Collaboration

Why, or why not?

What is collaboration?

- Networking – exchange of information for mutual benefit
- Coordinating – networking + groups altering individual activities for mutual benefit
- Cooperating – all of the above + resource sharing for mutual benefit and to achieve a common purpose. Also requires a substantial time commitment, a higher level of trust, and significant sharing of turf.

https://www.psychologytoday.com/blog/relationships-intimate-and-more/201602/collaboration-its-not-what-you-think

What is collaboration?

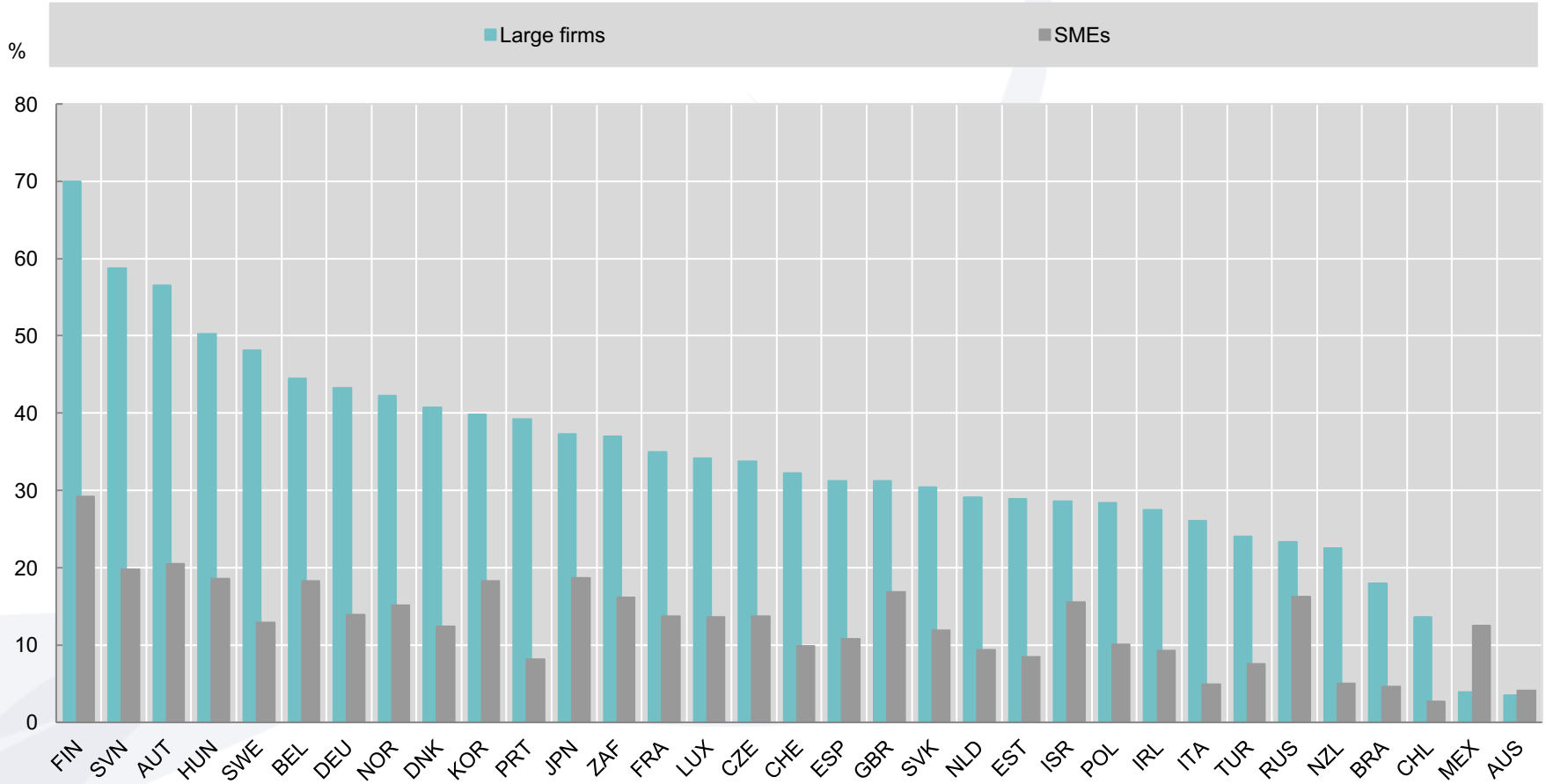
Collaborating involves substantial organizational commitment, a very high level of trust, and extensive sharing of turf. The qualitative difference between Cooperating and Collaborating is that collaborating partners demonstrate a public enthusiasm for—and commitment to the value of—learning from each other to become better at what they do collectively.

https://www.psychologytoday.com/blog/relationships-intimate-and-more/201602/collaboration-its-not-what-you-think

Why collaborate?

- Drivers of collaboration for Universities
  - Shrinking funding
  - Competition
  - Limited resources
  - Synergies of collaboration
  - Limited success in ARC funding for ITC

HE collaboration with Industry



2 digit FOR

TwoD_txt	2010	2011	2012	2013	2014
Mathematical Sciences	85	76	88	72	72
Physical Sciences	104	110	89	90	92
Chemical Sciences	104	112	100	102	92
Earth Sciences	76	75	82	80	66
Environmental Sciences	60	52	46	39	45
Biological Sciences	196	237	246	205	185
Agricultural and Veterinary Sciences	33	20	17	26	18
Information and Computing Sciences	85	85	83	93	88
Engineering	243	233	236	219	223
Technology	54	64	54	50	42
Medical and Health Sciences	120	117	137	92	66
Built Environment and Design	23	20	14	11	12
Education	29	43	31	33	32
Economics	38	29	39	25	39
Commerce, Management, Tourism and Services	33	44	42	32	21
Studies in Human Society	115	101	104	113	102
Psychology and Cognitive Sciences	79	74	100	79	67
Law and Legal Studies	30	33	33	30	26
Studies in Creative Arts and Writing	23	18	22	21	16
Language, Communication and Culture	57	55	57	59	52
History and Archaeology	60	57	67	57	48
Philosophy and Religious Studies	28	23	24	24	13
Total	1675	1678	1711	1552	1417

Success rate by scheme

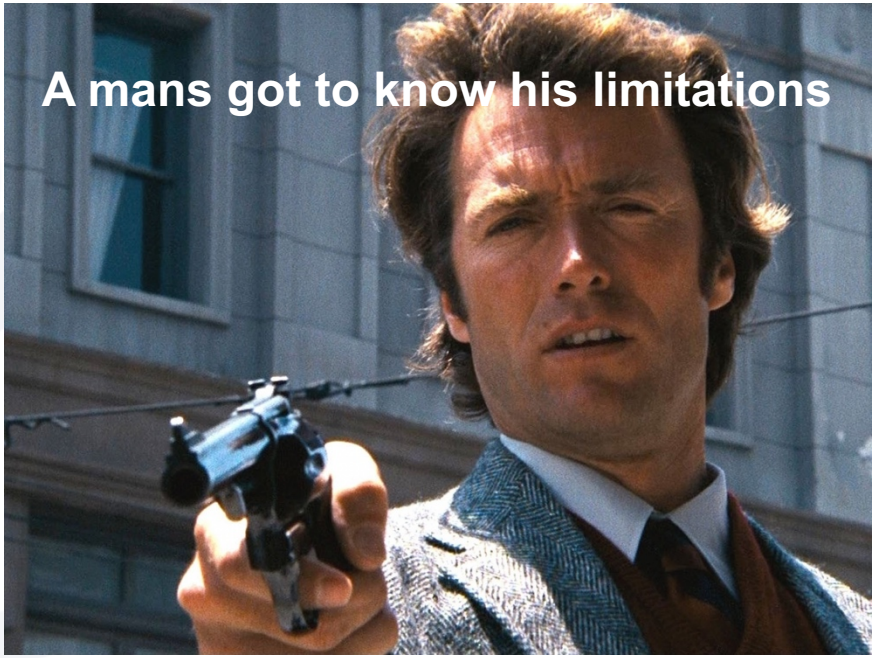
Scheme	2010	2011	2012	2013	2014	2015
ARC Future Fellowships	26.4%	30.7%	34.7%	16.3%	18.1%	
ARC Research Networks						
Centres of Excellence					54.5%	
Discovery - Projects	22.7%	22.0%	22.0%	21.4%	19.9%	18.0%
Discovery Early Career Researcher Award			12.8%	15.6%	13.6%	14.3%
Discovery Indigenous	39.1%	45.0%	34.5%	31.3%	38.5%	31.3%
Industrial Transformation Research Hubs			33.3%	47.6%		
Industrial Transformation Training Centres				30.8%	53.8%	
Laureate Fellowships/Federation Fellowship	15.5%	12.2%	15.7%	15.2%	17.8%	
Linkage - Infrastructure Equipment and Facilities	42.9%	47.3%	45.3%	42.6%	42.6%	41.5%
Linkage - International						
Linkage - Projects	43.7%	43.4%	36.4%	39.0%	35.9%	
Linkage Learned Academies Special Projects					40.0%	
Special Research Initiatives		100.0%	60.0%		100.0%	
Special Research Initiatives (Thinking Systems)						
Super Science Fellowships	44.4%	48.8%				
Total	27.2%	27.0%	22.7%	21.9%	20.7%	17.8%

What about teaching?

- Should we all be teaching every subject all the time?
- What are the benefits?
  - Financial, expertise
- What are the barriers?
  - Accreditation, quality, cost(?)
- Who has tried this? What worked? What didn't?

If we want to collaborate

- Keep doing what we are good at
  - Focus on your strengths
  - Be honest about your capability and capacity
- Why?
  - Finite resources
  - Time to develop capability and capacity can be significant



Cyber security collaboration?

- Barriers to entry in cyber security:
  - Multi agency and industry partner collaboration
  - Trust relationships
  - Significant lack of *actual* cyber security academics and researchers
  - Security clearances and classified work spaces
  - Sensitivities around international students and staff
  - Significant knowledge domain
  - Inability to publish some research
  - Lack of FOR code

Opportunities to collaborate in cyber

- Data science / big data
- Cryptography
- Criminology
- Strategic level policy development
- Privacy
- AI / machine learning

Focus questions

- How might computing schools across Australia collaborate on research and teaching initiatives?
- Where should we focus (ARC Centres of Excellence, CRCs, ARC Linkage Projects, ARC Discovery Projects, etc.)?
- How can we identify potential collaboration teams (should we try and create a capability assessment across Australia and, if yes, how would we go about doing so?)
- Next steps?