Only the Flexible will Survive: Research Production in Informatics in South Africa

Sam Lubbe
Mudaray Marimuthu

Abstract

The article discusses the impact of research on tertiary activities in Southern Africa. The article starts off with reviewing the literature and came to the conclusion that many of the overseas universities use research output for promotion and tenure whereas the same is not happening in South Africa. Most of the research output in South Africa stems from established people who are involved in postgraduate research supervision. This is a problem because there are not many local journals available for IS/IT/CS researchers to publish their work in. The paper proposes that the research approach will have to change – junior staff must be motivated to produce more papers (maybe a trans-disciplinary approach would be advisable for these researchers). The benefits of publishing are many – especially with the new approach of the Department of Education where researchers are subsidised to publish articles in approved scholarly journals.

All of us are travellers lost,
Our tickets arranged at a cost,
Unknown but beyond our means.
(Dean Koontz, accessed 2003)

Introduction

The idea for this paper started while the authors were looking for an appropriate place to publish their articles. Presently there are not many Academic journals in South Africa that scholars in IT/IS can use

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to publish their manuscripts. There are also some universities and technikons that continue to view the publication of articles as a key component of any academic's duty. The evaluation of the quality and quantity of the articles can therefore become important for promotion purposes (especially in South Africa where promotion to a chair can become a reality if the person has enough[1] publications).

However, little research had been done in South Africa in terms of defining the journals that could be used for publication purposes. At the same time there is very little to note who had been publishing in these journals and from which university they are. The key variables for this study would therefore be to discover what academic journals exist, how many IS/IT articles have been published by them, analyse which universities are doing research in terms of articles published in South African journals and look at university affiliation by journal. Some of the overseas academic journals had been ranked using different surveys and this ranking should be kept in mind by research administrators. The problem is to streamline the research administrative process at tertiary institutions in South Africa. These research administrators should also keep in mind that there should be a bridge between formal metrics and the activities of the researchers.

This article will therefore attempt to discover the top academic publishing journals for the IT/IS field in South Africa, look at how many articles in the IS/IT field have been published by them and at the same time, look at which universities publish in them and who the top authors in these journals in terms of IS/IT are (future studies). These journals would be visited at a later stage for another article, the articles counted and the phog factor calculated. The results would be listed in tables and conclusions, based on these tables would be drawn.

[1] Enough' publications is a rhetoric used by some managers in higher educational institutions if they do not want to promote a member because no number is allocated to the word enough.

Review of Previous Research

The literature review deals in detail with some topics that can help to explain the research productivity of academics in South Africa. It discusses various aspects of research productivity such as first research then teaching policy, journal quality, university and personal outputs and promotion and tenure. It displays some statistics and concludes that there are not many journals available for IS scholars to publish in South Africa. The payoff from social investment in basic research is as clear as anything is ever going to be in economics. The basic picture is that 50% of economic progress since WWII is due to technology and that much money (about 33%) of the budgets are spend on research and development. This creates opportunity and cultural quality of life for all and adds value to graduates.

It is also important to note that lack of research funding could lead to unproductiveness of scientists. The researchers should therefore ensure that the balance of functions of change, efficiency and good will are met. Also research leadership at every level is essential for institutional research productivity.

Citations

The only way to keep track of the importance of research is to investigate how many times a researcher's paper or article was cited. This could be done with the application of functional rather than structural administration. The job of functional administration would also be to help researchers apply behavioural principles correctly and effectively in direct management of research projects. Sauer (1988) notes that it is clear from the estimates in their paper that citations and journal articles are the most important productivity indicators in determining salary for academics. In other words, we become what we measure – all researchers should strive to be cited and this could be the measurement of the productivity of academics.

Podgursky (2001) states that the effect of citations and publications is non-linear and variables demonstrate diminishing returns. The rankings in the USA are strongly associated with objective measures

of productivity such as total citations or total pages in refereed journals. Rushinek and Rushinek (2003) argue that search engine citation is a useful supplement to the traditional academic ranking of journals and in some cases it might even be superior for litigation support. It would thus be a useful exercise to discover how many times the South African journals were cited in overseas journals – this could be a further motivation for local authors to publish in the local journals.

Doctoral Program and Productivity

Hu and Gill (2000) argue that it is no surprise to see a growing interest in studying the factors affecting research productivity because of the growing importance of doctoral studies. They state that any institution that offers a doctoral program influences the research productivity positively. The length of the doctoral programs also influences research productivity. The longer the doctoral program, the more productive staff members become. The problem is to maintain the research output. An increase in doctoral studies should also therefore show an increase in research. A good number of research outputs, on the other hand, would also draw more post-graduate students. The problem is that it does not always portray student outcomes as well. Barnhill (2001) notes that because postgraduate studies are few and supervisors even fewer; the *Law of the Few* illustrates that some people have exactly the right connections while other cannot produce because they do not have the resources.

The Importance of Teaching and Research

There are lecturers who are talented and their students and admirers wait anxiously for the masterpiece worthy of the lofty opinion they have formed of the teacher. The problem is that the great work is never written, and the teacher remains silent. Part of the development of academics is that they should remember that education (research and teach) is their focus (principal) and if this should be broken then they will loose the principal donor for their existence (the state). Substantial attention has been paid to the determinants of academic earnings, and

it was noted that the publication of scholarly articles are the major determinants of salary differences (Hamermesh *et al.*, 1982). They also argue that personal experience should also be taken into account in order to measure the publication of academic journals properly. They state that citations should be brought into account while measuring the personal contribution of any academic.

Mabert (1993) argues that research for personal prestige is important at any academic institution. It can be applied to a wide variety and need major decisions to motivate the need for inquiry. There is a need for faculties all over the world to contribute to the growing body of knowledge. The need for business research might supplant the need for teaching as there is a small link between the two in the real world. All of this research should enhance the quality of life although she notes that pure research is not the mission of the academic. Much of the research in the past has been affected by a narrow focus and limitations which eventually impacted on the teaching and the quality of the teaching.

Baker *et al.* (1998) note that there is controversy regarding the issue of empirical research productivity and quality teaching. They argue that in Florida, teaching effectiveness was rewarded in terms of money. Even with the reward for effective teaching, they have discovered no link between research productivity and teaching effectiveness. Xie and Shauman (1999) state that female scientists prefer to do more teaching than research. They argue that woman is less likely to work at research universities and that they tend to spend more time in the classroom. In order to maximise intellectual resources it is important that the ranks of researchers include woman and people from disenfranchised communities.

Hu and Gill (2000) investigate why some academic were more productive than others and note that some of the factors (such as the number of years in service, the teaching load, other non-academic experiences) do not have such a big impact as one would expect. There were some factors that come to the attention of researchers; that is the time allocated to research activity and the existence of a doctoral pro-

gram. Hu and Gill further argue that productive faculty not only further their knowledge in their professional fields by integrating their findings with those of other via scholarly publications and this could help in attracting more research grants and better students.

Kemper (2001) *cites* Cajal from a work he did in 1897 and note that this is still relevant today. Cajal recognises that excellence in teaching and research are complementary, requiring similar traits. It can be emphasised that research productivity results from a passion for reputation, for approval and applause and a taste for the original. Kemper argues that research productivity in individual's peak in the 30s and declines afterwards.

Fulford (2002) also argues that many normal people believe that universities exist to teach the young and prepare them for life. He notes that many professors consider teaching at best as a secondary activity. Fulford argues that no university in Canada has hired a professor because of teaching ability. He notes that the statement that good researchers make good teachers have never been demonstrated. It is believed in academia that this is the case and is purely anecdotal. The obstacles (tenure, labour issues, politics and politicians, narrow-minded administrators) to reform are so intimidating in South Africa that the authors do not think that any change will occur soon.

Journal Quality

It can be argued that the journals not always define what constitutes an article and what not an article is and this could affect the quality of the journal and the number of articles that each one publishes. The Journal quality can help researchers over all of the spectrums to improve their chances of obtaining research funding and to target articles to appropriate journals. It is important that researchers concentrate on the quality of life issues to ensure that academic freedom is sustained. Lightner and Nah (1998) state that theory building for use is being emphasised by 81% of the academic journals. Only 18% emphasises theory testing. More than half the papers in these journals use field studies as a methodology. This is because IS as a science is

young and growing. Theory testing, however, would help advance the maturity of the science.

Babbar *et al.* (2000) argue that academics author the majority of the academic journals in operational management. The main idea is that academics produce these papers for fellow academics as not many practitioners read these journals. IS and its products had been enriched by the contribution of various other research disciplines. This should be kept in mind by researchers when they collect information that they want to use for publication purposes as this could affect the acceptance of a quality product for publication.

The journal quality list assembled by Harzig (2000) and Katerattanakul and Han (2002) contains no SA journals. A list assembled by Mylonpoulos and Theoharakis (2001) on global perceptions of IS journals also did not contain the names of any South African Journals. This could be because people do not know about these journals or do not regard their quality as high enough.

Katerattanakul and Han (2002) note publications in prestigious journals have significant influence on academic peer recognition, departmental and institutional rankings, tenure and promotion rankings and the merit increase of faculty compensation. They argue that there is a need to compare the European journals (the same could thus be said of South African Journals). Katerattanakul and Han conclude that the quality of European Journals has been underestimated and that these should have been included while ranking the journals.

Many parties have an interest in the quality rating of IS publications because some people use these ratings as selection criteria for new staff members and some overseas universities use them as promotion guide. This can also be a guide to indicate how the IS field matures (Walstrom and Hardgrave, 2001). The problem in South Africa is to provide some consistency in the evaluation of the quality of these journals. There should be an indication on the appropriateness as publication outlet, as well as the significance of the journal(s). At this stage, no research was conducted in South Africa to rate the SAPSE accredited journals and how these journals are supported by the schol-

ars in the field of IS. Walstrom and Hardgrave, for example, did not rate any South African journals in their article – it is thus not known if any of the journals in South Africa can be rated at the same level of their overseas counterparts. This statement is supported by Athey and Plotnicki (2000).

La Manna and Young (2002) note that it is easy to launch a new journal but more difficult to create a high-quality journal. The new journal should reward authors with the knowledge that the key elements required of a journal are in this journal (e.g. reputation, high-quality research, editors, etc.). The strictest form of control should ensure that only submission that at least matches the quality threshold should be accepted for publication. The contents should at least have passed the peer-review test and readers should be able to comment on these articles. These journals should be listed on the list of the top 50 journals in the world.

Measuring Success

It can also be noted that tertiary institutions have two ways of measuring success – numbers and stories. Most of the time student achievements are highlighted, departmental discoveries are blown into the press and the services the institution delivers are printed in the universities publications. In the USA, the NRC ratings can be some help in evaluating the performance of the researchers but no such study exists in South Africa. Sanklin (2001) argues that many factors could be used to measure success and productivity. Some of these could be: individual attributes, institutional and departmental attributes and the culture and working conditions. She noted that there is a link between departmental culture and the research success that some individuals portray.

Niche Area

The Government in South Africa does support niche area research more than any other research at tertiary level. The niche strategy is important and needs to be investigated- niche areas generate more pro-

ductive researchers. The niche area helps to make the research part of the departmental agenda and at the same time mobilise research opportunities, thereby ensuring survival of the productive researchers. This will also promote the competitiveness of the institution. The overall success of the individual researchers on any tertiary institution depends basically upon the quality and success of the niche area that is being presented. The ultimate 'egalitarian' method, however, holds that all niche area researchers are equal in both need and merit and therefore should all receive the same consideration for distribution of resources.

Personal Aspects

Fowler (1998) notes that the value of thinking and the value of inventing ways by personal researchers should be done in such a way so as to free the researcher from elementary operations. By doing it creates positive feedback and produces an information explosion. The problem with research is that the volume of information has increased but the capabilities of our brains have not increased much. The information overload can lead to stress, and stress, as Sapolsky's work cited by Fowler (1998) has shown, can actually kill brain cells that are crucial for memory and thereby reducing productivity. Fowler states that the size of articles has increased since 1968 and that the number of references has increased more than 4-fold showing that people are more productive.

Fowler notes that salary decisions should be linked to research productivity and this linkage should be explicitly stated and helps maintain levels of activity by principal research investigators. It may even renew personal research efforts but the amount of information available might be overwhelming. The downside of this is that the linking of salary decisions to research productivity could be expensive and this could be food for the anti-research brigade to note (for example that salary differentials could be even greater than the present ones in tertiary education).

Rice (1998) in a keynote speech argues that new opportunities are always on the horizon and that researchers should develop personal roadmaps on how to reach their research objective. Xie and Shauman (1999) state that female scientists produce research at a much slower rate than male scientists and researchers. They argue that could be because woman might take longer than man to earn their doctorate degree. They further stated that married researchers are slightly more productive than unmarried researchers. Hu and Gill (2000) note that factors such as teaching load and time allocation for research all affect productivity and that this does not affect the level of the person (senior or junior). They also state that it becomes more important for academics to do research. One negative aspect they also note is that the older a researcher gets, the fewer his articles become (especially if they had reached tenure). They did find that tenure-earning staff is more productive. People like Deans, Head of Department and other higher positions also do less research. Hu and Gill (2000) however, argue that good researchers all manage their time effectively. Professors produce, according to them, the most articles.

Claver *et al.* (2000) argue that personal judgment on the quality of the sources be done by the researcher. Each researcher will have a personal preference for a research topic (e.g. IS development, DSS, IS evaluation, IS implementation, e-Commerce, etc.). la Manna and Young (2002) state that the personal role of the researcher should be restored as content providers, quality assessors and champions.

Shanklin *et al.* (2001) note that to maintain research productivity, it is important to encourage participation at all levels, faculty at all stages of their development, pre-doctoral and post-doctoral training programs, and mentoring and support of the most productive people so that the institution do not loose them. There is a notion that bigger institutions are more productive because of intellectual synergy. People should, however, be personally motivated to remain active as scholars by the intrinsic rewards of mentoring their post-graduate students.

Walstrom and Hardgrave (2001) note that it is a personal problem for authors to decide where to publish their work. This is becoming

more complicated with the arrival of electronic journals and the increase of journals worldwide. Rushinek and Rushinek (2003) also argue that the importance of journals is especially relevant for people who are also expert witnesses or are interested in becoming experts. The way to become an expert is by your publication record in reputable journals.

Promotion and Tenure

Hamermesh *et al.* (1982) argue that a better framework should be designed for the evaluation of promotion and tenure of academics. The complete picture had not been evaluated and it is therefore of importance that academics be evaluated on the same level as other universities to ensure satisfaction. Sauer (1988) states that the existence of incentives capable of promoting the growth of knowledge and the consequences of competition amongst scientists require a reward of some form – whether it is promotion or tenure. The publication of an article appears to be a measurable impact on salary independent of citations. The figures they have indicate that there are significant (3.80% increase in salary in 1982!) monetary returns to high-quality research in the economics profession.

Universities and Technikons in South Africa should remember that to increase research opportunities salary decisions should be linked directly to the desired research outcomes (the goal of the researcher) to create incentive systems that would enhance research productivity. The fact in South Africa is that the personal research and development budgets are likely to remain relatively flat.

Rosenquist *et al.* (2001) note that some overseas universities quantify research output for all investigators, an average is derived and each researcher is compared with this average and then rewards are distributed. Researchers who perform well thrive under this system but the weakest are weeded out. The problem that research administrators still sit with is the quality of the research output of each academic. Research administrators have agreed that they must be careful to measure quality and impact carefully. Rushinek & Rushinek (2003) note that

the importance of a computer journal should be taken into account when seeking tenure at an academic institution. They also noted that the information available at http://www.isworld.org/csaunders/ rankings.htm may be useful in preparing promotion and tenure packets. It should, however, be noted that one method of evaluation does not apply everywhere (Rushinek and Rushinek, 2003).

Time to Publication

The average submission to report time-lag ranges from four to fifteen months and a quality journal should ensure that this is substantially shorter (la Manna and Young, 2002). The problem that affects productivity is that it takes quite a while for articles to appear in the top journals.

University and Departmental Output

Part of university output can be classified as outreach and service. Outreach can be classified as the dissemination of knowledge, public programs, and cultural enrichment to business, government, educational and communities. Outreach has payoffs in 3 areas: publicity, recruitment, and development. Productivity will therefore be measured in terms of goodwill created by productive researchers. The tertiary institutions should also look to mobilise flexibility and effectiveness in addressing new research opportunities, eliminating at the same time, any emotion-laden and archaic remnants of irrationality. The department should focus outwardly and the University should focus inwardly because the university has not identified niche areas – just the departments. This can be a problem if the university also has niche areas and centres of excellence.

Hamermesh *et al.* (1982) note that some universities reward faculty and departmental reputations but at the same time warn against social-welfare maximisers. These faculty and departmental scholars consists of a community of scholars who might sit in different offices but who participate together in the production of knowledge and this might affect productivity overall. The growth rate of universities in

developing countries will have to keep pace with the mega-universities overseas or developing countries will fall behind.

Cost of research literature increases every year and the results could be that some subscriptions to research literature will have to be cancelled by the universities resulting in a decrease in productivity by the academics. The authorities at universities and technikons should remember that these scholars have to pursuit non-scholarly activities that would affect productivity and would affect comparisons across institutions. There should be no separation between university research and emerging technology.

Barnhill (1998) argues that variation and not replication is the key to tertiary survival. He further notes that regional distinction is important and universities should move into the central role of societal transformation through students and research productivity. By conducting research, a strong foundational academic core can be build – especially if niche areas can be focused for research purposes. This might cause the tertiary institution to take more risks to move into these new roles and directions.

Barnhill (2001) notes that strategic intent by top leadership, coupled with natural advantages and local expertise, can lead to research enhancement that lifts the entire tertiary institution. He also argues that there will always be research competitiveness and the public face of research would include governmental help, jobs from research and quality graduates. He states that research as a topic should be promoted on the campus and that departments should collaborate and tackle bigger projects. The one factor that researchers will remember is that they have to work autonomously.

Shanklin *et al.* (2001) state that large departments tend to have people in a variety of fields, which would seem to discredit the strategy of building a "unique" niche. There are some administrators that are concerned about the tertiary institution's return on investment in terms of research. Education is also being regarded by these people as value-added product and technology transfer helps with research and value-creation.

Shanklin also argue that institutional and departmental attributes influence research productivity. She notes that there is a tendency for bigger departments to be more productive than smaller departments. A reward for a person is to be invited to present papers at national and international meetings or serving as a chair for review panels, etc. The aspect that should be kept in mind is that administrators must acknowledge the contributions of researchers to the profession and to their disciplines.

Tertiary institutions should ensure that their institution reach for a high ranking within a world class research area (niche areas). Achieving this, would ensure enough money for research, the fullest utilisation of tertiary communities and value added to the society. The literature notes that there were many aspects that needed attention in terms of the research productivity of academics. The following questions remained unanswered:

1. Why are there no rankings of any South African academic IT/IS journals
2. How are South African IT/IS Journals ranked within South Africa?
3. Who publishes in them?
4. Which university or Technikon supports the SA IT/IS Journals?

Summary

The biggest challenge facing researchers in the academic environment is to create learning communities. Universities and technikons need to become entrepreneurial to draw money but they should not adhere to a single format. The need for research money is relevant and will have to come from indirect cost reimbursement such as private donations. On the one hand, this could result in an improved recruitment of research scientists. This could result in obtaining extra resources but on the other hand, it can be unproductive as stated earlier.

Reputational rankings do reflect well on academic CV's but does it help the productivity of the department or the tertiary institution? This can in a way help to measure quality but all tertiary institutions

should use the same rankings and same quality measures that articles noted. Tertiary institutions should be able to reflect that they are productive and that full cost had been recovered in terms of research. The problem is, however, to prove how their contributions are unique and that students benefit from it.

Research Methodology

The authors had some initial interviews with people who publish or plans to publish. These interviews were unstructured and helped the authors by giving them an insight on how the prospective respondents felt and what their research views are. These interviews were not analysed but used to supplement some of the findings while analysing the questionnaires.

The survey instrument is based on the theory that were discussed above and the SABINET website. The first part covered demographics and what research and teaching loads these authors have. The next part covered the assessment of the quality of South African IS Journals and the last part the importance of these journals while publishing. The questionnaire consists of 18 questions, and two columns with rating requests. The data were collated into an EXCEL spreadsheet and some graphs were drawn and basic statistics conducted.

Data Discussion

The first phase of the research investigated the publishing trend of academics at South African tertiary institutions and the Journals they prefer. The next two phases will investigate the journals and the IT/IS articles they prefer. The figure below explains the jobs that the respondents are doing in academia. The population consisted of all academic people in the IT/IS field in South Africa teaching at universities. The final sample includes at least 7 professors. Of these respondents, 79% were permanent and the rest had contract appointments. It was important to determine the type of job the respondent was doing and if they were appointed permanently. Permanent employees with no threat of contract appointment renewals were under no threat to conduct re-

search. This agrees with the statement by Fulford (2002) who argued that professors in permanent positions were more active in terms of research.

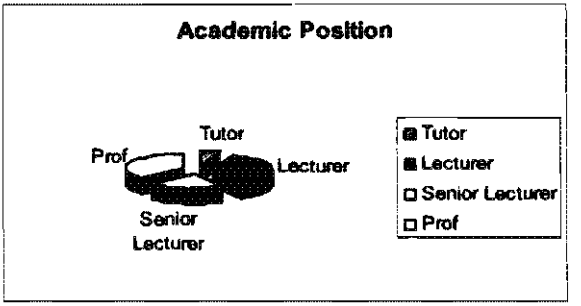

Figure 1: Types of positions of the respondents

The other demographic that was determined was what type of qualification these people had. The figure below demonstrates that most of the people had at least a postgraduate degree (6 Masters and 7 Doctorates). What was interesting from the sample was that there were some people with only a B-degree (2) and 3 people with an honours degree. It was noted on the survey instruments that the better research productivity comes from people that already had a doctorate (maybe some of the research stems directly from their doctoral dissertation. This is in agreement with the Shanklin *et al.* (2001) statement where they argue that most postdoctoral positions produce a good research output.

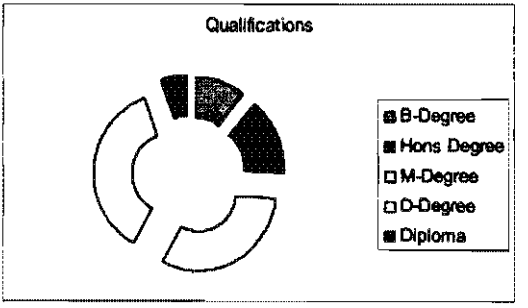

Figure 2: Qualifications of the respondents

Question 5 produced out of the ordinary results because it showed that there were none of the respondents that produced only research or just teaching. Most of the people do teaching with an even amount of research (63%). There were some instances where people did teach with some research (21%). It seems to the authors that the academics in South Africa do research out of their own accord and most of the times this is done on their own accord with little support from the university. This is maybe because of some form of research reward as noted by Sanklin (2001). Most of the people participating in the survey stems from the academic environment in the Western Cape, Gauteng and Kwazulu-Natal. The respondents have indicated their participation in teaching and research as follows:

	Teaching	Research
0 – 5 Hours	37%	32%
6 - 10 hours	11%	16%
10 - 15 hours	26%	26%
More than 15 hours	26%	26%

Table 1: Link between teaching and researching

As can be noted form the table above, there is a high correlation between the two (more than 90%). This means that in South Africa, academics regard a link between research and academic excellence. It could be speculated that there is a link between the work they do and the end-product of their students because they use the students to help with their research. It also shows a link between the response of question 5 (where respondents have marked equal amounts of research and teaching) and questions 6 and 7. Most of the people (nearly 70%) have been in academia for more than 10 years (see figure below) and will out of habit produce research.

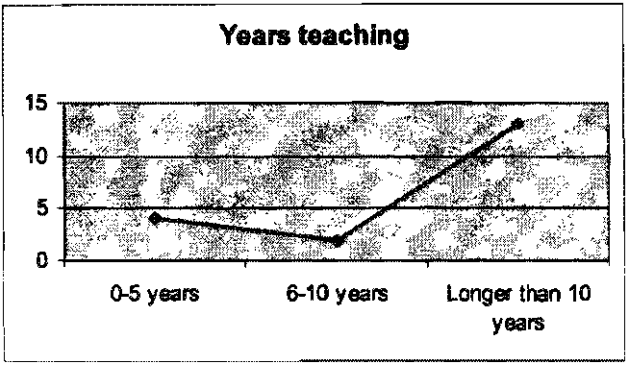

Figure 3: Number of Respondents and years lecturing experience

Nearly 90% of the institutions that participated had a master's degree program and nearly 80% had a doctoral program. This also links in to the fact that many had teaching and research combined and this further supports the responses from questions 5, 6 and 7 and supports the statement by Hu and Gill (2000) who argue that research output is better if a postgraduate programme exists.

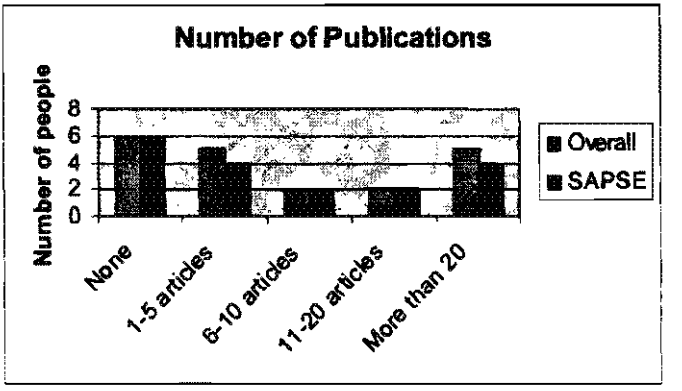

Figure 4: Respondents and the number of Publications published

There is a good correlation between the publication list and the SAPSE accredited publication list. Many of the people had published

in accredited journals and it seems from the responses that many people had published in the SAPSE journals as their only layout. Most of the articles were published in the fields of Information Systems and e-Commerce/Business (nearly 70%). More than 50% of the respondents argued that there were enough outlets to publish research in South Africa. More than 63% of the respondents noted that their institution uses the number of publications for decisions such as promotions. Nearly 75% of the respondents agree that there should be a new updated list available and nearly 80% indicated that the new list should include e-journals.

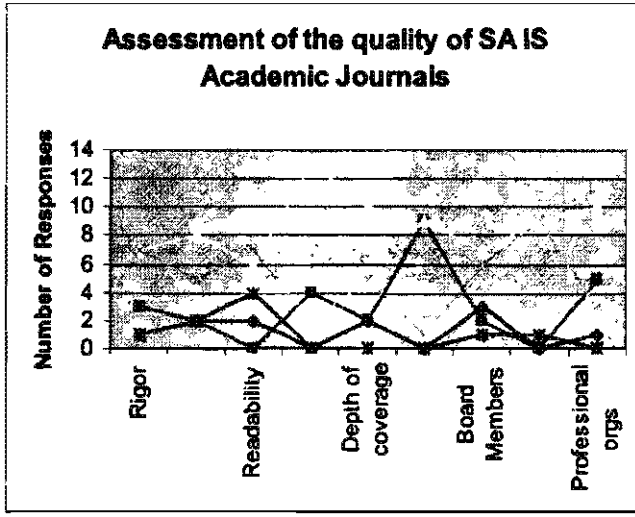

Figure 5: The quality of IS Academic Journals in South Africa

Most of the respondents argue that the journals in South Africa is poor to neutral in terms of rigor because they do not publish items that do not meet their stringent scope. More than 60% of the respondents argued that the journals in SA do not publish practical applications readily. About 60% of the respondents noted that the article contents are readable in South African IT/IS Journals. More than 80% argued that the breadth of coverage could have been better in the journals

available in South Africa while more than 70% of the respondents noted that the depth of coverage could have been better.

Most of the people were either neutral or lower than neutral in their view of the contents of the journal in terms of teaching applications. While only a little more than 30% indicated that the board members of these journals were appropriate. Most of the respondents agreed that the authors were appropriate and suitable for the journals but must of the respondents were acknowledging that they are neutral in terms of the professional organisations that these journals support. This agrees with the statements by Babbar *et al.* (2000) and La Manna &Young (2002).

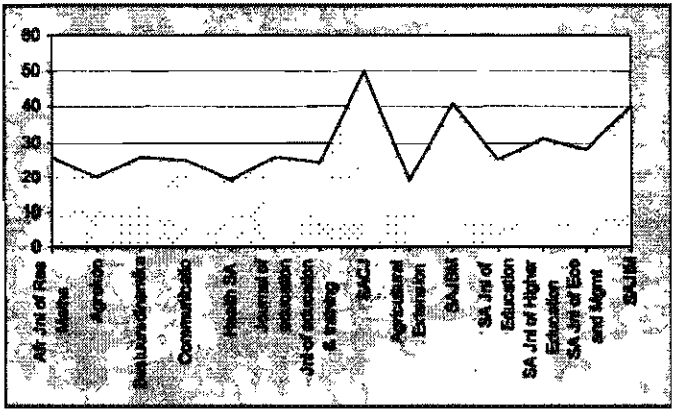

Figure 5: Journals for publication

Most of the journals have received only about 19 points (1 point each) allocated as being useful for research. The maximum each journal could have reached is 95. None of the journals received such a high figure. The top journal in this regard is South African Computer Journal (SACJ) (50 points) followed by the South African Journal of Business Management (SAJBM) (41 points). It would be interesting to repeat this exercise in two years time and see if there were any differences from the list portrayed above. A newer journal (SA Journal of Information Management (SAJIM) (40 points) had not been advertised

as much as the editorial staff would have liked to and they could change position.

Conclusion

This paper has addressed am issue that has not been addressed in South Africa and can become the subject on debate within Information Systems and Computer Science in South African academic circles. The issue were dealt with in two ways. The journals had been rated and some general comments had been made on them. The top journal rated by the IT/IS academics in South Africa is the South African Computer Journal (SACJ) with the South African Journal of Business Management (SAJBM) second.

Few IS/CS researchers have developed competencies that span major paradigms. The authors expect that most IS/CS articles will continue to be published in the well-known journals to ensure that their own skill sets will be improved. It is expected that most articles will still come form the tenure type academics with the teaching being done by the junior staff. The problem is to ensure that there are enough qualified people to supervise doctoral research ensuring at the same time that the research will pick up. Past prejudices of researchers from different traditions will not be removed by quickly and people will still support the more established journals.

The research questions that were answered were:

5. Why were there no rankings in South Africa of academic journals?
6. This is mainly because nobody has thought to rank the journals or investigate the quality of these journals.
7. What was the top IS/IT journal in South Africa?
8. The top journal was SACJ with SAJBM second.

The last two questions will be answered in a forthcoming article.

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Authors' Contact Details

Sam Lubbe (slubbe@ukzn.ac.za)

Mudaray Marimuthu (marimuthum@ukzn.ac.za)

School of Information Systems & Technology
University of KwaZulu-Natal, Durban, South Africa