

Australian Marketing Scholars' Research Impact: An Update and Extension

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Abstract

Academics around the world are being subject to increasing scrutiny, especially in terms of research performance and Australian marketing academics are not exception. The present paper examines their research impact, updating and extending an earlier ANZMAC paper (Razzaque and Wilkinson, 2007) and providing research impact benchmarks for Level B, Level C, Level D and Level E marketing academics in Australia.

Introduction

Research productivity has long been of academic interest (Lotka, 1926; Merton, 1968; Wanner et al., 1981), but this interest has become more widespread in recent years (Shin and Cummings, 2010; Webber, 2012; Jung 2012). Indeed, in the last ten years, academics in Australia have become increasingly confronted by assessments of their research productivity and impact, culminating in the 2010 and 2012 Excellence in Research for Australia (ERA) evaluations. While these evaluations, were undertaken at a discipline or field of research (FOR) level, there is little doubt the research output of individual academics has been looked at closely by university managers and that some academics have moved upwards or gained a promotion or “bonuses” as a result of their good performance or that others have found new workload models have meant increased duties in non-research areas. Marketing academics have not been immune from this. As the ERA and other research evaluations, such as New Zealand’s Performance Based Research Fund (PBRF) assessment, are based on evaluating relative performance within a discipline, an interesting question to ask is how such evaluations can be made; as such knowledge would be helpful to those applying for a new position, tenure or promotion.

Within the ERA, two different approaches were taken. Article citations were used in the first approach to assess the physical and biological sciences, with an index being created that compared a university’s FOR outcomes with the World as a whole and Australia as a whole. In the social sciences and humanities, including marketing, a peer review process was used. Both processes led to each FOR getting a rating that ranged from 1 (well below world standard) to 5 (well above world standard) at a 4 digit level (e.g. Marketing – 1505) and at a 2 digit level (e.g. Commerce, Management, Tourism and Services – 15). While it would be hard to re-create the peer review process outside the ERA, it seems some measure of research impact is becoming more important and would be extremely helpful to marketing academics. The present study, which is discussed in subsequent sections, suggests such a measure.

The Present Study

More than a decade ago, the Australian and New Zealand Academy of Management examined research productivity across member business schools, which showed a skewed outcome, as most research, whether measured by publications, grants obtained or doctorates successfully supervised, was undertaken by very few academics. Indeed, it was found that “more than twenty percent of the management academics surveyed produced no research output from 2000 to 2002” (Soutar, 2004, p. 10). Such a skew is well known and seems to be

common across disciplines (Aaltojarvi, 2008; Webber, 2012). However, the ANZAM study looked only at productivity and not at impact. Since that time, new bibliometric indexes have been developed and publication databases have become available that enable us to look at impact in more detail. This type of approach is now often used to examine marketing scholars' impact (Razzaque and Wilkinson, 2007; Talukdar et al., 2011). While there are many sources of data that might be used to examine impact, including the Web of Science and Scopus, it was decided to use Google Scholar (GS) in this case, as it "generally results in a more comprehensive coverage in the area of management (including marketing)" (Harzing and van der Wal, 2008, p. 72) and it has been used in prior relevant research in marketing in Australia (e.g. Razzaque and Wilkinson, 2007; Soutar and Murphy, 2009). The data were obtained through Harzing's (2007) Publish or Perish software program.

A number of citation indexes have been suggested in recent years, including the h-index (Hirsch, 2005), the g-index (Egghe, 2006) and a number of variants of these indexes. If a person has an h-index of 20 that person has published 20 papers that have at least 20 citations. As this index does not account for very highly cited papers, such as Vargo and Lusch's (2004) service-dominant paper with more than 4000 GS citations when this paper was written, Egghe (2006) suggested the g-index to overcome this problem. A researcher would have an index of g if their g top-cited articles summed to g^2 . For example, if a person's top articles were cited a cumulative 400 times, their g-index would be 20. Razzaque and Wilkinson (2007) found the various indexes were highly correlated (all above 0.80 and some well above 0.90), suggesting that, at least in marketing, little may be gained by going beyond the h-index. However, since their paper was published, Moussa and Touzani (2010, p. 109) have suggested the hg-index, which is the geometric mean of the h-index and the g-index, may be a useful addition, as it takes account of highly cited papers, but reduces the "influence that a very successful article can introduce in the g-index." Consequently, this index was also included to see if it provided further insights in the present context.

Razzaque and Wilkinson's (RW) (2007, p. 3284) study used GS to provide valuable information about senior Australian marketing scholars' (Level D and Level E academics) impact some years ago and found only three academics had what they termed "higher scores on these (citation) indexes." The present study initially sought to see if this was still the case. Further, as RW had only collected data on senior academics, the analysis was extended to include more junior researchers (i.e. Level B and Level C academics). As a consequence, citation data were collected for a total of 396 academics from 31 Australian universities, including the 24 universities who were assessed in FOR 1505 in the 2012 ERA round. While not all academics may have been included because of movements between universities and those leaving academic positions, the data set does include almost all of the presently active marketing academics in Australia. To make the analysis manageable and relevant by looking at recent impact, the study was restricted to articles published this century (i.e. 2001 to 2012). Consequently, the results, which are presented in the next section, provide a good indication of the present state of research impact in Australian marketing.

The Results

As was the case with the ANZAM study, there was a skew in the data, with 10% of those academics included having an hg index of zero and 80% having an hg-index that was less than 11. Not surprisingly, the generalised Pareto distribution was a good fit to the data. Most impact comes from the research output of relatively few academics.

The results obtained by RW in 2007 were compared with the results obtained in the present study. As RW had only included Level D and Level E academics, the first part of the analysis used only these groups. Further, their study included all of the papers these academics had published that, in some cases dated back to the 1970s, while the papers here were restricted to those published since 2001. Thus, it might be expected that the present h-indexes and g-indexes would be lower than those reported by RW in 2007. However, as can be seen in Table 1, this was not the case, as the median score for each of the indexes were almost double those reported in 2007, although Jordan Louviere was still the top performing academic. Further, while RW found only three academics with an h-index greater than 15, there were 22 such academics in the present sample, supporting the notion that senior Australian marketing academics' impact has increased in recent years.

Table 1: Citation Indexes – comparing 2007 to 2012

	h-index 2007	g-index 2007	h-index 2012	g-index 2012
Level E Academics				
Highest Value	23	60	40	65
Lowest Value	1	1	3	5
Median Value	6	12	11	22
Level D Academics				
Highest Value	11	17	18	40
Lowest Value	1	1	1	2
Median Value	4	14	6	11

RW's medians were used to undertake Wilcoxon signed rank tests to see whether these were significant increases. For both groups and indexes, the changes were significant well beyond the 0.001 level. It seems senior marketing academics in Australia are indeed having more impact than was previously the case. It is also clear Level E academics have greater impact than Level D academics, as there was a significant difference between these groups. Interestingly, the top ten senior academics were all Level E academics, who came from nine different universities, with five coming from Group of Eight universities. It seems the academics who have had the greatest impact are not concentrated in any particular university.

As the other main purpose of the present study was to extend the analysis to Level B and Level C academics, the next phase of the analysis included these groups as well. The results obtained from the 2012 data, including the hg-index, can be seen in Table 2. It is clear there are differences between the levels and that these are in the order that would be expected, with more senior academics having greater impact. These differences are real; as an ANOVA found the differences in each of the indexes was significant well beyond the 0.001 level and post-hoc Scheffe's tests found each of the groups was different to each of the other groups.

Table 2: Citation Indexes by Academic Level

	h-index	g-index	hg-index
Level E			
Highest (Lowest) Value	40 (3)	65 (5)	51 (4)
Median Value	11	22	16
Level D			
Highest (Lowest) Value	18 (1)	40 (2)	24 (1)
Median Value	6	11	8
Level C			
Highest (Lowest) Value	12 (0)	24 (0)	16 (0)
Median Value	4	9	6
Level B			
Highest (Lowest) Value	9 (0)	18 (0)	13 (0)
Median Value	2	3	2

Correlations were also computed between each of the indexes. All were greater than 0.94, supporting RW's earlier suggestion that only one index was needed. As the hg-index takes some account of very highly cited papers, it was decided to use this index. In order to examine the data in more detail, dummy variables were computed for each of the academic levels, with Level B being used as a base. Further, as RW had suggested Group of Eight academics might have greater impact, an additional dummy variable was created to examine this issue. A regression was estimated in which the dependent variable was marketing academics' hg-index scores (i.e. impact) and the predictor variables were the academic level and group of eight dummy variables. The regression was significant, as the F-statistic was 80.12, which was significant well beyond the 0.001 level, while the adjusted R^2 statistic was 0.52, suggesting the predictors explained more than half of the variance in impact. The VIF scores were all less than 1.50, suggesting multicollinearity was not an issue and that the regression coefficients provided a good measure of the influence the various predictor variables had on impact.

As can be seen in Table 3, all of the predictors were significantly related to impact and all had positive signs. Thus, Group of Eight academics had more impact. However, the standardised coefficients suggest this was the least important predictor, as academic level had much greater influence. As was expected from the ANOVA, the standardised coefficients increased for each academic level and, when a bootstrap approach was used, the differences in the coefficients were significant well beyond the 0.01 level. While there are clearly other factors that determine impact (e.g. the nature of the research, the type of paper and the topics being researched), it is instructive that more than 50% of the variance in impact could be explained by the small number of background predictors included in the regression.

Table 3: The Regression Analysis Results

Predictor Variable	Unstandardized Coefficients	Standardized Coefficients	t-statistic	Prob.
Constant	1.59		4.61	0.00
Group of Eight	0.86	0.08	2.05	0.04
Level C	2.64	0.23	6.30	0.00
Level D	4.63	0.32	8.97	0.00
Level E	10.29	0.75	20.88	0.00

What is also clear is that the academic levels are really different from each other and that benchmarks should be different for each academic level. This led to the final analysis, which determined such benchmarks and these can be seen in Table 4. There were less than 100 Level D and Level E academics, so only the 95th percentiles are shown for these groups. The table suggests some real benchmarks that should provide useful information to marketing academics in Australia. For example:

1. Any level B academic who has an hg-index of 9 or higher is in the top 2% of such academics, but would also be in the top 25% of level C academics. There are four such academics, all employed at different universities.
2. Any level C academic who has an hg-index of 12 or higher is in the top 7% of such academics, but would also be in the top 25% of Level D academics. There are ten such academics, employed at nine different universities.
3. Any Level D academic who has an hg-index of 24 or better is in the top 2% of such academics, but would also be in the top 25% of Level E academics. There are two such academics, who are employed at different universities.
4. There are three Level E academics with hg-indexes of 37 or more, all of whom are employed at different universities.

Table 4: Google Scholar Benchmarks by Academic Level (hg-index)

Level	N	Median	75 th percentile	90 th percentile	95 th percentile	99 th percentile	Highest	Paper with Highest # of Cites	95 th percentile (# of Cites)
Level B	158	2	4	7	8	12	13	203	70
Level C	112	7	9	11	14	16	16	261	164
Level D	57	8	12	19	23	na	24	697	310
Level E	69	16	24	31	37	na	51	1444	881
Overall	396	5	10	17	25	35	51	1444	260

In the collection of these data, information about the highest cited paper for each academic was obtained and some of this information is also provided in Table 4. What is clear is that, in this Century, Australian marketing academics have published a number of very highly cited papers across all of the academic levels, as one Level B, four Level C academics, six Level D academics and 25 Level E academics have published papers that have more than 200 citations. In all, 39 papers with more than 200 citations were produced by academics who were employed at 17 different Australian universities when the papers were written; with one university producing 25% of these papers and another 18%. Two academics had three papers with more than 200 citations and nine had two such papers. An academic would have needed a paper with more than 260 citations to get into the top 5% on this criterion and eight academics had published papers with more than 500 citations, with one academic having two such papers and one group of authors publishing a paper that has had more than 100 citations a year since it was published in 2001.

Conclusions

Australian marketing academics' research has had more impact in recent years, with senior academics' citation indexes increasing significantly since 2007. However, it is clear there are real differences across academic levels and that benchmarks used to compare academics need to reflect this. The figures shown in Table 4 provide the basis for a sensible evaluation of the research impact of marketing academics at all levels who are being considered for appointment, tenure or promotion. Interestingly, while Group of Eight academics, had more impact (*ceteris paribus*), high performing academics are widely spread around the sector, rather than concentrated in one or even a few universities, which is as a good thing for us all.

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