten a sense of purpose in pursuing any case for research.

At a time when funding organizations ask for impactful returns to specific stakeholders, researchers must be trained to identify their reasons to pursue any research. Adam et.al (2018) highlight four purposes of research assessment.

- **Advocacy**, that is when such panel of assessors **evaluate the needs** for studies in **specific** areas.
- **Accountability**- researchers must be reminded that they must be **responsible and accountable** to the tax-payers, donors, sponsors or even crowd-funders who ask for social rate of returns or cost savings.
- **Allocation**- is the research project able to provide returns from aspects of environment, socio-culture, technological advancement or political economy of such a specific context?
- **Analysis** on their individual studies' contribution and connectivity with other past, current and future work.

Researchers need to be upgraded in their skills to plan for regional and international collaboration as well as to strategize for impacts.

# Research Environment- From the start, identify the Research Impact...



# Elements of Research Environment

**Identification of Stakeholders and their Needs.** Research is not a personal indulgence. It is a well-informed action to produce something of a greater value for the individual researchers, collegiate, their institutions and the larger universe of other organizations and context.

Excellence in research at both institutional and individual level heavily depends on satisfying priority concerns of stakeholders. They can be funders, research participants, the beneficiaries and research users.

Engage with stakeholders as early as possible and communicate development as well as results of the project before, during and after the studies completed (Adam et.al, 2018).

Researchers need to equip themselves with the right interpersonal skills and inter-cultural competence.

# Elements of Research Environment

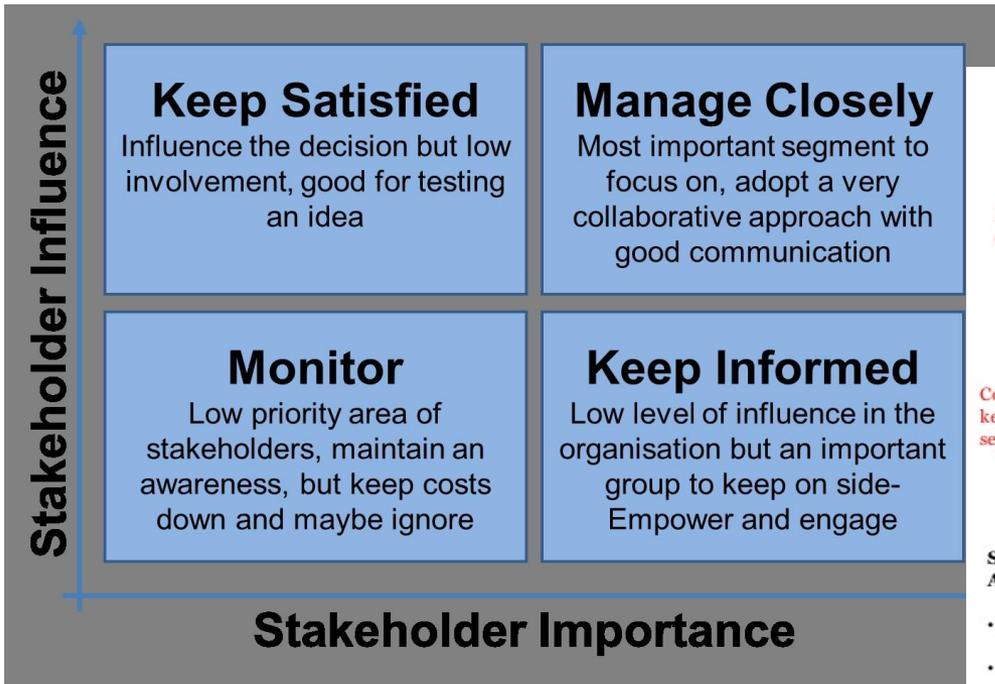
**Stakeholders.** With the recent trends toward participatory and transparent design of research, we need stakeholders in advocating our research journey and being part of owning the solutions.

We have to consider them even at the early stage of application process.

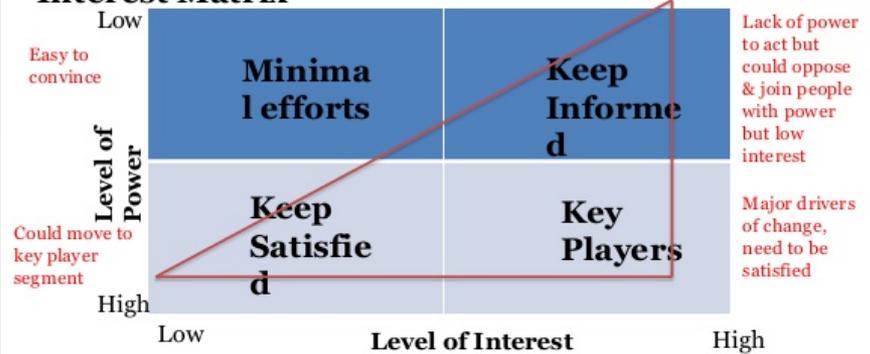
The Mendelow Matrix opens a window for us to analyse our engagement with stakeholders on the bases of power or influence and interests.

For projects involving social impacts such as those concerning environment, cultural and heritage, it is crucial that researchers invite them before, during and after the studies in a participatory manner. In this way, they would feel owning the issues, processes for closing social gaps as well as developing the solutions.

# Elements of Research Environment..how to prepare Impacts from the Start Through Mendeleley Matrix



**Stakeholder Analysis - Mendelow's Power Interest Matrix**



**Stakeholder Power Analysis**

- Identify key stakeholders
- Establish their interests and claims on the organization
- Determine the amount of power each group holds

**Sources of Stakeholder Power**

- Positional Power
- Resource Power
- System Power
- Expert Power
- Personal Power

**Resolving Stakeholder conflict - Cyert & March Model**

- Satisficing
- Sequential Attention
- Side Payment
- Exercise of Power

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# Developing the Right Underlying Research Agenda

One of the most rewarding aspects of a career in academia is generating new knowledge. This leads academics to engage in research.

In Malaysia for instance, the Ministry of higher education introduced MyRA: an acronym for the Malaysian Research Assessment Instrument in assessing the quality of research undertaken at every university in Malaysia. It is a comprehensive system developed to assess the research capacity and performance of all Higher Education Institutions (HEIs) in Malaysia.

# Developing the Right Underlying Research Agenda

Due to the importance of research in academia, we can clearly see the continual global expansion of university being classified as Research University and Teaching University.

These classifications were made due to the understanding that nations with strong research universities are better able to compete in the international marketplace of ideas and innovation (Altbach and Balán, 2007).

Therefore, university in the ASEAN countries need to instil the right research culture to promote research agenda for public and private university.

# Characteristics and Requirements of a Successful Research Culture

Fussy (2017) identified four complementary characteristics that make research prosper in universities.

1. Dedication to research
2. Talented academic staff and students
3. Favourable and efficient governance
4. Sufficient resources for efficient research and learning

# Characteristics and Requirements of a Successful Research Culture: 1. Dedication to Research

## 1. Dedication to Research

Successful research institution prioritises research as equal to teaching and community service.

They are committed to the production, dissemination and translation of excellent research from various fields and disciplines that engaged their teaching/learning to community and industry.

Successful research institutions are involved in the production of basic and applied research, deliver research-led undergraduate teaching and learning, run extensive postgraduate research programmes and leverage local and international research networks and partnerships

# Characteristics and Requirements of a Successful Research Culture

## 2. Talented academic staff and students

One of the most essential conditions in developing successful research institutions is having a pool of talented and committed members of academic staff and students. Most of the academic staff members from these successful research institutions possess the advanced academic qualifications from highly respectable universities, which provide them with confidence and skills to undertake research. Students are familiarised with the research culture thus have more advantage to engage in research. Talented students are central for successful research institutions to facilitate the performance of ground-breaking research.

# Characteristics and Requirements of a Successful Research Culture

## 3. Favourable and efficient governance

having a political strength to withstand external interference and encumbered government policies where their leaders have autonomy in making decisions concerning academic core activities, university policy and direction, recruitment and financial affairs

Which allows for effective management of resources and responding to the changing needs of the market. Hong Kong University of Science and Technology (HKUST) fame and innovative character is greatly attributed to the highly autonomous environment prevailing in the Hong Kong higher education system.

HKUST is not required to observe conventional practices that being observed by the other two public universities in the country such as uniformity in running degree programmes and recruiting faculty deans and students

# Characteristics and Requirements of a Successful Research Culture

## 4. Sufficient resources for efficient research and learning

efficient research and learning requires state-of-the-art libraries, classrooms, seminar rooms, high quality laboratories and the fastest internet connections, in order to easily communicate and access diverse and rich data

successful research universities are investing heavily in research and teaching infrastructures. The Bodleian Library at the University of Oxford, for example, is the UK's largest and most prestigious university library. It holds about 11 million volumes of library collections and grants more opportunity for accessing online databases and publications than any other UK universities

# Characteristics and Requirements of a Successful Research Culture

## 4. Sufficient resources for efficient research and learning

Top-ranking countries that produce ground-breaking research allocate a considerable amount of GDP to research and development (R&D).

The United States leads with the allocation of 28%, followed by China (19.6%), Japan (9.6%), Germany (5.7%), Republic of Korea (4.4%) and the UK (2.5%).

Building successful research institutions is a continuing series of planned policies and actions that eventually produce desirable outcomes and make some institutions and countries more prominent and successful in research than others.

# Strategies to Develop Research in Higher Education

The strategies involve:

- i. Government initiatives and
- ii. Institutional initiatives



# Strategies to Develop Research in Higher Education

## i. Government Initiatives

Fussy (2017) explains that policymakers, national education leaders and university leaders pay attention to four key initiatives in their endeavours to develop university research: mission differentiation, deregulation of governance, criterion referenced faculty recruitment and promotion systems as well as mixed funding structure.

- a. Mission Differentiation
- b. Deregulations of Governance
- c. Criterion-Referenced Faculty Recruitment And Promotion Systems
- d. Mixed Funding Structure

# Strategies to Develop Research in Higher Education

## i. Institutional Initiatives

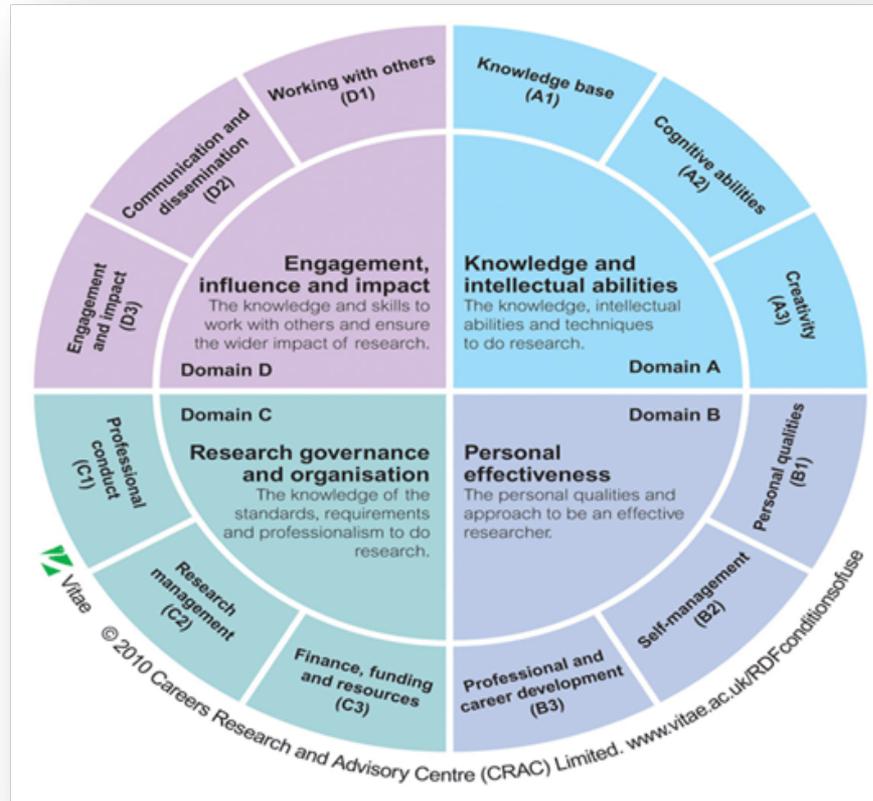
Institutions commonly use initiatives to spur agenda in research. Such efforts include :

- a. Mentoring early career researcher
- b. Institutional Collaboration and Networking
- c. Instituting postgraduate and professional development programmes

# Training on Research from UK University

- Universities in UK, used Research Development Framework (RDF) in instilling and assisting academic researcher in research.
- The Researcher Development Framework (Figure 4) is a professional development framework for planning, promoting and supporting the personal, professional and career development of researchers in Higher Education.
- It summarises the knowledge, behaviours and attitudes of effective and highly skilled researchers, with the aim to aid them to know, plan for and realise their potential

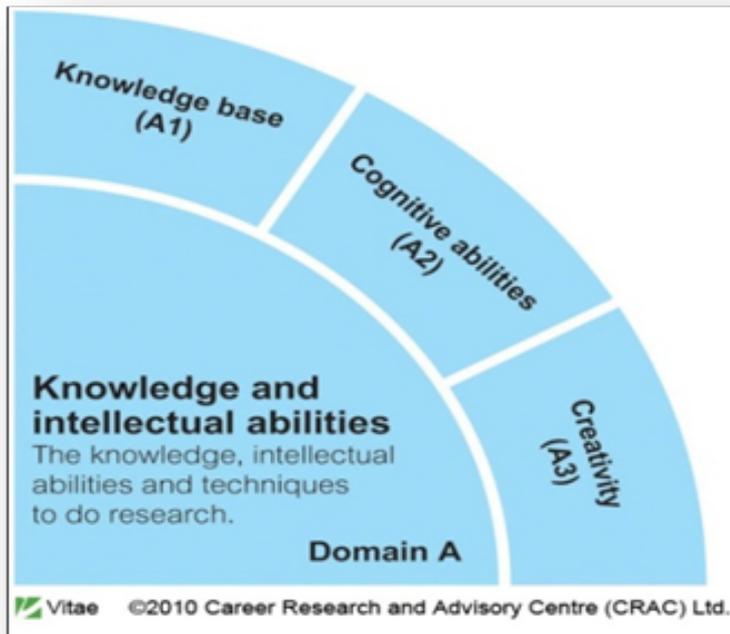
# The Researcher Development Framework



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# Researcher Development Framework:

## Domain A - Knowledge and Intellectual Abilities



A1: Knowledge  
Base

A2: Cognitive  
Abilities

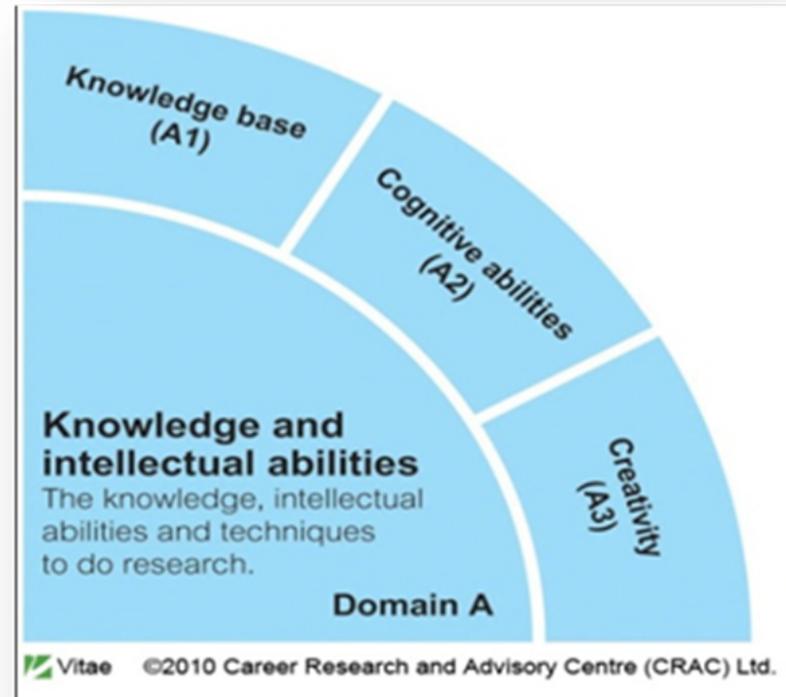
A3: Creativity

# Researcher Development Framework:

## Domain A - Knowledge and Intellectual Abilities

### A1: Knowledge Base

1. Subject Knowledge
2. Research Methods: Theoretical Knowledge
3. Research Methods: Practical Application
4. Information Seeking
5. Information Literacy and Management
6. Languages
7. Academic literacy and numeracy



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

## Domain A: Knowledge and intellectual abilities

This domain contains the knowledge and intellectual abilities needed to be able to carry out excellent research

### A1 Knowledge Base

<b>1. Subject Knowledge</b>	Has, at least, core knowledge and basic understanding of key concepts, issues and history of thought. Knows of recent advances within own research area and in related areas. (A3)*  Is working towards making an original contribution to knowledge.  Is developing a broader awareness of international and non-academic aspects of knowledge	Develops detailed and thorough knowledge/understanding of own and related subject areas – and becomes familiar with associated areas in other disciplines/research areas.  Demonstrates link between own research and real world affairs. Situates knowledge in international context.	Stimulates new knowledge; may make outstanding breakthroughs. Considers multiple perspectives.  Has deep and holistic understanding of strategic direction and intellectual developments of discipline/research area and its inter-relatedness with other disciplines/research areas.  Uses this knowledge to enrich own discipline/research area.  Contributes to the integrity and future vibrancy of the discipline/research area.  Exercises international influence.
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Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

## Domain A: Knowledge and intellectual abilities

This domain contains the knowledge and intellectual abilities needed to be able to carry out excellent research

### A1 Knowledge Base

<p>2. Research methods – theoretical</p>	<p>Understands relevant research methodologies and techniques and their appropriate application within own research area. (A4)* Justifies the principles and experimental techniques used in own research. (B6)*</p>	<p>Appreciates the value of a range of standards and methods/techniques for information/data collection and analysis; assesses and demonstrates usefulness and validity of information/data in the context of a specific problem or question</p>	<p>Combines and justifies methods/techniques designed specifically for an investigation in a flexible and vigorous manner</p>	<p>Recognises the value of alternative research paradigms and is able to work in, and support others working in, an interdisciplinary way.</p>
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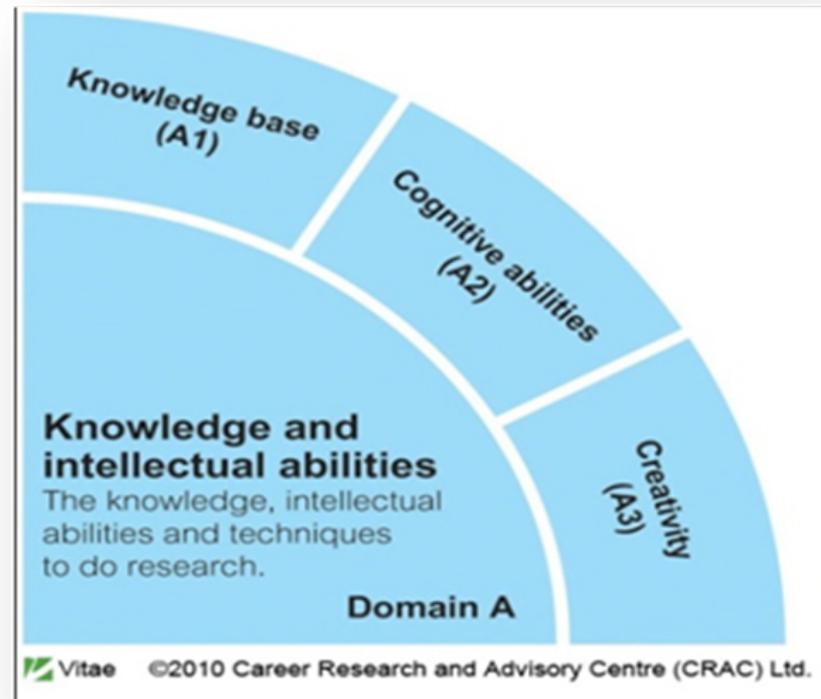
Please refer to pg. 28-33 for details



# Researcher Development Framework: Domain A - Knowledge and Intellectual Abilities

## A2: Cognitive Abilities

1. Analysing
2. Synthesising
3. Critical Thinking
4. Evaluating
5. Problem Solving



Sub-domains and descriptors	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
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**Domain A: Knowledge and intellectual abilities**

This domain contains the knowledge and intellectual abilities needed to be able to carry out excellent research

**A2 Cognitive Abilities**

1. Analysing	Critically analyses and evaluates own findings and those of others. (A5)* Validates datasets of others.	Has well developed analytical abilities with knowledge of a range of methods. Willing to learn new ones. Develops the analytical understanding of less experienced researchers and staff.	Has outstanding analytical abilities
1. Synthesising	Sees connections between own research and previous studies.	Critically synthesises new and complex information from diverse sources.** Recognises patterns and connections beyond own discipline/research area	Makes imaginative leaps of understanding across disciplines/research areas/agendas and beyond academia

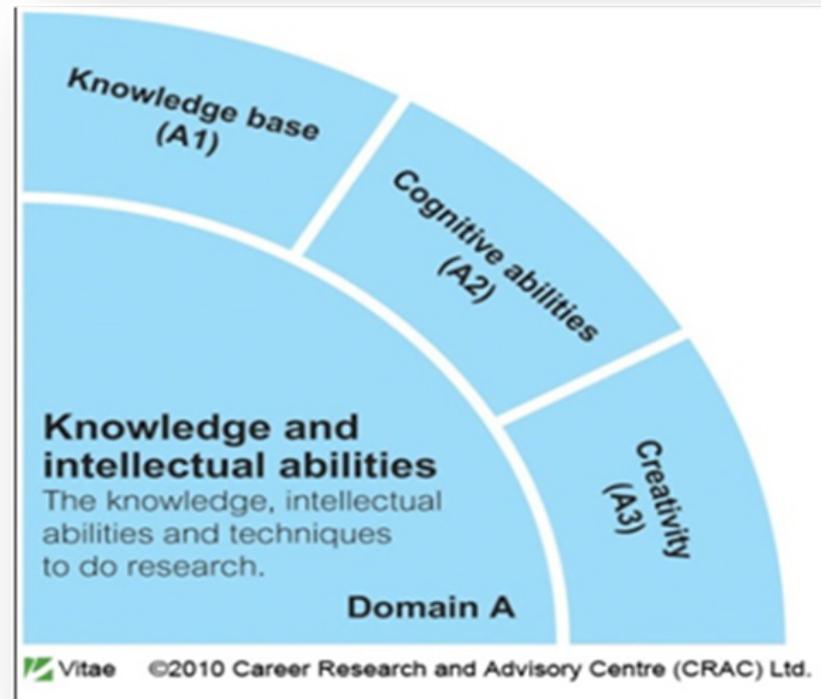
Benefits from guidance with

Please refer to pg. 34-36 for details

# Researcher Development Framework: Domain A - Knowledge and Intellectual Abilities

## A2: Creativity

1. Inquiring Mind
2. Intellectual Insights
3. Innovation
4. Argument Construction
5. Intellectual Risk



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

### Domain A: Knowledge and intellectual abilities

This domain contains the knowledge and intellectual abilities needed to be able to carry out excellent research

#### A3 Creativity

##### 1. Acquiring

Demonstrates a willingness and ability to learn and acquire knowledge. (D1)\*

Demonstrates flexibility and open-mindedness. (D3)\*

Develops a style of questioning

Identifies and asks useful, challenging questions; always curious.

Sees beyond immediate questions to unexplored areas. Confidently enquires, challenges and questions.

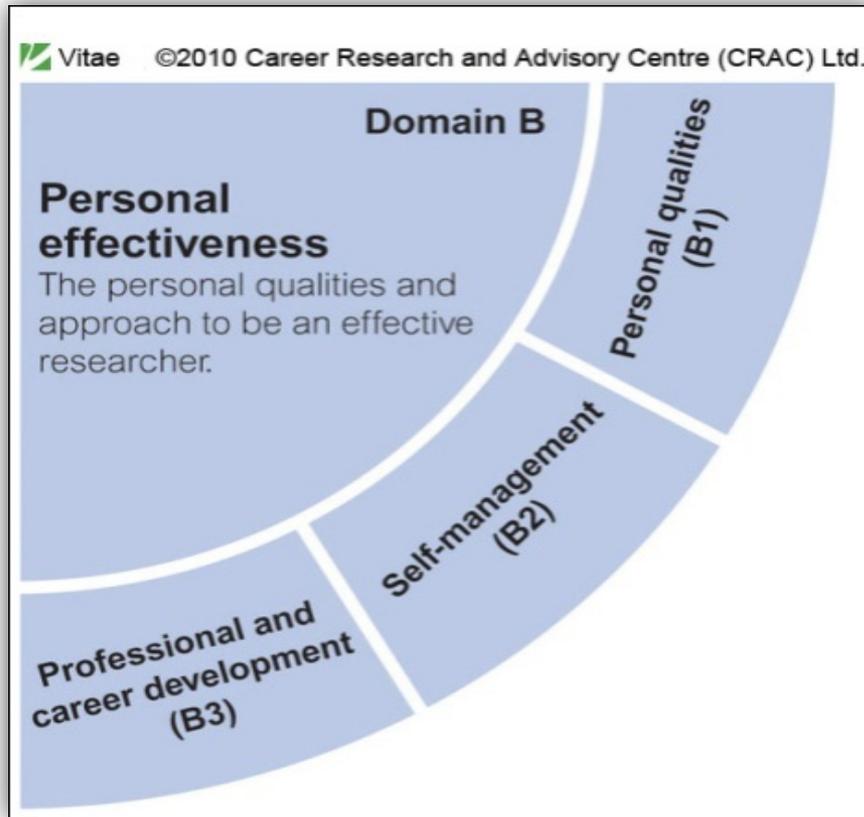
Anticipates cutting-edge questions. Encourages challenge and inspires curiosity

Please refer to pg. 36-38 for

questioning  
technique.

# Researcher Development Framework:

## Domain B - Personal Effectiveness



B1: Personal  
Qualities

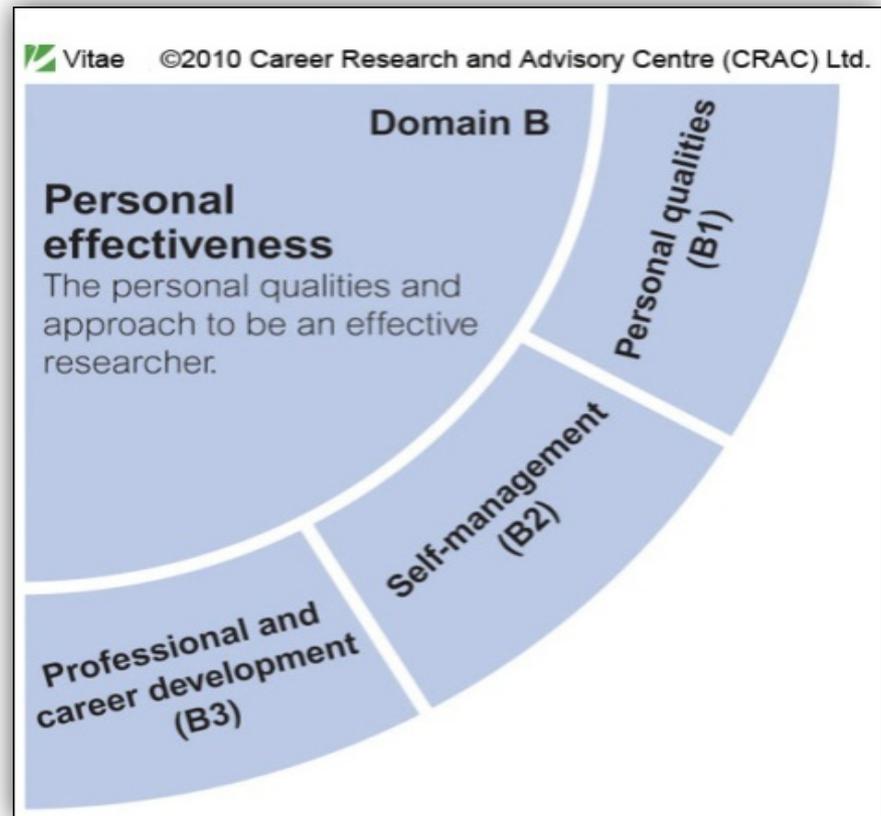
B2: Self-  
Management

B3: Professional  
and Career  
Development

# Researcher Development Framework: Domain B – Personal Effectiveness

## B1: Personal Qualities

1. Enthusiasm
2. Perseverance
3. Integrity
4. Self-Confidence
5. Self-Reflection
6. Responsibility



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

### Domain B: Personal Effectiveness

This domain contains the personal qualities, career and self-management skills required to take ownership for and control of professional development.

#### B1 Personal Qualities

1. Enthusiasm	Maintains enthusiasm and motivation for own research. Recognises the need for passion and pride in own work. Is highly motivated even when work is mundane.	Is passionate about research: enthuses others; inspires enthusiasm in the discipline/research area.		Inspires communities of international researchers.
2. Perseverance	Demonstrates self-discipline, motivation and thoroughness. (D5)* Perseveres in the face of obstacles and set-backs but benefits from peer, supervisor or leader support. Is developing some resilience. Deals effectively with the	Perseveres through difficulties while supporting others. Is resilient.	Perseveres steadfastly and leads the way for others.	Dedicated and stimulated by obstacles and challenges.

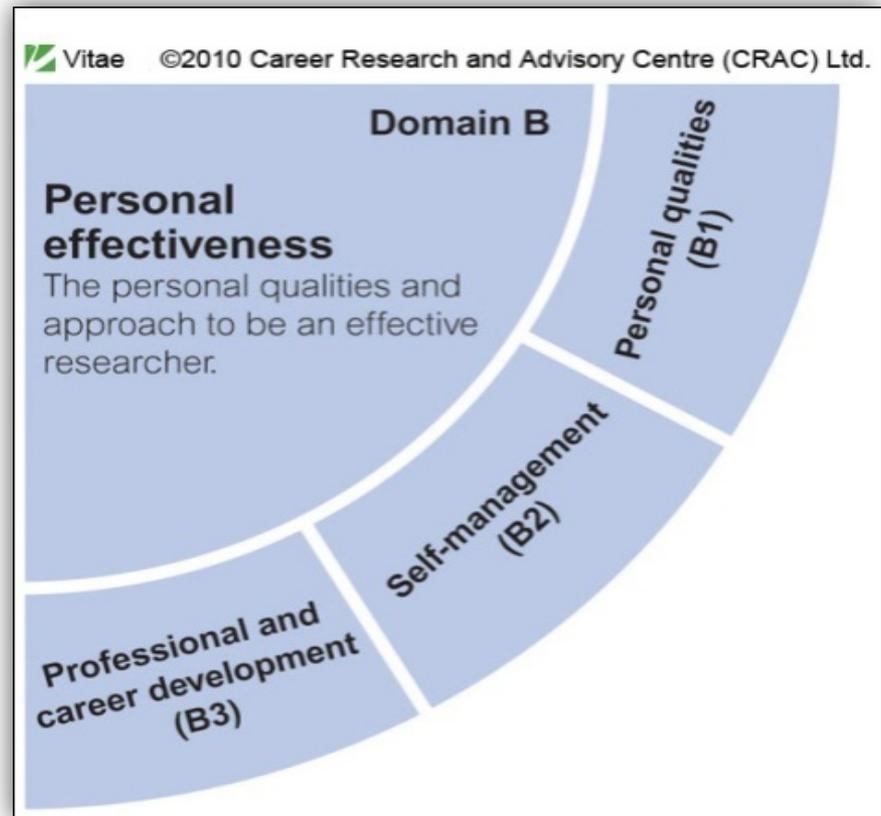
Please refer to pg. 39-41 for details.



# Researcher Development Framework: Domain B – Personal Effectiveness

## B2: Self-Management

1. Self Preparation & Prioritisation
2. Commitment to Research
3. Time Management
4. Responsiveness to Change
5. Work-Life-Balance



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

### Domain B: Personal effectiveness

This domain contains the personal qualities, career and self-management skills required to take ownership for and control of professional development.

### B2. Self Management

1. Self  
Preparation  
and  
Prioritisation

Prepares and plans project to meet objectives and, with support, is able to adapt if necessary.

Takes strategic view of project; prioritises, plans and is forward thinking; deals with the unexpected.

Anticipates future directions and trends in research, prepares for the unexpected. Recognises good ideas. Sees the gaps and opportunities in project plans and evaluates the changes needed.

Plans, balances and responds effectively and appropriately to change and the unexpected. Gives evidence for the need for change of priorities. Prioritises and switches focus between multiple projects/tasks. Influences environment; has long-term strategic vision

Please refer to pg. 41-43 for details

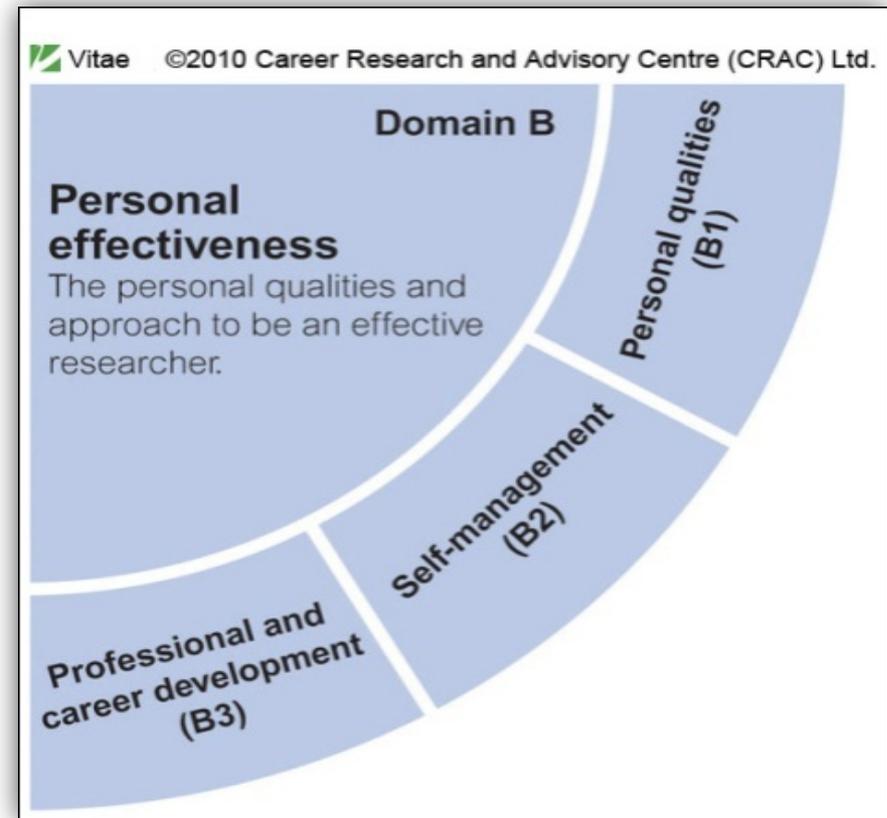


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# Researcher Development Framework: Domain B – Personal Effectiveness

## B3: Professional and career development

1. Career Management
2. Continuing Professional Development
3. Responsiveness to Opportunities
4. Networking
5. Reputation and Esteem



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

## Domain B: Personal effectiveness

This domain contains the personal qualities, career and self-management skills required to take ownership for and control of professional development.

### B3. Professional and career development

<p><b>1. Career Management</b></p>	<p>Takes ownership for and manages own career progression, sets realistic and achievable career goals, identifies and develops ways to improve employability. (G2)* Presents own skills, personal attributes and experiences through effective CVs, applications and interviews. (G4)* Begins to establish a career network.</p>	<p>Forms credible career plans;** critically reflects on experiences and pursues a cycle of self-improvement.** Seeks advice, guidance or coaching from appropriate professionals. Initiates and sustains networks and relationships that may encourage opportunities for employment.**</p>	<p>Is in process of establishing career trajectory; uses networks and coaching opportunities to manage own career. Actively develops less experienced researchers and staff. Coaches others for specific academic activities. Uses networks to enhance the employability of others.</p>	<p>Is an established researcher. Maintains career momentum. Extends and manages career networks. Acts as role model; creates opportunities for others and nurtures researchers' careers.</p>	<p>Is an exceptional career role model: an exemplar and inspiration to others. Engages in succession planning.</p>
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Please refer to pg. 44-47 for details

# Researcher Development Framework:

## Domain C – Research Governance & Organisation



C1: Professional Conduct

B2: Research Management

B3: Finance, Funding & Resources

# Researcher Development Framework: Domain C – Research Governance & Organisation

## C1: Professional Conduct

1. Health & Safety
2. Ethics, Principles & Sustainability
3. Legal & Requirement
4. IPR & Copyright
5. Respect & Confidentiality
6. Attribution & Co-Authorship
7. Appropriate Practice



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

## Domain C: Research Governance & Organisation

This domain contains the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research.

### C1. Professional Conduct

<p>1. Health and safety</p>	<p>Understands relevant health and safety issues and demonstrates responsible working practices. (B4)* Takes responsibility for own work space. Aware of impact on others and wider environment.</p>	<p>Recognises the significance and relevance of health and safety regulation and guidance. Sets example, can educate and advise peers and less experienced researchers/students. Takes responsibility for immediate work environment and people in it.</p>	<p>Sets expectations, educates, trains and guides peers and less experienced researchers in health and safety. Manages and takes responsibility for health and safety within department.</p>	<p>Determines departmental/local expectations on health and safety matters. Educates, trains, guides and disciplines students and staff. Determines institutional policy and/or contributes ideas to national policy.</p>	<p>Shapes policy and procedures of own institution, national or international professional associations/bodies</p>
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Please refer to pg. 48-52 for  
details

# Researcher Development Framework: Domain C – Research Governance & Organisation

## C2: Research Management

1. Research Strategy
2. Project Planning & Delivery
3. Risk Management



## Domain C: Research Governance & Organisation

This domain contains the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research.

### C2. Research Management

<p><b>1. Research Strategy</b></p>	<p>Aware of how own research aligns with the research strategy of the institution and strategic focus of the discipline/research area.</p> <p>Develops understanding of broader context of research.</p>	<p>Ensures research contributes to the discipline/research area and own institution and also to wider aims of all stakeholders, the public and the business sector</p>	<p>Shapes and influences broader research agenda.</p>
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Please refer to pg. 53-54 for  
details



# Researcher Development Framework: Domain C – Research Governance & Organisation

## C3: Finance, Funding & Resources

1. Income & Funding Generation
2. Financial Management
3. Infrastructure & Resources



Sub-domains  
and  
descriptors

Phase 1

Phase 2

Phase 3

Phase 4

Phase 5

### Domain C: Research Governance & Organisation

This domain contains the knowledge of the standards, requirements and professional conduct that are needed for the effective management of research.

### C3. Finance, Funding & Resources

#### 1. Income and funding generation

Understands the processes for funding and evaluation of research. (B5)\*  
Writes own research proposal.

Has broad awareness and knowledge of key relevant funding sources and grant application procedures.\*\*  
Recognises the significance of income and funding generation for own institution.  
Applies for small grants/fellowships successfully.

Aware of wider economic context. Understands funding complexities and variety of sources for funding. Educates, advises and guides others on income and funding generation.  
Applies for increasingly larger grants, seeking alternative sources. Engages in income generation for own institution.  
Supports funding applications led by others.

Influences funding policy within the HE sector and professional associations/bodies.

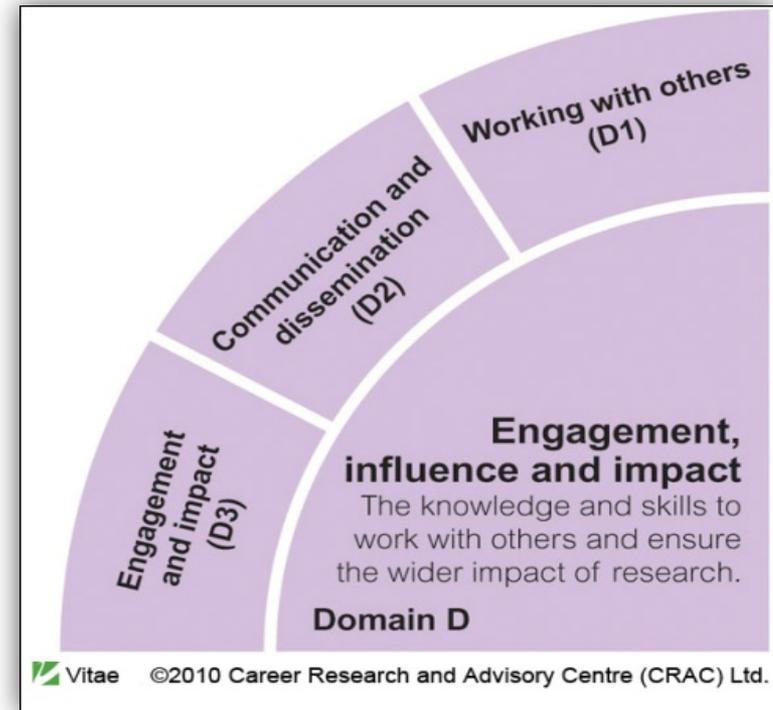
Please refer to pg. 55-56 for details



# Researcher Development Framework: Domain D – Engagement, Influence and Impact

## D1: Working With Others

1. Collegiality
2. Team Working
3. People Management
4. Supervision
5. Mentoring
6. Influence & Leadership
7. Collaboration
8. Equality



## Domain C: Engagement, Influence & Impact

This domain contains the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural and economic context.

### D1. Working With others

1. Collegiality	Shows consideration to others.  Listens, gives and receives feedback and responds perceptively to others. (F3)*	Is approachable, demonstrates interpersonal sensitivity.  Ensures everyone has a shared understanding.	Keeps people informed of wider institutional issues.  Promotes collegiality, regardless of status.  Engages in supportive peer review with colleagues.	Exemplar for collegial behaviour in department/institution.  Cascades knowledge.  Solicits and attends to feedback from colleagues at all levels.
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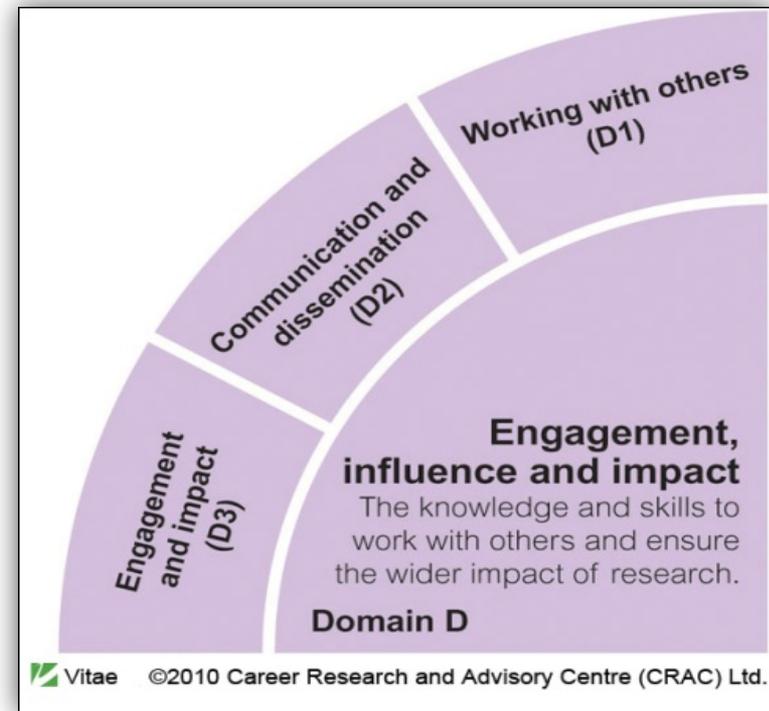
Please refer to pg. 58-63 for  
details



# Researcher Development Framework: Domain D – Engagement, Influence and Impact

## D2: Communication and Dissemination

1. Communication  
Method
2. Communication  
Media
3. Publication



## Domain D: Engagement, Influence & Impact

This domain contains the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural and economic context.

### D2. Communication and Dissemination

<p>1. <b>Communication methods</b></p>	<p>Constructs coherent arguments and articulates ideas clearly to a range of audiences, formally and informally, through a variety of techniques. (E2)*</p> <p>Actively engages in knowledge exchange and debate with colleagues, sometimes between disciplines/research areas.</p> <p>Appreciates the skills of rhetoric.</p>	<p>Presents work confidently. Able to persuade others, asking timely and appropriate questions.*</p> <p>Can communicate research effectively to a diverse and non-specialist audience.</p> <p>Recognises the value of ideas from outside academia and incorporates them where appropriate.</p> <p>Actively engages in inter-disciplinary knowledge exchange.</p>	<p>Eloquently makes the complex accessible.</p> <p>Demonstrates incisive interrogative and interview techniques.</p> <p>Actively engages in knowledge exchange with the public, business, industry, the professions and other users of research.</p>	<p>Varies approach and presents research to professional peers/expert and non-expert audience in an inspirational way.</p> <p>Produces finely honed argument rapidly.</p>
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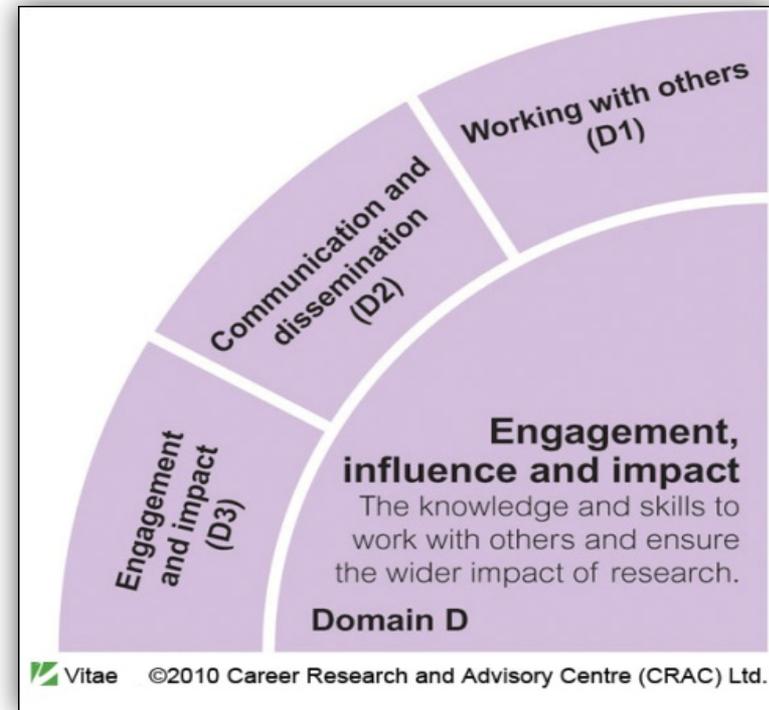
Please refer to pg. 64- 65 for details



# Researcher Development Framework: Domain D – Engagement, Influence and Impact

## D3: Engagement & Impact

1. Teaching
2. Public Engagement
3. Enterprise
4. Policy
5. Society & Culture
6. Global Citizenship



## Domain D: Engagement, Influence & Impact

This domain contains the knowledge, understanding and skills needed to engage with, influence and impact on the academic, social, cultural and economic context.

### D3. Engagement & Impact

Sub-domains	Phase 1	Phase 2	Phase 3	Phase 4
1. Teaching	<p>Contributes to teaching at undergraduate level.</p> <p>Assists in the supervision of undergraduate projects.</p> <p>Participates in research meetings</p>	<p>Has a developing awareness of own teaching style and techniques.</p> <p>Is involved with the assessment of student knowledge and supervision of projects.</p> <p>Assists in the development of student research skills.</p>	<p>Improves own approach and develops wider repertoire of teaching styles and techniques.</p> <p>Contributes to and manages the teaching and learning</p>	<p>Leads teaching programmes and their evaluation/quality assurance procedures.</p> <p>Pursues opportunities to develop research-informed teaching.</p> <p>Actively encourages and promotes a culture that links research and teaching.</p> <p>Mentors supervisors of postgraduate researchers.</p>

Please refer to pg. 66- 72 for details



# Collaborative Research Projects

In a recent study, Zoogah et al. (2015) describe how institutional environment, resources, level of involvement by universities, institutions, and individuals are the most important drivers of high-impact research, while we posit that level of involvement is the most critical success factor in collaborative research projects. The level of involvement should be high when a local university plans to collaborate with the foreign university. These schemes are special purpose instruments, wherein universities have leverage over direct participation, research output, research grants, and research publications (see Kantola and Kettunen, 2012; Li et al., 2014; Schroder et al., 2014).

# Collaborative Research Projects

For example Malaysian university has signed a collaborative research agreement with the Indonesia and Thailand University.

First, there will be an exchange of ideas among faculty members who participate in the project. This allows local faculty members both to share their own thoughts and experiences, and to improve their research skills in specific domains.

Second, research grants can be shared among participant universities (e.g. co-funding), and research output eventually disseminated by

**publishing in journals and books.**



This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein



# Collaborative Research Projects

Lastly, local faculty members who participated in collaborative research projects may guide their colleagues and doctoral students toward better progress in research projects and publications.

Thus, universities may promote international collaboration not only in project handling but also in course development, teaching methods, quality assessment process, infrastructure development, and faculty recruitment and training.

To the best of our experiences, Chinese universities are successful examples for India, thus for establishing world-class universities by encouraging joint venture and partnership schemes in higher education.

<https://www.youtube.com/watch?v=CCVy7OxThGo>

# Social Dimensions that Motivate Social Impact Assessment

Impact on community and society

The role of consultancy

For the individual, the department and the university,  
how to maximise non-academic impact

Business and industry

Government and policy making

Environment

Cultural and heritage

# Impact on community and society

One may relate research impact to society to the improvement in the 'quality of life' which may enhance society's well-being, which includes but not limited to human understanding and world view, wealth and prosperity, basis for decision-making and also practice development.

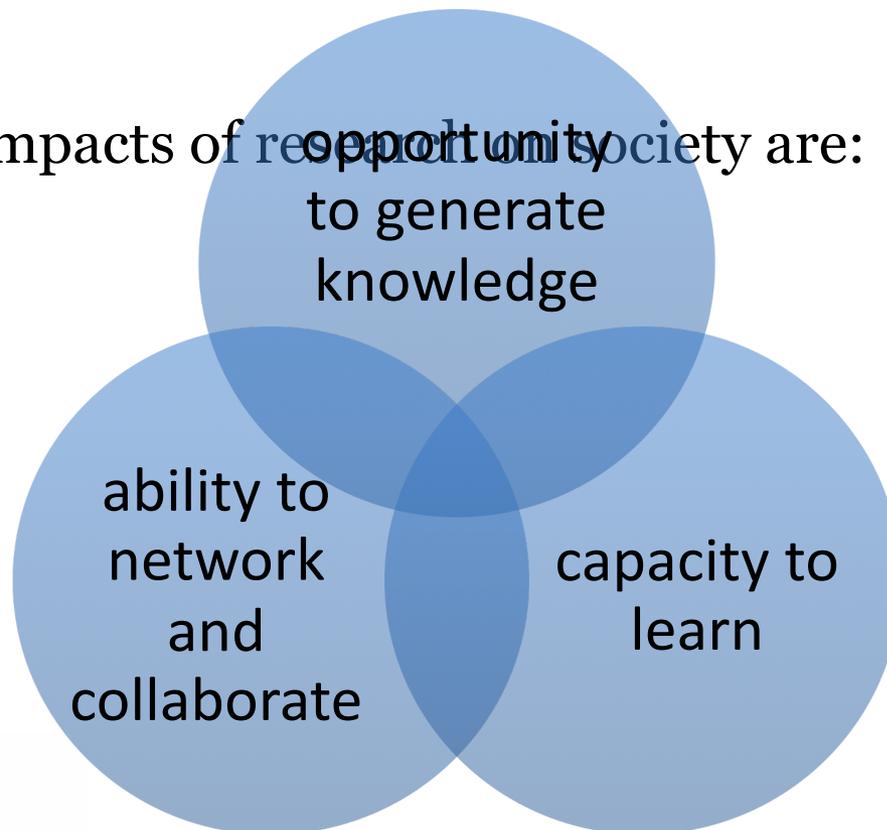
# Impact on community and society

*“From the community-based research perspective, a reality exists that is influenced by social, political, economic, cultural, ethnic, and gender factors that crystallize over time; the researcher and the participant are interactively linked; findings are mediated by values; and the transactional nature of research necessitates a dialogue between the investigator and participants in the inquiry.”* Israel et al. (1998)



# Impact on community and society

Among the impacts of research on society are:



# Impact on community and society

A proposed tool to rate the impact of research publications on society is calculated from the evaluation of research project, whereby ratings will be determine based on the following factors:

the aim of the  
published  
research

the extent to  
which authors  
attempt to  
translate their  
scientific  
findings into  
societal action

the level, status  
and target group  
of the research  
project's  
translation



# The role of consultancy

Consultancy provides a link to the outside, non-academic world which can enrich academics' own knowledge and experience of that world.

With consultancy, the academics will be in contact with entrepreneurs and businesses, and are a route to impact.

# For the individual, the department and the university, how to maximise non-academic impact

The non-academic networks, linking the academic to businesses and senior people in the public sector is also very important in maximizing the impact itself.



# For the individual, the department and the university, how to maximise

Arrange regular reception at the university inviting local and national businessmen

Keep a record of non-academic impacts, which can be evaluated when considering promotions

Arrange annual impact awards ceremony

Mentor-mentee: elder academics with good contacts helps the young academic



# Business and industry

Research provides opportunities to generate knowledge and capacity to learn ability to network and collaborate.

Determinants of customers' demand, factors affecting competitors' success, predictors to future markets, challenges and problems in business growth are all requires facts and figures from business research.

# Business and industry

In applied research projects, focuses mostly goes on development of industrial tools, prototypes, products, and production process.

In some contexts of SEA such as Malaysia, there is also growing trend of professors turning into university-entrepreneurs by opening their own spin-offs or start-ups with support from the universities' innovation centres.

# Government and policy making

To ensure dissemination of research impact and evidence, the policy-makers should also be ensured to understand the effects and impact of research and the potential it carries.

This is important as many decisions at national and international levels are depending on the policy making process, which in turn will affect the political, economic and social aspects.

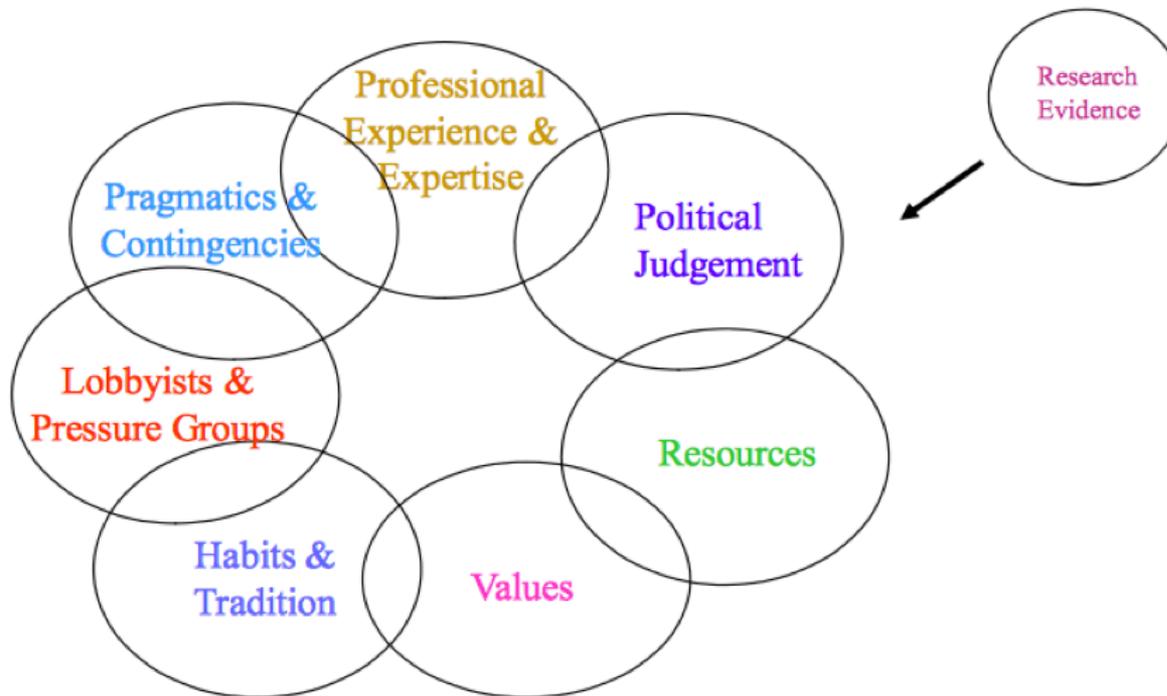
# Government and policy making

Prior to measure the impact of research to policy maker, public and respective stakeholders need to understand that research provide results from the investigation and exercise conducted using methodological tools and appropriate models.

The results from the research helps policy makers interpret data, set targets, predict change, and mitigate unforeseen risk.

# Government and policy making

Inputs



# Environment

Understanding of ecosystem services in environmental systems is needed prior to measuring research impact on environment  
Reason to conduct environmental research? : to improve our knowledge to improve and sustain the mother nature.

# Environment

Therefore, it is more straightforward to measure environmental effects and impacts at the product, user or household level than to measure it at the industry or national level.

Sala et al., (2012) suggests three main areas where environmental research impacts can be evaluated; which are human health, the natural environment (ecosystems) and natural resources.

# Environment

Environmental impact may also be differentiated between direct and indirect impacts.

Direct impacts	Indirect impacts
measured by influence to a quantitative change of environmental pressure, such as the use of material, land, water and of the level of emissions of CO2 and other harmful substances	measured by influence tangible products, infrastructures and individual or collective practices that cause measurable environmental pressures

(Miedzinski et al., 2013)

# Cultural and heritage

“a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time”

Council of Europe (2005)

# Cultural and heritage

Research impact on culture and society is diverse, can be measured in different ways and not confined to the arts and humanities.

The most important question in measuring the impact is to define “effect of what?”.

The growing interest of research focusing on cultural heritage has caused variety of methods in assessing the non-research impact.

# Cultural and heritage

However, most of the impacts are only focusing on the economic dimension.

It is essential if one's could also consider promoting educational, social and archaeological and aesthetic values which then will give impacts and provide benefits for the community.

<https://www.ox.ac.uk/research/research-impact/ref-2014-results/research-with-impact?wssl=1>  
<https://www.manchester.ac.uk/research/impact/case-studies/>



# Research Impact

In general, ‘impact’ is commonly regarded as a synonym for benefit.

For academics, the word “impact”, is normally related with the research impact factor that is assigned to the journal in which the research report is published. Academic’s journal impact factor is computed based on the average number of citations that have been made to its recently published articles. The impact factor is an indicator of the important of a journal whereby journal with higher impact factors are considered better and has ‘value’ compared to those with a lower impact factor.

For practitioners, impact is “an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia” (HEFCE, 2011)

Impact is also about achieving “social, economic, environmental and/or cultural outcomes. This is not to be confused with impact in the academic domain, which is seen more as an indicator of the intrinsic quality of the research on scholarly or academic measures” (Australian Research Quality Framework, 2006).

while described impact as, "making a demonstrable difference in a non-academic context“ (Wolff, 2010) .

# Impact Zones



## Impact on community and society

Ones may relate research impact to society to the improvement in the 'quality of life' which may enhance society's well-being, which includes but not limited to human understanding and world view, wealth and prosperity, basis for decision-making and also practice development.



# Common Methodological Challenges In Measuring Impacts

Challenges	Measurement
Time lags	how do we assess the impact of research if it usually takes a long time for impact to occur? When is the right timing?
Attribution and contribution	how do we attribute particular impacts to particular research projects and researchers (and vice-versa) if research is often incremental and collaborative?
Marginal differences	how do we distinguish between high and low impact if there is no shared understanding of impact or assessment standards yet?
Transaction costs	how do we ensure that the benefits of RIA outweigh its costs if the assessment process can be costly and burdensome?
Unit of assessment	how do we determine an appropriate unit of assessment if research can be multi-disciplinary and multi-impactful?

*Adam et al. (2018)*

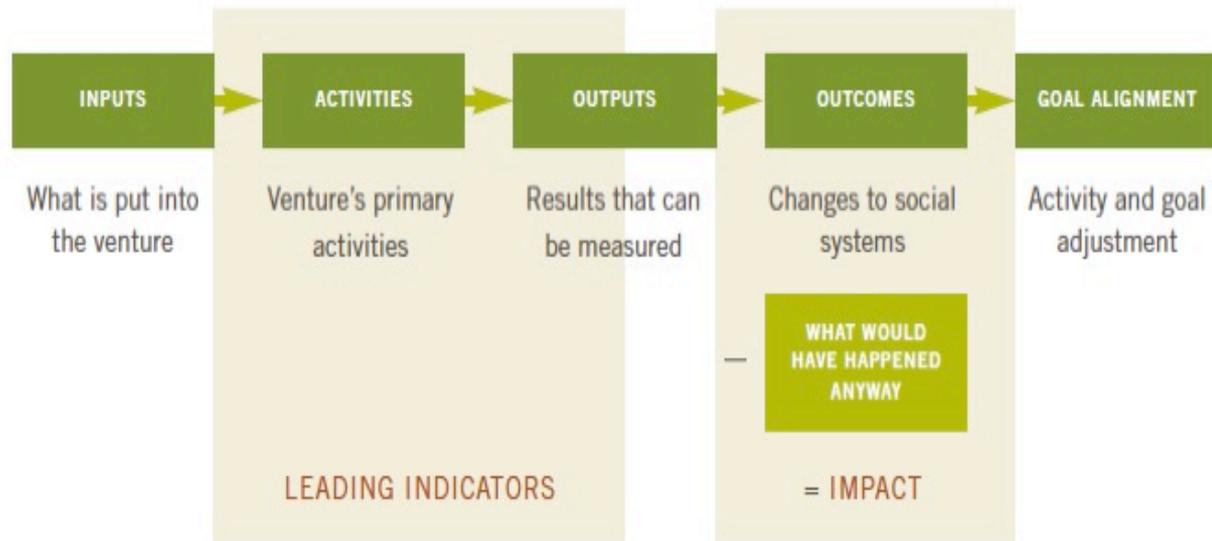
# Case Study of Universitas 21

- Universitas 21 (U21) was developed to lead the global network of research-intensive universities. Their main aim is to empower their members to share excellence, collaborate across borders and nurture global knowledge exchange.
- Founded in 1997 at the University of Melbourne with only 11 members' universities, it has grown to 26 members as of 2018. The members' universities are committed to promote the value of internationalisation and multinational collaboration through various means including research project.
- U21 also initiate numerous programmes, activities and initiatives, which could not be delivered through a single university. By having collaboration with various universities, impactful research would further enhance the reputation of U21 members' universities.
- To evaluate impact, thorough assessment was developed to measures how their members contributes to the parties beyond academia. Among the assessment units are summary of the impact, underpinning research, references to the research, details of the impact, and sources to validate the impact.
- Measuring, documenting, disseminating and publishing research impact are among the keys to running excel research projects and contribute to other parties outside academia.

# In assessing social impact, we could derive at some common concerns:

- Who are the stakeholders of the project/proposed action?
- Are project objectives consistent with their needs, interests and capacity?
- What social and cultural factors affect the ability of stakeholders to participate or benefit from the proposed policy or project?
- What will be the impact of the project or program on the various stakeholders, especially women and vulnerable groups?
- Are there plans to mitigate adverse impacts?
- What social risks might affect project or program success?
- What institutional arrangements are needed for participation and project delivery?
- Are there plans to build capacity at appropriate levels?

## Impact Value Chain

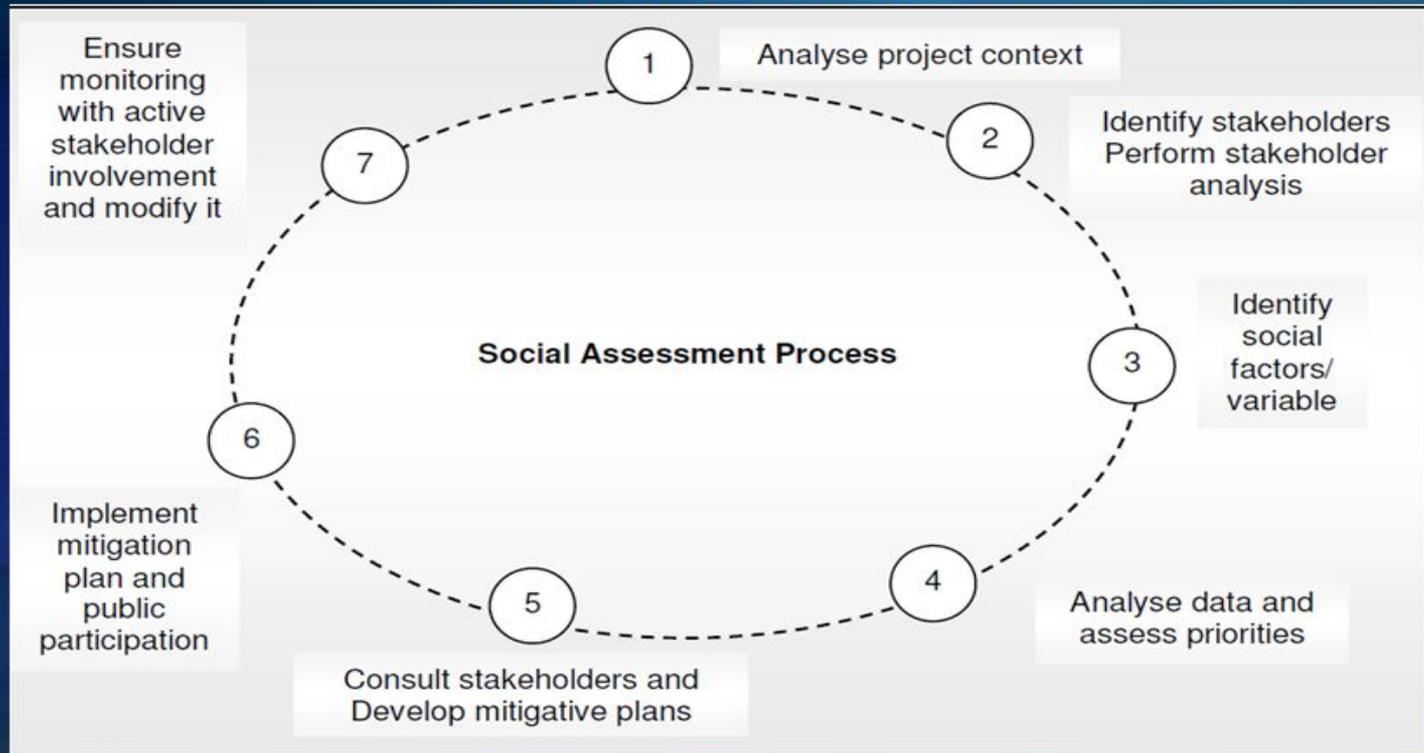


Based on the Impact Value Chain in *The Double Bottom Line Methods Catalog*, Clark, Roserzweig, Long and Olsen and The Rockefeller Foundation, 2003.

# There are several benefits for conducting Social Impact Assessment, namely:

- Identifying project/ programme stakeholders
- Identifying and prioritizing social issues associated with project
- Mitigating negative impact on communities or individuals
- Enhanced benefits to those affected
- Avoids delays and obstruction in gaining development approval
- Acts as a precautionary measure and avoids costly errors in the future
- Builds the trust and cooperation between community and stakeholders that is necessary for successful implementation of the project.

# Process of SIA



A Comprehensive Guide for Social Impact Assessment, Center for Good Governance (Rietberg-McCracken and Narayan 1998); 2006



# Research Output - Academic Impact

## Assessing Academic Impact;

1. Qualitatively
  - a) Assessed through evaluation of experts
2. Quantitatively
  - a) Publication can be evaluated through bibliometric
    - i) Quality of publishing outlet
    - ii) Number of Citation
3. Other mechanism in measuring research quality
  - a) Discounting by the numbers of authors
  - b) Ranking publications, books, journal lists and citations
  - c) Trends toward multi authored papers
  - d) The altmetric approach for evaluation
  - e) The rationale of having journal ranking that suits individual country or region
  - f) A fair evaluation of quality in terms of research output.

# Introduction

For academics, research is part of ensuring the scholarly distinction.

A research output is a particular;

- Dissemination
- Publication
- Presentation
- Communication or pathway

in which research is made available to people other than the author

(University Research Centre, University of Auckland, 2016).

# Assessing Academic Impact Qualitatively

The research output can be measured **qualitatively through evaluation of expert**. However, the evaluation seems very **subjective** as it may be influenced by conflicts of interest, disciplinary or local favouritism, insufficient competence in the research area, or superficial examination (Sahel, 2011)

# Assessing Academic Impact Quantitatively

- Quantitative measurement can be used to enhance the credibility of expert evaluation.
- Various quantitative methods (i.e. bibliometrics) that are being used including journal impact factor, total number of citations, average number of citations per paper, average number of citations per author, average number of citations per year, the number of authors per paper, Hirsch's *h*-index, Egghe's *g*-index, and the contemporary *h*-index (Sahel, 2011).

# Assessing Academic Impact Quantitatively (2)

- In a nutshell, sources of academic impact comprise of (1) the quality of the publishing outlet and (2) number of citation.
- The knowledge on academic impact would assist trainee in judging the quality of the journal and it would be useful to administrator in designing reward system to the academic staff

# Evaluating Academic Impact-Journal Ranking

Items	Definition	Available from
<p><b>Journal Impact Factor (IF)</b></p>	<p>A measure of the frequency with which the "average article" in a journal has been cited in a particular year or period. <a href="#">Clarivate Analytics</a>.</p> <p>Calculation for a journal's 2017 journal impact factor:</p> <p>Number of citation received by the journal in 2017 to articles published in 2015 and 2016 divided by number of citable articles published by the journal in 2015-2016</p>	<p><a href="#">Journal Citation Reports/JCR</a></p> <p>Caveat: Only journals in the sciences and social sciences that meet <a href="#">Clarivate Analytics' standards for inclusion in the Web of Science Core Collection</a> are assigned impact factors. Impact factors are not computed for journals in the humanities.</p>

# Evaluating Academic Impact-Journal Ranking

Items	Definition	Available from
CiteScore	CiteScore is the number of citations received by a journal in one year to documents published in the three previous years, divided by the number of documents indexed in Scopus published in those same three years. <a href="#">Scopus</a>	<a href="#">Scopus Journal Metrics</a> <ul style="list-style-type: none"><li>• CiteScores are computed for all journals indexed by Scopus (over 22,000 titles).</li><li>• CiteScores are computed for journals in all disciplines including the humanities.</li></ul>



# Evaluating Academic Impact-Journal Ranking

Items	Definition	Available from
<b>EigenFactor</b>	Ranking based on incoming citations for a journal with more weight given to citations from significant and larger journals.	<a href="#">Journal Citation Reports/JCR</a> and <a href="#">Eigenfactor Search</a>  Further information: <a href="#">Eigenfactor: Detailed Methods (2007)</a>



# Evaluating Academic Impact-Journal Ranking by Discipline

Items	Definitions
<a href="#"><u>Journal Citation Reports</u></a>	Source of impact factors and rankings for journals in the sciences and social sciences indexed by Web of Science.
<a href="#"><u>Scopus Journal Metrics</u></a>	Rankings are available for over 22,000 sciences, social science and humanities journals indexed in the Scopus database. Click on the "Refine by subject areas ..." link on the left side of the page.
<a href="#"><u>Google Scholar Metrics</u></a>	Gauge visibility and influence of recent articles in scholarly publication - five-year h-index -h-median metrics



# Evaluating Academic Impact-Journal Ranking by Discipline

Items	Definitions
<a href="#"><u>Microsoft Academic Search</u></a>	<ol style="list-style-type: none"><li>1. Select a discipline from "All Fields of Study"</li><li>2. Select a sub-discipline if desired.</li><li>3. Click on "Journals" located at the top, middle of the page.</li><li>4. Click on "See more" at the bottom, right side of the page for chart of ranked journals.</li><li>5. There does not appear to be a way to search for a specific journal title to see where it is ranked.</li></ol>



# Evaluating Academic Impact- Additional Journal Ranking

Items	Definition	Available from
European Reference Index for the Humanities	<p>International journals are classified into two sub-categories, INT1 and INT2, based on a combination of two criteria: influence and scope.</p> <p><a href="#">-Explanation of the classification system for journals</a></p> <p>-Includes journals from the following areas: anthropology, art, art history, classical studies, gender studies, history, philosophy of science, linguistics, literature, musicology, pedagogical and educational research, philosophy and psychology with plans to add archaeology and religious studies</p>	<p><a href="#">The European Science Foundation</a></p>



# Evaluating Academic Impact- Additional Journal Ranking

Items	Definition	Available from
Journal Rate	Ratings by authors who have published in the journals.	<a href="#">JournalRate</a>
Cost Effectiveness	<a href="#">Journal Cost-Effectiveness</a> Ranks journals by price per article	



# Evaluating Academic Impact- Additional Journal Ranking

Items	Definition	Available from
<b>Scimago Journal &amp; Country Rank (SJR)</b>	<b>Definition: A measure of scientific influence of scholarly journals that accounts for both the number of citations received by a journal and the importance or prestige of the journals where such citations come from. Factors considered for SJR journal rankings include:</b> <ul style="list-style-type: none"><li>-H-index</li><li>-Total cites per journal</li><li>-Total of published documents per journal</li><li>-Cites per document</li></ul>	<a href="#"><u>SJR</u></a>



# Discounting by the numbers of authors

The trends towards more than one author per published article were due to (1) changing patterns of funding; (2) the desire of researchers to increase their own popularity, visibility and recognition; (3) escalating demands for the rationalization of scientific manpower; (4) the increase in more complex instrumentation; (5) increased specialization; (6) the demand for higher levels of scientific inquiry; (7) the growing professionalism in academia; (8) the need to gain experience or train apprentices; (9) the desire to cross-fertilize across disciplines; and (10) the need to work in close proximity with others in order to benefit from their skills and tacit knowledge (Katz and Martin, 1995).

# Discounting by the numbers of authors

In addition, further reasons are (1) increased emphasis on collaboration and collaboration across discipline, (2) researchers' desire to increase their own popularity, visibility and recognition, (3) increased specialisation and growing professionalism, (4) need to work in close proximity and the desire to train young scholars, (5) expectation from the administrator where it creates pressure to the scholars to publish more articles, and (6) research activities become more time-consuming and/or more difficult/complex work (Woods et al., 2010).

Clinical Medicine	12.3	Business	2.7
Public Health	11.6	Law	1.3
Allied Health	6.7	Politics	1.5
Psychology	6.4	Social Work	2.5
Biological Science	7.6	Sociology	1.9
Agriculture	7.1	Anthropology	2.4
<b>Medical Science</b>	<b>7.35</b>	Education	2.4
Earth Systems	6.5	Sports Science	4.4
Chemistry	6.1	<b>Social Sciences</b>	<b>2.40</b>
Physics	131.2	Area Studies	1.5
Maths	2.8	Modern Languages	2.3
Comp Science	3.8	English Languages	1.2
Aeronautical Engineering	4.2	History	1.1
Electrical Engineering	5	Classics	1.2
Civil Engineering	3.7	Philosophy	1.1
General Engineering	7.9	Theology	1.1
<b>Sciences</b>	<b>5.00</b>	Arts	2.1
Architecture	2.8	Music	1.4
Geography	4.4	Media Studies	1.8
Economics	2.3	<b>Arts &amp; Humanities</b>	<b>1.30</b>

*Note: The discipline figures relate to means and the larger categories such as the sciences are the median of the discipline means.*



# Discounting by the numbers of authors

- Issue:** (1) How we should credit each author?  
(2) How administrator should give credit to their work?  
(3) How it would connect with the reward system?

(Lozano, 2013)

# Discounting by the numbers of authors

Author	Index
Batista et al. (2006)	individual h-index ( $h_i$ ) - dividing the raw h-index by the average number of authors of the papers in the raw h-core
Schreiber (2008)	suggested counting papers in the h-core fractionally, dividing them by the number of authors, which “yields an effective number which is utilized to define the hm-index as that effective number of papers that have been cited $hm$ or more times.”
Harzing (2010)	for each paper, divide the number of citations by the number of authors, then round that number down to the nearest whole number, and finally place the papers in order of citations per author. This index, also referred to as the individual h-index ( $h_i$ ), is defined as the number of papers ( $n$ ) with $> n$ citations per author.



Reflect on your own experiences in a multi-authored project.  
How well are you satisfied with your own contributions, and others?



# Ranking Publications, Books, Journal List and Citations

- most meticulous subjective journal ranking exercises was that undertaken by the Australian Research Council (ARC)
- Keele List
- Association of Business Schools (ABS)
- There are also other lists, many of which are based more on metrics and considerable effort has been expended on deriving 'the best metric'
- Apart from current bibliometric measures such as the impact factor and Scimago's SJR, Hudson (2012) included factors such as the subject orientation, the age of the journal and the extent to which it is focused on the economics discipline. These were the right hand side variables, with the left hand side being the Keele ranking.

Thus Fourcarde et al. (2015) argue that for much of the period since 1945, a theoretical approach based on rigorous mathematical modelling was the main path to establishing scientific purity in economics. However, in the 1990s and 2000s there occurred a shift in emphasis from theory to empirical work.

	Keele	Prob. Keele	ESA	Predict-ESA	Prob. ESA	ARC '10	ABS: '09	Adjusted Keele
<i>4s</i>								
American Economic Review	4	0.973	4	4	0.999	4	4	4
Journal of Economic Theory	4	0.97	4	4	0.946	4	4	34
Quarterly Journal of Economics	4	0.958	4	4	0.997	4	4	4
Journal of Political Economy	4	0.934	4	4	0.985	4	4	4
Journal of Finance	4	0.928	3	4	0.997	4	4	4
Econometrica	4	0.927	4	4	0.986	4	4	4
Review of Economic Studies	4	0.895	4	4	0.953	4	4	4
Games and Economic Behavior	4	0.84	4	4	0.81	4	4	3
Journal of Financial Economics	3	0.824	4	4	0.982	4	4	4
Review of Economics and Statistics	4	0.811	4	4	0.962	4	4	4
Review of Financial Studies	3	0.787	4	4	0.936	4	4	4
Econometric Theory	3	0.702	4	43	0.647	4	3	3
Economic Theory	3	0.693	4	43	0.559	4	3	3
Economic Journal	3	0.678	4	4	0.919	4	4	43
Journal of Economic Literature	4	0.665	4	4	0.943	4	4	4
<i>Probable 4s</i>								
Journal of Economic Perspectives	4	0.586	4	4	0.95	4	4	43
Journal of Econometrics	4	0.578	4	4	0.914	4	4	43
Journal of Monetary Economics	4	0.53	4	4	0.856	4	4	43
<i>Possible 4s</i>								
J. of the American Statistical Association	4	0.499	4	4	0.907	4	4	34
Journal of International Economics	3	0.471	4	4	0.848	4	3	34
International Journal of Game Theory	3	0.466	3	34	0.362	2	.	32
Journal of Public Economics	3	0.425	4	4	0.775	4	3	34
Journal of Labor Economics	3	0.423	4	4	0.795	4	3	34
RAND Journal of Economics	3	0.414	4	4	0.791	4	3	34

Notes: The ranking is on the basis of the predicted Keele rank from the regression in Table 2. The columns are: (1): the actual Keele list rank; (2): the probability of the Keele predictions being at least in the assigned category, e.g. for the Journal of Econometrics the probability that it is a 4 is 0.578; (3): actual ESA rank; (4) predicted ESA rank (43 means probable 4; 34 possible 4, etc); (5): the probability of the ESA prediction being at least in the assigned category; (6) the actual ARC rank, (7) The ABS 2010 rank; (8): the ABS 2009 rank; (9) the predicted Keele rank setting all dummy variables equal to 0. The major omissions from this analysis are the four new AEA field journals. The ESA rated these as 4 and, although there is little data to go on, our view is that they will almost certainly be a 3 as a minimum. The full list can be found at <http://staff.bath.ac.uk/hssjrh/JournalRanking.xls>

- The **eigen factor score** and '**article influence score**', found on Thomson Reuter's ISI, are both based on the PageRank (PR) iterative algorithm method developed by Brin and Page (1998), as is the SCImago Journal Rank (SCR) indicator.
- The **eigen factor score** is the sum of normalized citations received from other journals weighted by the influence of the citing journals (Franceschet, 2010). It will tend to be larger for bigger journals.
- The **article influence measure** corrects for this and divides the journal eigenfactor score by the number of articles published by the journal.
- Other measures have also appeared such as the **Source Normalized Impact per Paper (SNIP)** which weights citations based on the total number of citations in a subject field. The impact of a single citation is given higher value in subject areas where citations are less likely and vice versa (Moed, 2010).

- Google Scholar is difficult to use in ranking journals.
- Journals can easily be ranked on the other two (Web of Science and Scopus).
- If however we are trying **to rank a specific individual** it is more difficult. We can only get an overview of an individual's publications on Google Scholar if they have chosen to create an identity, as for example with John Hudson



# John Hudson

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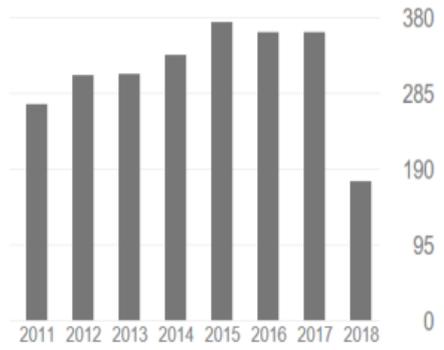
Verified email at bath.ac.uk

[Economics](#) [politics](#) [social sciences](#) [wellbeing](#) [innovation](#)

TITLE	CITED BY	YEAR
<a href="#">Aid, the public sector and the market in less developed countries</a> P Mosley, J Hudson, S Horrell Economic Journal 97 (387), 616-41	570	1987
<a href="#">Aid, Poverty Reduction and the 'New Conditionality'*</a> P Mosley, J Hudson, A Verschoor The Economic Journal 114 (496), F217-F243	337	2004
<a href="#">Institutional Trust and Subjective Well-Being across the EU</a> J Hudson Kyklos 59 (1), 43-62	317	2006
<a href="#">Trends in multi-authored papers in economics</a> J Hudson Journal of Economic Perspectives 10 (3), 153-158	283	1996
<a href="#">Tax evasion, civic duty and the law abiding citizen</a> M Orviska, J Hudson European Journal of Political Economy 19 (1), 83-102	241	2003
<a href="#">Tax performance: a comparative study</a> JM Teera, J Hudson Journal of International Development 16 (6), 795-802	175	2004

Cited by [VIEW ALL](#)

	All	Since 2013
Citations	4594	1932
h-index	32	24
i10-index	70	40



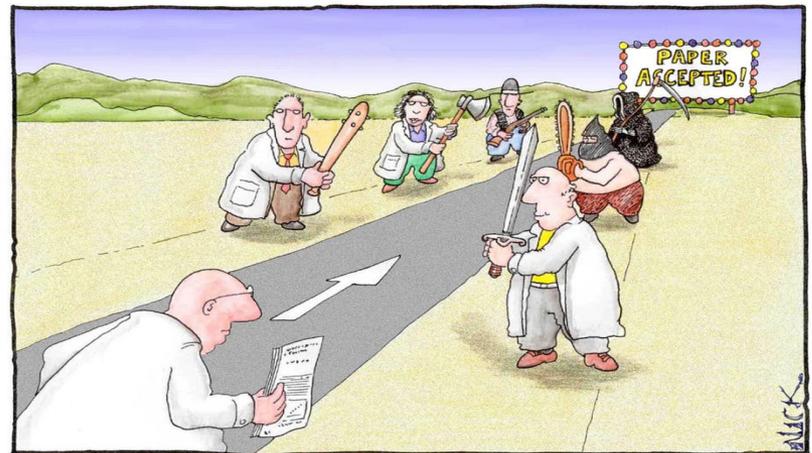
Co-authors

**Don J Webber**  
Professor of Applied Economics,...

**Google Scholar** may be suitable for those academics who have chosen to have such information shown. In any case it is often not that accurate and many people have papers included on their web page they did not write. Not because they are deliberately cheating but because it just happens. The **Web of Science (WoS)** can be difficult to use as it does not give information on a specific ‘Jane Smith’ but all Jane Smiths. It is possible to narrow the search criteria, but not straightforward. Hence the only alternative is Scopus. But this too can, on occasion contain information on papers “Jane Smith” did not write. And again Scopus is biased to Western, English Language journals. *Hence, perhaps the best way is to ask each individual to rank their own papers using Google Scholar.*

# Issues of Discounting by the number of authors.

What makes collaborative writing for a journal paper satisfying and effective? Think through your good and bad experiences especially in expecting and dealing with reviewers. Do you face it alone (as illustrated)? Or your co-authors support you until the final success, namely publication?



Most scientists regarded the new streamlined peer-review process as "quite an improvement."



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# Constructing Journal Lists for Specific Countries

**Principle 1:** We would suggest basing the ranking on the simple impact factor for the journal, which weights all citations equally.

**Principle 2:** We would suggest that this list should form the core for all countries.

# Writing to Maximise Academic Impact

- Paper must be good
  - Well-written and say something new
  - Originality and theoretical implications
  - Contribution the research made to the literature
- (varies from discipline to discipline)
- Techniques used (make sure it is up-to-date)

# Writing to Maximise Academic Impact

- Go to the very best journal in your field and spend some days.
- It is very important to read through a paper, understand every word and being able to reproduce the work yourself.
- Then choose a journal and make sure you follow their style in terms of headings, formatting of references, the abstract and diagrams. Your diagrams should be clear and self-explanatory.



# Writing to Maximise Academic Impact

- Write to influence people
- We should want to maximize that impact.
- Keywords

# Research Performance through Altmetric System

Altmetrics system;

- is where a journal is rated based on scholarly references that is added to academic's social media site.
- alternatives to citation counts and indicators of non-scholarly or societal impacts (Thelwall, 2018).
- some have opinions and evidence which is based on research (example: Allgaier et.al, 2013; Priem et.al, 2010) that altmetric may find its way to scholarly impact.
- provides data with speed and can be a useful strategy to navigate an academic's personal impact or branding in the eyes of practitioners, policy makers and the public.

# Research Performance through Altmetric System (2)

Some examples of Altmetrics are as follows:

- Discussion--Twitter, Facebook, blogs
- News--News outlets, newspapers, wire services
- Shares--Twitter, Facebook Views and downloads publisher website, repositories
- Ratings--Amazon.com, Speaker Deck Likes/dislikes--Youtube, Slideshare
- Holdings--Worldcat (number of libraries worldwide own a particular book)

# Research Performance through Altmetric System (3)

Among the advantages of Altmetric are namely;

- its capacity to accumulate faster compared to traditional citation counts.
- it can be expanded beyond books and articles to include software, videos, presentations, posters and more.
- it provides a broader measurement for impact of research which is something funders and university administrators are starting to note
- it can be used to augment traditional metrics

However, altmetrics can be easily distorted or misinterpreted. Almetrics are attention indicators that may not be **measuring scholarly quality or impact**.

Proposal preparation  
Sample of the proposal presentation  
(taking example from specific)  
Publication

# THANK YOU



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