Publishing Strategy through Mining Paradigms of SSCI-SCI®

PhD Students Forum, Dec 14, 2005@ntu.edu.tw

by Yender LEE, Hamid ETEMAD and Kinglong LEE
Head and Shoulders® (a shampoo), Kneel and Toe (LEE Yender)

Why Cite? Theory or Law? (a song and a logo) Cite You, Cite Me, Cite Us NATURALLY!

INK the evolution history of your field from baby to boom, bust, echo, no room to loom?? *Let the Invisible all visible!*

Evolution of theory about theory (meta) (paradigms mining)?
Invisible Network of Knowledge*, Research Paradigms and Scientometrics:
A Smart Start-Up then Take-Off Strategy via SSCI/SCI from a Novice to Veteran Researcher

a smart discipline of Henry Mintzberg

We like to coin as INK-model and build a forum
**I would like to extend it to any field as generalization as INK-xxx or INK-xxx and yyy
Twinkle Twinkle Little Stars!
...how I wonder where you are?

Constellation of Facts (Kuhn, 1965)
Airline Map as a Knowledge Network
Airports as Key-nodes and Airlines as the Linkages
Make plane, make plane, come to green plain.

- KLM Ad in National Post.ca (1998)
Making smarter uses of SSCI-SCI like* databases *before you work harder!

What are SSCI/SCI journals?
www.ISI.net.com Garfield-E SCI(1963), SSCI (73), AHCI (78)

Ranking by cited counts of journals, schools, authors... Effortful Voting System (Omega-4#)

ISO-like Certified (Shieh-A謝安田, 2004/3) cram$$$chool

Evaluative bibliometrics (Narin-F, 1978) or knowledge network learning / Epistemological bibliometrics-INK model (Etemad&Lee, 2003)

MMM Gang: Mintzberg, Miller, Chen-MJ陳明哲? Come across?

*We have alternatives, like Google Scholar® beta (2004), CiteSeer(2001).
3# Approaches to Define Field Boundary journals, keywords and authors

- Case I: Technology Management Studies (INFORM/KORMS 2000) [journals approach] Timeline/History
- Case II: Patenting and Technology Studies (ASAC2001) [keywords approach] New Field Theoretical Essentials
- Case III: Mapping History of Known Authors (My Dissertation Chapter 1) [known scholars approach-30x30Co-citation Matrix]
Controversies/Debates

- Theory change vs. Paradigm Shift (Kuhn 1963/70/73 SSR)
  - or Intellectual Crime/Research Program/Research Foundations (Lakatos, 1978)
  - *Ontology, Methodology and Value (Theory change)*
- Qualitative (Q) or Quantitative (q) -> Multi-method
- Hard Science or Soft Science (Price, 1970 chapter)
- Little Science or Big Science (Price, 1963 book)
Fair Voting System or not? Whatever, Let us Data/Paradigm-mining it into Knowledge/Theories

INK-Figures: 3G Knowledge Production System (Giddens et al., 1994): distribution and contribution.
- Patent-Map versus Science Map for Researchers
- Citation Analysis: Classic papers as Theoretical Essentials (concept, idea, term, framework …law etc.,)
- Co-citation Analysis or Co-author Analysis
- Paper Citation vs. Patent Citation (Timeline)
  - (What kind of voting system (Omega 4#)? One table PatCitPap)
- What is Knowledge? Sense-making/meaningful uncountable but measurable?
  - Intelligence/Wisdom (Quotation of Knowledge)
Why not do a Meta-Research by Invisible Network of Knowledge?

- **Meta-research**: the research about [or of] research (Table-BibEpistem); metadata; meta-method, meta-knowledge, research paradigms—theory change.
- Scientific mapping by bibliometrics G1 G2 then G3
- Literature Overview (meta-review, Advocated by Price(1963) vs conventional review paper
- Research frontiers (Price, 1965), research paradigms (Kuhn, 1963), knowledge usage (MIS keywords trends (Barki-H, Rivard-S&Talbot-S, 1988MISQ)
- New Production of Knowledge (Giddens et al. 1994): Interdisciplinary and cross-disciplinary
Paradigms for Literature Review
or Literature Overview

• Mapping the science and technology (Callon, Law & Rip, 1986) in order to seek Research Paradigms (Kuhn-T, 1963) for literature overview (Price, 1965)
• Using citation analysis to assess the impacts of journals and articles on Contemporary Accounting Research (Brown-LD & Gardner-JC, 1986) title? (Brown-LD, 1996)
• Invisible Hand of Peer Review versus Peer Commentary (Harnad-S, 2000)
• Let us ink out the INK-xxx like, MIS, OR, Fin, OB, TechMgt, E-Comm, Int+Ent, Fin+Ent or EnerTech, EnviTech, MilTech…for concise and concrete literature overview.
A Little Science is a Big Science to be since it has a big room to grow (Price, 1963)

- The Father as a Thinker of Scientometrics—deSolla Price (1953-1983)
inspired by Bush-V (1945) As We May Think, The Mother as a Tinker of Scientometrics, Garfield-E set up (1960s) ISI.
Timeline of Scientometrics

[1913] Auerbach finds hyperbolic relationship between the rank and the size of German cities (what we nowadays call Zipf's law)

[1922] The term 'statistical bibliography': Wyndham Hulme

[1926] Lotka's law: "Frequency distribution of scientific productivity"

[1927] Citation analysis: Gross & Gross

[1929] Zipf's Ph.D. thesis

[1934] Sources of information on specific subjects:

[1598] 1945 Bush-V As We May Think, from memex to hypertext (WWW)

*[1963] Science Citation Index: Garfield-E’s ISInet.com

*[1963] Little science, big science: deSolla Price

[1966] Naukometria = scientometrics: Nalimov

[1968] Matthew effect: Merton

*[1973] Social Science Citation Index: Garfield-E’s ISInet.com

[1973] Co-citation: Henry Small + Irina Marshakova (Mapping)

[1976] Journal Citation Reports; 1978 Journal Scientometrics founded;

See more …co-word, co-author…dynamic mapping@NASA.gov
The Challenges of Scientometrics
Leydesdorff - L (2001)
What Challenges to Management Research?

Invisible Network of Knowledge (

for from Novice to Veteran Scholars-INK out your INK-xxx or INK-xxx and yyy

Author Co-Citation Context of Loet Leydesdorff
Note: Based on 336 SSCI papers citing Leydesdorff L.
By Eille Persson, Inforsk
Example: INK-Expatriates

- Identifying and Mapping the Scientific Landscape of Expatriates Studies in Last Five Decades
Research Methodology

- Citation analysis
- Co-citation analysis
- Social network analysis (SNA)
Nine Key Words

- Expatriates
- International managers
- International assignments
- International leaders
- International careers
- Global managers
- Global assignments
- Global leaders
- Global careers
Data Set and Co-citations Analyses

- To start our analyses, based on the data set of 793 articles and 17716 citations published between 1957 and 2006, we developed graphs to reflect the development of the expatriate adjustment field by draw the numbers of articles (and citations) from this data set against the years (see Figure 1 and 2)
Figure 1
Source Sampling Distribution of Articles Samples in Expatriate from 1957 to 2006
Figure 2
Source Sampling Distribution of Citations Samples in Expatriate from 1957 to 2006
### The Main Journals

- **Top 53 Main Journals Reference Distribution from 1957 to 1985**
  (Citation Frequency $\geq 5$)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Journal</th>
<th>Frequency</th>
<th>Weight (%)</th>
<th>Accum. (%)</th>
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<tbody>
<tr>
<td>1</td>
<td>MANAGEMENT INT REV</td>
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<tr>
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<td>GASTROENTEROLOGY</td>
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<td>3</td>
<td>ANN AM ACADEMY POLIT</td>
<td>16</td>
<td>1.15</td>
<td>4.1</td>
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<tr>
<td>4</td>
<td>COLUMBIA J WORLD BUS</td>
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<td>1.15</td>
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<tr>
<td>5</td>
<td>BRIT MED J</td>
<td>15</td>
<td>1.08</td>
<td>6.33</td>
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<tr>
<td>6</td>
<td>ANN INTERN MED</td>
<td>14</td>
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<td>7.34</td>
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<td>7</td>
<td>LANCET</td>
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<td>1.01</td>
<td>8.34</td>
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<td>8</td>
<td>J INT BUS STUD</td>
<td>13</td>
<td>0.94</td>
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<td>9</td>
<td>NEW ENGL J MED</td>
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<td>0.86</td>
<td>10.14</td>
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<td>ACAD MANAGE J</td>
<td>11</td>
<td>0.79</td>
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The Main Journals - cont’d

- Top 50 Main Journals Reference Distribution from 1986 to 1995 (Citation Frequency ≥ 8)

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<th>Accum. (%)</th>
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<td>4</td>
<td>J APPL PSYCHOL</td>
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<td>2.72</td>
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The Main Journals - cont’d

- Top 51 Main Journals Reference Distribution from 1996 to 2006 (Citation Frequency ≥ 27)

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<th>Accum. (%)</th>
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<td>2</td>
<td>INT J HUM RESOUR MAN</td>
<td>386</td>
<td>2.85</td>
<td>6.9</td>
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<tr>
<td>3</td>
<td>J APPL PSYCHOL</td>
<td>339</td>
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<td>1.85</td>
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<td>INT J INTERCULT REL</td>
<td>241</td>
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<td>PERS PSYCHOL</td>
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<td>18.77</td>
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<td>10</td>
<td>J MANAGE</td>
<td>143</td>
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<td>19.83</td>
</tr>
</tbody>
</table>
Stage-1 Initializing (1957-1985)
Stage-2 Forming (1986-1995)
Stage-2 Forming (1986-1995) - cont’d

- Co-citation frequency larger or equal to 7
Stage-3 Developing (1996-2006)
The co-citation frequency larger or equal to 10 for article
Have a Smart Start-up !!!
then Take-Off via INK-SSCI-SCI mining into your INK-xxx and yyy

- 真多謝！感恩!!
- 台大 + McGill
- Thanks; Merci Beaucoup
- 再見 See You online
- Yahoo!Groups.us@INK-SSCI-SCI; 台灣國語嘛也通

March 9, 2008