Documents

Duvvuru, A.a, Radhakrishnan, S.b, More, D.b, Kamarthi, S.c, Sultornsanee, S.d

Analyzing structural & temporal characteristics of keyword system in academic research articles

DOI: 10.1016/j.procs.2013.09.300

a Research Institute for Policy Evaluation and Design, University of Thai Chamber of Commerce, Bangkok, Thailand
b Symbiosis Institute of Management Studies, Pune, India
c Department of Mechanical and Industrial Engineering, Northeastern University, Boston, United States
d Department of Logistics Management, School of Business, University of Thai Chamber of Commerce, Bangkok, Thailand

Abstract
Keyword networks, formed from keywords occurring in scholarly articles provide a useful mechanism for understanding academic research trends. In keyword networks, keywords are represented as nodes and a link is formed between a pair of keywords if they appear in the same article. Each link is assigned a weight, representing the number of co-occurrences of the pair in different articles. A statistical and visual analysis of the structural and temporal characteristics of such networks reveals the organizing pattern and the evolution of keywords. In this study we analyse the difference between structured keyword system and unstructured keyword system. We use keywords from two prominent business management journals from USA and India and analyse the corresponding keyword networks. Our results indicate that the network characteristics of structured keyword system are more suitable than unstructured keyword system to analyse research trends and bring forth the emerging areas and popular research methods. The adoption of structured keyword system will aid researchers and funding agencies to optimize their decision on the use of research funding. © 2013 The Authors. Published by Elsevier B.V.

Author Keywords
Business management; Complex networks; Data analysis; Keyword networks; Research trends; Visual analytics; Visualization

References

• Barabási, A.-L., Albert, R.

• Barabási, A.-L., Albert, R., Jeong, H.
  Scale-free characteristics of random networks: The topology of the world wide web

• Shibata, N.
  Detecting emerging research fronts in regenerative medicine by the citation network analysis of scientific publications

• Yoshiyuki, T., Kajikawa, Y.
  Citation network analysis of organic LEDs

• Shibata, N., Kajikawa, Y., Sakata, I.
  Extracting the commercialization gap between science and technology-Case study of a solar cell

• DuvYuru, A., Kamarthi, S., Sultornsanee, S.
  Undercovering research trends: Network analysis of keywords m scholarly articles
  May 30 2012- Jime 1

(2013)
Source: accessed on April 2013.

Freeman, L.C.
**Centrality in social networks conceptual clarification**
(1979) *Social Networks*.

Yook, S.H., Jeong, H., Barabasi, A.-L.
**Weighted evolving networks**

Barrat, A., Barthelemy, M., Vespignani, A.
**Modeling the evolution of weighted networks**

Barrat, A., Barthelemy, M., Astor-Satorras, R., Vespignani, A.
**The architecture of complex weighted networks**

Newman, M.E.
**Scientific collaboration networks I network construction and fundamental results**

Document Type: Conference Paper
Source: Scopus