

# **Counting the citations: a comparison of Web of Science and Google Scholar in the field of business and management**

Authors: John Mingers and Evangelia Lipitakis

01 Nov 2010

## **Abstract:**

Assessing the quality of the knowledge produced by business and management academics is increasingly being metricated. Moreover, emphasis is being placed on the impact of the research rather than simply where it is published. The main metric for impact is the number of citations a paper receives. Traditionally this data has come from the ISI Web of Science but research has shown that this has poor coverage in the social sciences. A newer and different source for citations is Google Scholar. In this paper we compare the two on a dataset of over 4,600 publications from three UK Business Schools. The results show that Web of Science is indeed poor in the area of management and that Google Scholar, whilst somewhat unreliable, has a much better coverage. The conclusion is that Web of Science should not be used for measuring research impact in management.

## **References**

Allen, D.E. and Powell, R. (2013). The fluctuating default risk of Australian banks. *Australian Journal of Management*, 37, pp. 297–325.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Allenby, B. and Fink, J. (2005). Toward inherently secure and resilient societies. *Science*, 309, pp. 1034–1036.

[View](#)

[CAS](#)

[PubMed](#)

[Web of Science®](#)

[Google Scholar](#)

Avey, J.B., Luthans, F. and Jensen, S.M. (2009). Psychological capital: a positive resource for combating employee stress and turnover. *Human Resource Management*, 48, pp. 677–693.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Avey, J.B., Reichard, R.J., Luthans, F. and Mhatre, K.H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22, pp. 127–152.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Avey, J.B., Wernsing, T.S. and Luthans, F. (2008). Can positive employees help positive organizational change? Impact of psychological capital and emotions on relevant attitudes and behaviors. *Journal of Applied Behavioral Science*, 44, pp. 48–70.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: Freeman.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Bergheim, K., Eid, J., Hystad, S.W., Nielsen, M.B., Mearns, K., Larsson, G. and Luthans, B. (2013). The role of psychological capital in perception of safety climate among air traffic controllers. *Journal of Leadership & Organizational Studies*, 20, pp. 232–241.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Block, J. and Kremen, A.M. (1996). IQ and ego-resiliency: conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, 70, pp. 349–361.

[View](#)

[CAS](#)

[PubMed](#)

[Web of Science®](#)

[Google Scholar](#)

Boin, A. and Hart, P. (2010). Organizing for effective emergency management: lessons from research. *Australian Journal of Public Administration*, 69, pp. 357–371.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Boone, C.A., Craighead, C.W., Hanna, J.B. and Nair, A. (2013). Implementation of a system approach for enhanced supply chain continuity and resiliency: a longitudinal study. *Journal of Business Logistics*, 34, pp. 222–235.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Börner, K., Chen, C. and Boyack, K. (2003). Visualizing knowledge domains. *Annual Review of Information Science and Technology*, 37, pp. 179–255.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Brandon-Jones, E., Squire, B., Autry, C.W. and Petersen, K.J. (2014). A contingent resource-based perspective of supply chain resilience and robustness. *Journal of Supply Chain Management*, 50, pp. 55–73.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Branzei, O. and Abdelnour, S. (2010). Another day, another dollar: enterprise resilience under terrorism in developing countries. *Journal of International Business Studies*, 41, pp. 804–825.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Brown, A.G. (1993). High reliability organizations: a review and critique of the Berkeley group. *Templeton Management Research Paper MRP/93/9*, 1993.

[Google Scholar](#)

Bullough, A., Renko, M. and Myatt, T. (2014). Danger zone entrepreneurs: the importance of resilience and self-efficacy for entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 38, pp. 473–499.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Burnard, K. and Bhamra, R. (2011). Organizational resilience: development of a conceptual framework for organizational responses. *International Journal of Production Research*, 49, pp. 5581–5599.

[View](#)

Web of Science®

Google Scholar

K.S. Cameron, J.E. Dutton and R.E. Quinn (eds) (2003). *Positive Organizational Scholarship: Foundations of a New Discipline*. San Francisco, CA: Berrett-Koehler.

Google Scholar

Campbell, D.T. (1965). Variation and selective retention in socio-cultural evolution. In H.R. Barringer, G.I. Blanksten and R. Mack (eds), *Social Change in Developing Areas*. Cambridge, MA: Schenkman, pp. 19–49.

View

Google Scholar

Campbell, D.T. (1969). Variation and selective retention in socio-cultural evolution. *General Systems*, 14, pp. 69–85.

Web of Science®

Google Scholar

Carpenter, S., Walker, B., Anderies, J.M. and Abel, N. (2001). From metaphor to measurement: resilience of what to what? *Ecosystems*, 4, pp. 765–781.

View

Web of Science®

Google Scholar

Chen, J., Chen, T.H.Y., Vertinsky, I., Yumagulova, L. and Park, C. (2013). Public–private partnerships for the development of disaster resilient communities. *Journal of Contingencies and Crisis Management*, 21, pp. 130–143.

View

Web of Science®

Google Scholar

Christopher, M. and Peck, H. (2004). Building the resilient supply chain. *International Journal of Logistics Management*, 15, pp. 1–14.

View

Google Scholar

Coutu, D.L. (2002). How resilience works. *Harvard Business Review*, 80, pp. 46–55.

PubMed

Web of Science®

Google Scholar

Craighead, C.W., Blackhurst, J., Rungtusanatham, M.J. and Handfield, R.B. (2007). The severity of supply chain disruptions: design characteristics and mitigation capabilities. *Decision Sciences*, 38, pp. 131–156.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Cumming, G.S., Barnes, G., Perz, S., Schmink, M., Sieving, K.E., Southworth, J., Binford, M., Holt, R.D., Stickler, C. and Van Holt, T. (2005). An exploratory framework for the empirical measurement of resilience. *Ecosystems*, 8, pp. 975–987.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Davies, A. and Thomas, R. (2003). Talking cop: discourses of change and policing identities. *Public Administration*, 81, pp. 681–699.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Dollwet, M. and Reichard, R. (2014). Assessing cross-cultural skills: validation of a new measure of cross-cultural psychological capital. *International Journal of Human Resource Management*, 25, pp. 1669–1696.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Dongsheng, Z., Weijiong, Z., and Vertinsky, I. (2002). Advertising trends in urban China. *Journal of Advertising Research*, 42, pp. 73–81.

[View](#)

[Google Scholar](#)

Farjoun, M. (2010). Beyond dualism: stability and change as a duality. *Academy of Management Review*, 35, pp. 202–225.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Farjoun, M. and Starbuck, W.H. (2007). Organizing at and beyond the limits. *Organization Studies*, 28, pp. 541–566.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Fiksel, J., Polyviou, M., Croxton, K.L. and Pettit, T.J. (2015). From risk to resilience: Learning to deal with disruption. *MIT Sloan Management Review*, 56, pp. 79–86.

[Web of Science®](#)

Google Scholar

Garfield, E. (2004). Historiographic mapping of knowledge domains literature. *Journal of Information Science*, 30, pp. 119–145.

View

Web of Science®

Google Scholar

Gittell, J.H., Cameron, K., Lim, S. and Rivas, V. (2006). Relationships, layoffs, and organizational resilience: airline industry responses to September 11. *Journal of Applied Behavioral Science*, 42, pp. 300–329.

View

Web of Science®

Google Scholar

Hamel, G. and Valikangas, L. (2003). The quest for resilience. *Harvard Business Review*, 81, pp. 52–65.

PubMed

Web of Science®

Google Scholar

Hiles, A. (2008). *The Definitive Handbook of Business Continuity Management*. 2nd edn. Chichester: John Wiley.

Google Scholar

Hopkins, A. (1999). The limits of normal accident theory. *Safety Science*, 32, pp. 93–102.

Web of Science®

Google Scholar

Janssen, M.A. (2007). An update on the scholarly networks on resilience, vulnerability, and adaptation within the human dimensions of global environmental change. *Ecology and Society*, 12, pp. 9–27.

View

Web of Science®

Google Scholar

Janssen, M.A., Schoon, M.L., Ke, W. and Börner, K. (2006). Scholarly networks on resilience, vulnerability and adaptation within the human dimensions of global environmental change. *Global Environmental Change*, 16, pp. 240–252.

View

Web of Science®

Google Scholar

Johnson, N. and Elliott, D. (2011). Using social capital to organize for success? A case study of public–private interface in the UK Highways Agency. *Policy and Society*, 30, pp. 101–113.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Johnston, D., Becker, J. and Paton, D. (2012). Multi-agency community engagement during disaster recovery: lessons from two New Zealand earthquake events. *Disaster Prevention and Management: An International Journal*, 21, pp. 252–268.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Juettner, U. and Maklan, S. (2011). Supply chain resilience in the global financial crisis: an empirical study. *Supply Chain Management: An International Journal*, 16, pp. 246–259.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Kambhu, J., Weidman, S. and Krishnan, N. (2007). New directions for understanding systemic risk: a report on a conference cosponsored by the Federal Reserve Bank of New York and the National Academy of Sciences. *Economic Policy Review*, 13, pp. 1–83.

[Google Scholar](#)

Klein, R.J.T., Nicholls, R.J. and Thomalla, F. (2003). Resilience to natural hazards: how useful is this concept? *Global Environmental Change*, 5, pp. 35–45.

[Google Scholar](#)

Kleindorfer, P.R. and Saad, G.H. (2005). Managing disruption risks in supply chains. *Production and Operations Management*, 14, pp. 53–68.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Klibi, W., Martel, A. and Guitouni, A. (2010). The design of robust value-creating supply chain networks: a critical review. *European Journal of Operational Research*, 203, pp. 283–293.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Limnios, E.A.M., Mazzarol, T., Ghadouani, A. and Schilizzi, S.G. (2014). The resilience architecture framework: four organizational archetypes. *European Management Journal*, 32, pp. 104–116.

[View](#)

Web of Science®

Google Scholar

Linnenluecke, M. and Griffiths, A. (2010). Beyond adaptation: resilience for business in light of climate change and weather extremes. *Business & Society*, 49, p. 477.

View

Web of Science®

Google Scholar

Linnenluecke, M.K. and Griffiths, A. (2012). Assessing organizational resilience to climate and weather extremes: complexities and methodological pathways. *Climatic Change*, 113, pp. 933–947.

View

Web of Science®

Google Scholar

Linnenluecke, M.K. and Griffiths, A. (2013). The 2009 Victorian bushfires: a multilevel perspective on organizational risk and resilience. *Organization & Environment*, 26, pp. 386–411.

View

Web of Science®

Google Scholar

Luthans, F. (2002a). Positive organizational behavior: developing and managing psychological strengths. *Academy of Management Executive*, 16, pp. 57–72.

View

Web of Science®

Google Scholar

Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23, pp. 695–706.

View

Web of Science®

Google Scholar

Luthans, F. and Youssef, C.M. (2007). Emerging positive organizational behavior. *Journal of Management*, 33, pp. 321–349.

View

Web of Science®

Google Scholar

Luthans, F., Avey, J.B. and Patera, J.L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning & Education*, 7, pp. 209–221.

View



Web of Science®

Google Scholar

Luthans, F., Avey, J.B., Avolio, B.J. and Peterson, S.J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly*, 21, pp. 41–67.

View

Web of Science®

Google Scholar

Luthans, F., Avey, J.B., Avolio, B.J., Norman, S.M. and Combs, G.M. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior*, 27, pp. 387–393.

View

Web of Science®

Google Scholar

Luthans, F., Avolio, B.J., Avey, J.B. and Norman, S.M. (2007). Positive psychological capital: measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60, pp. 541–572.

View

Web of Science®

Google Scholar

Luthans, B.C., Luthans, K.W. and Avey, J.B. (2013). Building the leaders of tomorrow: the development of academic psychological capital. *Journal of Leadership & Organizational Studies*, 21, pp. 191–199.

View

Web of Science®

Google Scholar

MacLean, N. (1992). *Young Men and Fire*. Chicago, IL: University of Chicago Press.

View

Google Scholar

Manyena, S.B. (2006). The concept of resilience revisited. *Disasters*, 30, pp. 433–450.

View

PubMed

Web of Science®

Google Scholar

Memili, E., Welsh, D.H. and Luthans, F. (2013). Going beyond research on goal setting: a proposed role for organizational psychological capital of family firms. *Entrepreneurship Theory and Practice*, 37, pp. 1289–1296.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Meyer, A.D. (1982). Adapting to environmental jolts. *Administrative Science Quarterly*, 27, pp. 515–537.

[View](#)

[CAS](#)

[PubMed](#)

[Web of Science®](#)

[Google Scholar](#)

Pearson, C.M. and Clair, J.A. (1998). Reframing crisis management. *Academy of Management Review*, 23, pp. 59–76.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Perrow, C. (1984). *Normal Accidents: Living with High-risk Technologies*. New York, NY: Basic Books.

[Google Scholar](#)

Pettit, T.J., Fiksel, J. and Croxton, K.L. (2010). Ensuring supply chain resilience: development of a conceptual framework. *Journal of Business Logistics*, 31, pp. 1–21.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Ponomarov, S.Y. and Holcomb, M.C. (2009). Understanding the concept of supply chain resilience. *International Journal of Logistics Management*, 20, pp. 124–143.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Powley, E.H. (2009). Reclaiming resilience and safety: resilience activation in the critical period of crisis. *Human Relations*, 62, pp. 1289–1326.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Reichard, R.J., Dollwet, M. and Louw-Potgieter, J. (2014). Development of cross-cultural psychological capital and its relationship with cultural intelligence and ethnocentrism. *Journal of Leadership & Organizational Studies*, 21, pp. 150–164.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Rice, J.B. and Caniato, F. (2003). Building a secure and resilient supply network. *Supply Chain Management Review*, 7, pp. 22–30.

[Google Scholar](#)

Rinaldi, S.M., Peerenboom, J.P. and Kelly, T.K. (2001). Identifying, understanding, and analyzing critical infrastructure interdependencies. *IEEE Control Systems Magazine*, 21, pp. 11–25.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Roberts, K.H. (1990). Some characteristics of one type of high reliability organization. *Organization Science*, 1, pp. 160–176.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Rochlin, G.I. (1999). Safe operation as a social construct. *Ergonomics*, 42, pp. 1549–1560.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Rudolph, J.W. and Repenning, N.P. (2002). Disaster dynamics: understanding the role of quantity in organizational collapse. *Administrative Science Quarterly*, 47, pp. 1–30.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Seligman, M. (1998). *Learned Optimism: How to Change Your Mind and Your Life*. New York, NY: Pocket Books.

[Google Scholar](#)

Sheffi, Y. (2005). *The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage*. Cambridge, MA: MIT Press.

[Google Scholar](#)

Sheffi, Y. and Rice, J. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review*, 47, pp. 41–48.

[Web of Science®](#)

[Google Scholar](#)

Shin, J., Taylor, M.S. and Seo, M.G. (2012). Resources for change: the relationships of organizational inducements and psychological resilience

to employees' attitudes and behaviors toward organizational change. *Academy of Management Journal*, 55, pp. 727–748.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Shrivastava, P. (1994). Technological and organizational roots of industrial crises: lessons from Exxon Valdez and Bhopal. *Technological Forecasting and Social Change*, 45, pp. 237–253.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Shrivastava, P. (1995). Ecocentric management for a risk society. *Academy of Management Review*, 20, pp. 118–137.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Sitkin, S.B. (1992). Learning through failure: the strategy of small losses. *Research in Organizational Behavior*, 14, pp. 231–266.

[Web of Science®](#)

[Google Scholar](#)

Smart, P.K., Tranfield, D., Deasley, P., Levene, R., Rowe, A. and Corley, J. (2003). Integrating 'lean' and 'high reliability' thinking. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 217, pp. 733–739.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

D. Smith and D. Elliott (eds) (2006). *Key Readings in Crisis Management: Systems and Structures for Prevention and Recovery*. London: Routledge.

[Google Scholar](#)

Staw, B.M., Sandelands, L.E. and Dutton, J.E. (1981). Threat rigidity effects in organizational behavior: a multilevel analysis. *Administrative Science Quarterly*, 26, pp. 501–524.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Sutcliffe, K.M. (2011). High reliability organizations (HROs). *Clinical Anaesthesiology*, 25, pp. 133–144.

[PubMed](#)

[Google Scholar](#)

Sutcliffe, K.M. and Vogus, T.J. (2003). Organizing for resilience. In K.S. Cameron, J.E. Dutton and R.E. Quinn (eds), *Positive Organizational Scholarship: Foundations of a New Discipline*. San Francisco, CA: Berrett-Koehler.

Google Scholar

Taleb, N.N. (2011). Antifragility – or – The property of disorder-loving systems. Available at: [http://www.edge.org/q2011/q11\\_3.html#taleb](http://www.edge.org/q2011/q11_3.html#taleb) (accessed 31 August 2014).

Google Scholar

Urciuoli, L., Mohanty, S., Hintsa, J. and Gerine Boekesteijn, E. (2014). The resilience of energy supply chains: a multiple case study approach on oil and gas supply chains to Europe. *Supply Chain Management: An International Journal*, 19, pp. 46–63.

View

Web of Science®

Google Scholar

Van Den Eede, G., Van de Walle, B. and Rutkowski, A. (2006). Dealing with risk in incident management: an application of high reliability theory. In *HICSS'06 2006. Proceedings of the 39th Annual Hawaii International Conference on System Sciences*, Vol. 2. Piscataway, NJ, IEEE, p. 37c.

View

Google Scholar

Van Eck, N.J. and Waltman, L. (2014). Visualizing bibliometric networks. In Y. Ding, R. Rousseau and D. Wolfram (eds), *Measuring Scholarly Impact*. Cham, Switzerland: Springer, pp. 285–320.

View

Google Scholar

Vogus, T.J. and Sutcliffe, K.M. (2007). Organizational resilience: towards a theory and research agenda. Paper presented at the IEEE International Conference on Systems, Man and Cybernetics.

Google Scholar

Voss, M.D. and Williams, Z. (2013). Public–private partnerships and supply chain security: C-TPAT as an indicator of relational security. *Journal of Business Logistics*, 34, pp. 320–334.

View

Web of Science®

Google Scholar

Wagnild, G.M. and Young, H.M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement*, 1, pp. 165–178.

CAS

PubMed

Google Scholar

Wang, J., Cooke, F.L. and Huang, W. (2014). How resilient is the (future) workforce in China? A study of the banking sector and implications for human resource development. *Asia Pacific Journal of Human Resources*, 52, pp. 132–154.

View

Web of Science®

Google Scholar

Wedawatta, G. and Ingirige, B. (2012). Resilience and adaptation of small and medium-sized enterprises to flood risk. *Disaster Prevention and Management: An International Journal*, 21, pp. 474–488.

View

Web of Science®

Google Scholar

Weick, K.E. (1993). The collapse of sensemaking in organizations: the Mann Gulch disaster. *Administrative Science Quarterly*, 38, pp. 628–652.

View

Web of Science®

Google Scholar

Weick, K.E. and Roberts, K.H. (1993). Collective mind in organizations: heedful interrelating on flight decks. *Administrative Science Quarterly*, 38, pp. 357–381.

View

Web of Science®

Google Scholar

Weick, K.E. and Sutcliffe, K.M. (2001). *Managing the Unexpected*. San Francisco, CA: Jossey-Bass.

Google Scholar

Weick, K.E., Sutcliffe, K.M. and Obstfeld, D. (1999). Organizing for high reliability: processes of collective mindfulness. *Research in Organizational Behavior*, 21, pp. 81–124.

Web of Science®

Google Scholar

Wieland, A. and Wallenburg, M.C. (2013). The influence of relational competencies on supply chain resilience: a relational view. *International*

Journal of Physical Distribution & Logistics Management, 43, pp. 300–320.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Wildavsky, A.B. (1988). Searching for Safety. Piscataway, NJ: Transaction Publishers.

[Google Scholar](#)

Winn, M.I. and Pogutz, S. (2013). Business, ecosystems, and biodiversity: new horizons for management research. Organization & Environment, 26, pp. 203–229.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Winston, A. (2014). Resilience in a hotter world. Harvard Business Review, 92, pp. 56–64.

[PubMed](#)

[Web of Science®](#)

[Google Scholar](#)

Xavier, W.G., Bandeira-de-Mello, R. and Marcon, R. (2014). Institutional environment and Business Groups' resilience in Brazil. Journal of Business Research, 67, pp. 900–907.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Youssef, C.M. and Luthans, F. (2007). Positive organizational behavior in the workplace: the impact of hope, optimism, and resilience. Journal of Management, 33, pp. 774–800.

[View](#)

[Web of Science®](#)

[Google Scholar](#)

Zoback, M.L. (2014). 'Epicenters' of resilience. Science, 346, pp. 283–283.

[View](#)

[CAS](#)

[PubMed](#)

[Web of Science®](#)

[Google Scholar](#)