



Editorial: Role of Quality and Quantity on Impact of Archival Publications

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Editorial: Role of Quality and Quantity on Impact of Archival Publications

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The central goal of all researchers is to produce publications that have a large impact on their field. A question that is often raised is whether it is the quantity or quality of the publications that determines impact. Or, is it both? Is one more important than the other? This is a rather important question that young faculty often ask. Although an issue of significant importance to all stake-holders, e.g., researchers, academic institutions, granting agencies, there is little serious research on the topic. There are some studies that deal with this question but their results are likely to be discipline-specific since the publication norms are different in different fields. However, one can find some guidelines that may be useful.

Haslam and Laham^[1] considered the publication records of some 85 social-personality psychologists and examined their bibliometric impact over a ten-year period since graduation with a Ph.D. They examined the quantity of research output (number of journal papers) and their impact in terms of mean journal impact factor, citations, *h*-index, webpage visits, etc. Clearly, one can challenge use of these simple metrics to reflect true impact of the work. Nevertheless, in the absence of anything that is more objective this methodology is commonly employed in practice. The objective was to see if it is the quantity of papers that is more important or is it the quality. Are these two parameters correlated negatively or positively or neutrally? Does increase in quantity result in a drop in quality? In fact the statistical analysis shows a positive correlation between quantity and quality. Thus, more prolific contributors also produce higher quality outcomes and have a greater impact on their field.

If quantity and quality can be traded-off, i.e., one may choose to publish more piecemeal papers to increase quantity but at lower quality, then young researchers may adopt strategies to increase impact that ecologists^[2] term as r- and K-strategies adopted by living organisms to survive. Some organisms are r-strategists, i.e., they have higher reproductive rates but of lower-quality offspring, while others are K-strategists that invest more on fewer offspring. The former prefer numbers to offset unstable environments, while the K-strategists adapt to stable environment. Haslam and Laham concluded that prestigious institutions usually follow the K-strategy and the lower rung institutions follow the r-strategy. Interestingly, they find that quantity is more

effective than quality when it comes to bibliometric impact of scholarly publications. Lower number of publications does not necessarily reflect higher quality publications. It is well known that many papers published in high-impact journals do not receive any citations at all. The perceived value of publication in high impact factor journals is exaggerated by the fact that these journals do publish some very highly cited papers. To summarize, Haslam and Laham concluded that r-strategists are more impactful than K-strategists when it comes to enhancing the impact of academic research.

Clearly the conclusions cannot be generalized to all disciplines. However, it is important to note that productive scientists and engineers do publish more extensively. Since most archived journals follow the review system, the quality of publications is held above a certain acceptable level for the journals to survive in today's competitive environment. It is not unusual to see papers published in high-impact factor journals receiving fewer citations than those in medium range journals. Indeed, papers that present work that is much ahead of its time or is very innovative are likely to result in fewer, sometimes no, citations. Crowded areas of research with little potential for innovation may attract very high citations as many authors are active in that area. Papers in "buzz" areas or "flavor-of-the-month" fields also receive high number of citations for the same reason. If the research findings are preferentially presented in books, since only journals are counted in citation exercises, the real impact can be incorrectly diminished by the bibliometric indices used. In fact, this is true of drying research as well since during the 1980s most drying research appeared in books and conference proceedings. A significant part of such work still appears in books and often this work has a great impact on the field and practice of drying technology.

To sum, researchers should maintain a steady stream of publications of quality that good journals in their field will accept. It so happens that the real quality of most impactful papers is seen after a long time has elapsed since publication. Even papers that have been refused by some journals turn out to be most impactful in the long run. In today's computerized world access to all archival publications is easy and equal. Thus a paper in *Nature* has the same probability of being discovered by a researcher as one that has appeared in a much lower-impact factor journal. As Haslam and Lahan state, "publication quantity and quality

are not antithetical.” It is possible to publish more and yet maintain quality and thus garner more impact.

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