

## **Constraints in journal publishing and international research collaboration in the Asia Pacific Region**

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### **Abstract**

International research collaboration is when researchers from various nations working together to achieve the common goal of producing new scientific knowledge and internationally co-authored papers are used to measure collaborative international research activity. The benefits of international research collaboration includes sharing of developed scientific knowledge and skills, and improve research quality, while in terms of collaborative journal publishing, it could contribute to publications in high impact journals and, increase the citation and visibility of researchers. International collaborative research activity and publishing is beneficial particularly to low-resources countries such as those in the Asia Pacific region. However, Asia Pacific region holds multi-ethnic, multi-cultural, populous, poor and growing ageing populations and these factors posed limitations to international research collaboration and journal publishing such as: lack of resources in terms of financial, institutional and government support; geographical distance; language barrier; lack of research skills; the challenge of acceptance into international journals; the lack of journals which represent the Asia Pacific region and lastly issues in managing the journals including financial, establishing a peer review and journal management, and operation guidelines. Efforts to address the challenges and promote journal publishing and international research collaboration in the region are warranted.

**Keywords:** journal publication, international research collaboration, bibliometrics, Asia Pacific.

### **Journal Publishing and International Collaboration in Research**

International research collaboration can be simply defined as researchers from various nations working together to achieve the common goal of producing new scientific knowledge (Katz & Martin, 1997; Wagner, Yezril, & Hassell, 2000). Generally, research collaboration and co-publication activities are more likely to occur within the same country, the same sub-national region, and the same linguistic area (Hoekman, Frenken, & Tijssen, 2010). These factors decrease research costs and allow for easier coordination and communications activities, which ultimately improve the effectiveness of the research.

In recent decades, the effects of globalization and the rapid development in scientific communication have led to intensification of international research collaboration and publication (Doré et al., 1996; Glänzel, 2001; Prathap, 2013). Rising investments in science and technology have lessened costs of communication and travel (Starr, 1995). Furthermore, sharing of data and ideas has also sparked interests in international research collaborations (Wagner, 2005). Substantial financial resources, researchers' commitment and time, academic excellence, individual motivation, and active informal communication are factors influencing international research collaboration (Jeong, Choi, & Kim, 2013).

For a long time, co-authored publications have been used to measure research collaboration activity such as in bibliometric studies (de Solla Price, 1963; Smith, 1958), which basically involves counting the number of co-authored papers published. Therefore, international research collaborations can be measured by counting publications that have authors from more than a single country. By 2010, international publications account for 21.6% of the world's published scientific papers (Kato & Ando, 2013).

International research collaboration has been considered as an indicator for high quality research and the reason being is due to the nature of how research enables the transfer of developed scientific knowledge and technologies to developing or newly developed countries (Kim, 2006). In terms of publishing, international research collaboration can also increase the citation of researchers, improving research quality, and results in publications in high impact scientific journals. International co-authored publications have been found to gain more citations than domestic or national co-authored publications (Glänzel, 2001; Glänzel & Schubert, 2001). International co-authored papers are cited up to twice as frequently as single-country papers (Narin & Whitlow, 1991). International collaborative research can also result in the opportunity for authors to publish in high impact journals that usually favor research with novel approaches that have high theoretical and technical standards (Mohrman & Lawler, 2011; Peterson, 2001, 2009). Furthermore, authors who collaborate with well-established researchers in a publication are also likely to increase their visibility (Beaver & Rosen, 1979; Rynes, 2011).

### **Journal publishing and international research collaboration in the Asia Pacific region**

The Asia Pacific (AP) region consists of both developed (Australia, New Zealand, China, Japan, South Korea, Hong Kong and Singapore) and developing countries, (Asian Development Bank, 2014) although the latter forms the majority. Poverty, emerging and spreading diseases, environmental and climate impact, and social inequality are some of the challenges faced by Asia Pacific nations (Wan & Zhang, 2011). Hence, international collaboration in these areas of research can help to improve these disparities between the developed and developing countries.

A bibliometric study revealed that there has been a significant increase in scientific publication output from countries in AP from 1992-2007 (Stefanie, Dirk, Gerold, & Gesa, 2011). Detailed analysis on publications from 1998-2007 showed that over two million journal articles in ISI-listed periodicals have been published by researchers from Australia,

China, Indonesia, Japan, Malaysia, New Zealand, Singapore, South Korea, Taiwan, Thailand and Vietnam, ranging from a few hundred to 10,000 annually. These countries were regarded as upcoming research nations (Stefanie et al., 2011), particularly China, which saw a significant exponential increase in publication output since 1992 to almost 100,000 by 2007. However, this is non-comparable to USA or EU-27, which published almost 450,000 and 502,000 papers respectively in 2007 (Stefanie et al., 2011).

In the Asia Pacific region, despite a huge increase in publication output, the average of internationally co-authored scientific papers was only 41% in 1998 and 46% in 2007. For China, Japan, South Korea and Taiwan, countries with very high yearly output, internationally co-authored papers account for only 28% of total publications. Conversely, countries with the least publication output in the Asia Pacific region have almost 90% of their scientific publications published with other countries worldwide (Stefanie et al., 2011).

In a Malaysian bibliometric study, which assessed the trend of international collaboration in clinical medicine from 2001-2010, it was found that Malaysia's clinical medicine publications remained low during the study period (Low, Ng, Kabir, Koh, & Sinnasamy, 2014). However, the internationally co-authored papers were found to be published in journals with a higher impact factor as compared to locally authored papers. USA and Great Britain were the top international worldwide collaborators, accounting for more than 7% of Malaysia's internationally co-authored research publication output on clinical medicine (Low, Ng, Kabir, Koh, & Sinnasamy, 2014).

Intra-region scientific collaboration in the Asia Pacific region is greater as compared to collaboration at the global level. Countries with low publication output such as Indonesia, Vietnam, Malaysia and Thailand show higher intra-region collaborations as compared to developed countries with higher publication output namely China, Japan, Australia, South Korea and Taiwan (Stefanie et al., 2011). While this may indicate that there is a higher dependency on developed countries among the lower output countries in terms of publication, this is also a positive sign suggesting transfer of developed scientific knowledge and technologies to the less developed nations (Stefanie et al., 2011).

In addition to scientific publication output, research visibility is an important area to look into. China, which has an immense growth in scientific publication output, contributes quarter (27%) of the world's publications in material science only to see its citation rate below the world average. Australia has the best research visibility in AP while Indonesia is the least visible, and Singapore has the best visibility in AP specifically in the research area of agriculture science, biology and biotechnology, chemistry, energy, engineering, material science, mathematics and medicine (Stefanie et al., 2011).

### **Constraints in journal publishing and international collaborative research in the Asia Pacific Region**

Generally, international research collaborations are limited by physical distance, costs, language, time zones, respective institution and individual governance in terms of research,

and research intellectual property rights that vary across nations (Freshwater, Sherwood, & Drury, 2006). The Asia Pacific region, which has a multi-ethnic multi-cultural, populous, poor and growing ageing population are most likely to face these limitations. There are various challenges for journal publication and international research collaboration and publication in this region.

Firstly, the lack of resources in terms of financial, institutional and government support. Countries with poor resources may render research not a priority. In Pakistan, only 2.0% of the country's Gross Domestic Product was allocated for university funding and was even further cut down due to an economy crisis (Jahangir, 2012). In a study identifying the barriers in research collaboration between Australian and Indonesian academics, Indonesian academics reported that lack of resources was a barrier for any international collaboration (Brennan, 2013). The International Development Research Centre of the Association of Universities and Colleges of Canada found that barriers to research collaboration with developing countries include lack of funding and lack of recognition of staff efforts, lack of rewards, absence of a coherent government policy framework in supporting research collaboration for development and competing domestic research priorities (Nadarajan, 2014).

Secondly is the geographical distance. While advancement in communication technologies may improve communication between researchers from different locations, it cannot totally remove the effect of distance. For example, the more vast the difference in time zones between two countries, the lesser the work timing overlaps, which will lead to limited synchronous interaction (Olson & Olson, 2003). In addition, distance limits a researcher's ability to better understand their collaborative researchers or participants in their cultural contexts (Firestone & Dawson, 1988; Olson & Olson, 2003).

Thirdly is the language barrier. Australian academics reported that the lack of knowledge of Indonesian norms and language was a barrier for research collaboration between Australia and Indonesia (Brennan, 2013). It is no doubt that English is the main language used for communication worldwide especially among research powerhouse nations such as the US and UK. However, English is not commonly used in many Asia Pacific nations for example China, Japan, South Korea and many others (except for Australia and New Zealand). Although in recent times, the use of the English language for professional communication is increasing in the region. Nevertheless, a language barrier would be a challenge for international research collaboration and any relevant publications as there is a possibility for misunderstanding in terms of instructions and both parties being on the same wavelength during the writing process and ensuring consistency.

Fourthly is the lack of research skills. Incompetence in research skills has been identified as a significant factor in influencing research activity and productivity among family medicine faculty members in Taiwan (Fu, Lee, Chen, Chiou, & Tai, 1997). Indonesian academics felt that the lack of research capacity was a barrier for them in undertaking international research collaboration and Australian academics also felt that there is a lack of academic rigor in Indonesian universities (Brennan, 2013).

Fifthly, in terms of publication, many universities in the Asia Pacific region emphasize on publishing in international journals that are ISI-indexed and has a high impact factor. However, a study showed that internationally published papers on educational technology among Asia Pacific countries increased only from 13.7 % in 2000 to 38.4 % in 2013 (Jung & Yoo, 2014). This figure can be improved. The challenge of acceptance into international journals is firstly limited by the extensiveness and depth of the research work require to be published in such journals and secondly is the scope of some of the journal, which only publishes work that is related to where their readers reside. In terms of the challenges in publishing in regional journal, that there are few journals, which represent the AP region, most of which cater to a very specific niche market that has little international interest, thus lowering the chances of authors getting cited. Lack of resources and skills are also the issues faced by regional journals in terms of financial resources, establishing a peer review and journal management, and operation guidelines (Low & Ng, 2011).

### Conclusions

Journal publication and international research collaboration has many benefits that includes positive exposure for researchers and increase the research capacity particularly for low resources countries such as among the Asia Pacific nations. The challenges faced by the Asia Pacific nations, such as the lack of funding, research skills, and publication in international journals can in fact be overcome through international collaborations, as all parties will be encouraged to share their resources, knowledge and skills and relative experiences. Therefore, efforts to address the challenge and promote journal publishing and international research collaboration in the region are warranted.

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