

# PBRF 2012 Outcomes: A CITRENZ perspective

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## ABSTRACT

For computing educators in the CITRENZ sector, the 2012 Performance Based Research Assessment took place in a setting that had changed considerably from that which applied for the 2006 round. CITRENZ is a new organization with changed membership, and the impact of progressive funding constrictions imposed upon the ITP sector, have not aided its research mission. The metrics for PBRF itself have also changed which have impacted on the amount of information available, thus a direct comparison of sectoral performance between the two rounds is challenging. Nonetheless, here we compare aspects of the PBRF performance between the two rounds, and draw what conclusions we can from the limited data available.

## Categories and Subject Descriptors

K. [Computing Milieux]: K0 General.

## General Terms

Your general terms must be any of the following 16 designated terms: Management, Measurement, Human Factors.

## Keywords

Keywords are your own designated keywords.

*Performance Based Research Funding, CITRENZ, Computing Research.*

## 1. INTRODUCTION

The attached analysis repeats that of 2007 [2] in comparing CITRENZ sector performance in the PBRF 2012 exercise, against 1) other institutions in the Computer Science, Information Technology and Information Science subject area; 2) other subject areas in the ITP sector; 3) the 2003 NACCQ sector participants and their 2006 results. Changes to the reporting of the PBRF 2012 results means that some comparisons are now not able to be made. The membership of CITRENZ has also changed; Unitec are no longer a member and AUT results are now firmly within the University sector, which means there were nine participating CITRENZ members. These changes aside valuable analysis is obtained as to the on-going research activity among the current CITRENZ members.

This editorially-reviewed supplementary paper appeared at the 4<sup>th</sup> annual conference of Computing and Information Technology Research and Education New Zealand (CITRENZ2013) incorporating the 26<sup>th</sup> Annual Conference of the National Advisory Committee on Computing Qualifications, Hamilton, New Zealand, October 6-9, 2013. Mike Lopez and Michael Verhaart, (Eds).

## 2. COMPUTER SCIENCE, INFORMATION TECHNOLOGY AND INFORMATION SCIENCE SUBJECT AREA

In the 2012 PBRF round statistics for researchers assigned a category of 'research inactive' are no longer available, due to the gerrymandering of eligibility criteria by several Universities and the resulting changes in metrics adopted by TEC., cf. [3, 4]. A threshold of seven rated researchers was also imposed for reporting, to preserve privacy for researchers in smaller institutions and research groups. This makes reporting at subject level, for CITRENZ members challenging.

However figures are available at subject level for the overall numbers who submitted portfolios in this subject grouping, and an average score for the non University and Unitec group (classified as "other") which is the best match to the CITRENZ membership has been allocated [4, p. A 89-21]. The list of nine participating institutions is given in Table 1.

Table 1. CITRENZ Institutions in 2012 PBRF Round

Polytechnics
Christchurch Polytechnic Institute of Technology
Eastern Institute of Technology
Manukau Institute of Technology
Northland Polytechnic
Open Polytechnic of New Zealand
Otago Polytechnic
Waikato Institute of Technology
Wellington Institute of Technology
Whitireia New Zealand

Of the total funded portfolios (271.13) in the *computer science, information technology and information science* subject area, 13.7 were from this "other" grouping which we impute to represent the CITRENZ membership. Thus, CITRENZ now represents some 5% of New Zealand's "active" researchers in the field. The average quality score for the CITRENZ grouping - AQS(N) with formula given below - was 2.3, with 1 'B' rated staff member and 12.7 staff rated 'C' or 'C(NE)'.

$$\Sigma ( (\text{Count of A Quality Categories} \times \text{FTE-weighting of staff} \times 5) + (\text{Count of B Quality Categories} \times \text{FTE-weighting of staff} \times 3) + (\text{Count of C and C(NE) Quality Categories} \times \text{FTE-weighting of staff} \times 1) \times 2) \div (\text{FTE-weighting of staff whose EPs were assigned a funded Quality Category}) [3, p. 36]$$

By comparison with 2006, AUT and Unitec had moved away from the CITRENZ grouping. Table 2 indicates their comparative rankings for 2012 (upper rows) and 2006 (lower rows). As can be seen from the 2012 increase by Unitec, the quality score AQS(N) is now inflated by removing the ‘R’ or not ‘quality funded’ researchers from the numerator. It can also be seen that Unitec lost 5 rated researchers and AUT gained 24.54, over the period. So the impact of PBRF at both the University and non University levels is beginning to be seen.

**Table 2. AUT & UNITEC 2012 & 2006 PBRF Rounds**

Institution	Subject Area Results	Quality score	Staff rated					
			A	A	B	B	C	C
		(FTE*)	(FTE) %	(FTE) no	(FTE) %	(FTE) no	(FTE) %	(FTE) no
AUT	CS, IT, IS	3.8	6.7	3	30.8	13.7	62.5	27.84
Unitec		3.5	0	0	36.4	4	63.6	7
AUT	CS, IT, IS	3.1	7.1	2	28.6	8	35.7	10
Unitec		1.5	0	0	10.5	3	45.5	13

Thus, Unitec and AUT as former CITRENZ members comprise some 20% of New Zealand’s researchers in the field. Therefore adding those ITPs who chose not to participate in PBRF, the former NACCQ sector members still have a major presence in the field. The advent of the new metrics means that the total number of CITRENZ sector researchers including those not ‘quality funded’ is now unavailable for reporting. Thus, assuming a total of CITRENZ researchers fairly close to that in 2007 (and removing Unitec from the calculation), rather than being merely deemed ‘research inactive’ some 80-100 New Zealand computing educators have now been rendered invisible at a stroke of a pen.

### 3. ITP SECTOR COMPARISONS

Considering the ITP sector and *medium sized institutions*, the PBRF 2012 report notes “concentrations of staff whose EPs were assigned a funded Quality Category in a number of subject areas including: computer science (19.96); design (8.68); education (30.60); engineering (12.00); Māori knowledge and development (15.00); music (10.75); and visual arts and crafts (46.21)” [4, p. 52]. This medium sized grouping includes a College of Arts (9.39 in visual arts) and a Wananga (unknown no. of researchers) so these totals are not restricted to the ITP sector.

For the group of *small institutions* (which includes several PTEs) the report notes “The subject areas of religious studies (13.90), education (8.50), and visual arts and crafts (7.56) account for the bulk of the 41.16 funded EPs within the group of small TEOs” [4, p. 53].

So computing shows a presence among the disciplines at the medium institution level, but not below. Comparing the discipline performance by sector through applying the AQS(N) across disciplines is rather hit and miss, with unknown participants in the comparison groups and small numbers of rated EPs with an occasional B rating having the ability to skew results in comparison with larger groups with more C and (CNE) portfolios. Therefore demonstrating a level of critical mass in a discipline (as shown by the computing totals in the medium sized grouping above), is a more realistic indicator of sectoral research strength.

### 4. FUNDING COMPARISONS

As can be seen from Table 2, [4] the ITP sector (including Unitec) received 2.34% of the total PBRF funding from the round in 2012. This was up from 1.12% and 2.10% in 2004 and 2007 respectively. The three top universities by funding, Auckland, Otago and Massey, continued to hold the top three positions in the ranking over the three PBRF rounds and combined received between 64% – 66% of the funding pool.

The ITP sector had remained ninth in the three rounds while Auckland University of Technology increased their ranking by one place replacing Lincoln University which is now in 8th place. The Colleges of Education have been slowly integrated with universities and in the latest round have not received a separate funding allocation.

The Wananga Sector gained one place in the rankings in 2007 from the 2003 round however has slipped one place in the 2012 round, with Te Wananga o Aotearoa apparently not submitting in this round. The PTE sector is now stronger having overtaken the Wananga sector in rankings in 2012. It is interesting to note that in 2003 the whole PTE sector received just \$22,643 in funding whereas in 2012 they now receive \$493,915. The percentage increase however is only .04% of the total funds available for allocation.

The ITP sector includes Unitec who are one of the few ITP’s who have postgraduate research degree completion funding. The data indicates that the other ITP’s have received some \$0.5 m in research degree completion funding [4, p. 85], however for these CITRENZ sector members this is the funding for all postgraduate degrees with little if any expected to be based on computing completions yet. As more postgraduate degrees come on stream this picture may change, although the taught postgraduate models may predominate over the research thesis option.

The biggest gain of all institutions from 2003 to 2012 is Auckland University of Technology who only 13 years ago were part of the ITP sector. The variance of 2.23 is the largest of all the institutions which took part in the 2012 round. Both Auckland University of Technology and Victoria University of Wellington gained one place in the overall rankings. Victoria University of Wellington’s variance was 1.32. The highest negative variance was Massey University whose decrease was -1.81.

### 5. MOMENTUM STALLED

One of the assumptions from the data, for the ITP sector and in particular the CITRENZ participants, is that the momentum of the research activity has stalled. It does not seem to be that CITRENZ member institutions’ researchers are publishing internationally, as all research outputs are counted. CITRENZ offers two main vehicles for publication of quality assured outputs, the Journal of Applied Computing and Information Technology and the annual conference which includes quality assured published proceedings. The submissions to both these publications have diminished over the past few years. The editors of these publications assumed it was that the researchers in the sector were publishing elsewhere, international journals and quality assured conference proceedings, however the data received from the PBRF reports [2] suggest that this is not happening either.

The majority of the CITRENZ members and eight of the nine institutions in Table 1 offer or are about to offer a degree programme. One of the main criteria of offering a degree programme is that it is taught “mainly by people engaged in

research” [3, p.21]. If the CITRENZ sector institutions wish to retain their degree accreditations then they need to resolve this stalling and encourage their staff to increase their activity well in advance of the next PBRF round.

CITRENZ have been actively supporting the sector researchers now for over 15 years. There is a vast wealth of expertise and a willingness to help; it just needs to be actioned.

## 6. CONCLUSIONS

With the changes in the CITRENZ sector since the previous PBRF round, and the more limited information now available on sector PBRF participation and performance, it appears that research momentum in the sector has stalled. Nonetheless, there is

still a moderately sized group of active researchers in the sector underpinning degree provision.

At a guestimate some 20% of the computing educators in the sector “meet the standards required for the award of a quality funded category” [5, p. 21]. Whether this puts these institutions in breach of section 254 of the education act, namely that their degrees were not being taught “mainly by people engaged in research” [3, p.21], is an open question. However, as noted in the analysis by Clear and Clear [2], some of the Universities are probably on equally shaky ground if only 40% of their academic staff are deemed eligible for the PBRF census.

**Table 2: PBRF Indicative TEO Funding 2013**

TEO	Quality Evaluation	Research Degree Completions	External Research Income	Total	% Total PBRF funding	variance from 2003	Rank	rank variance from 2003
University of Auckland	\$44,437,837	\$21,773,223	\$14,154,079	\$80,365,139	30.62	0.34	1	0
University of Otago	\$33,547,732	\$11,115,785	\$8,716,494	\$53,380,012	20.34	-0.68	2	0
Massey University	\$22,254,987	\$7,070,970	\$5,265,164	\$34,591,120	13.18	-1.81	3	0
Victoria University of Wellington	\$16,167,631	\$7,611,273	\$3,213,973	\$26,992,876	10.28	1.32	4	1
University of Canterbury	\$15,294,553	\$6,571,582	\$2,723,468	\$24,588,901	9.37	-0.78	5	-1
University of Waikato	\$8,564,155	\$4,435,671	\$1,920,815	\$14,920,640	5.68	-0.74	6	0
Auckland University of Technology	\$7,745,924	\$3,499,414	\$762,001	\$12,007,339	4.57	2.26	7	1
Lincoln University	\$4,271,640	\$2,128,136	\$2,298,582	\$8,698,358	3.31	0.01	8	-1
ITP Sector	\$4,720,507	\$1,200,036	\$224,566	\$6,145,109	2.34	0.24	9	0
Colleges of Education	\$0	\$0	\$0	\$0	0.00	-0.14	12	0
Wananga	\$135,725	\$95,914	\$83,772	\$315,411	0.12	-0.05	11	-1
PTE sector	\$359,309	\$122,998	\$11,608	\$493,915	0.19	0.04	10	1
	\$157,500,000	\$65,625,002	\$39,374,522	\$262,498,820	100.00	-0.01		

## 7. REFERENCES

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