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The Universe of Evidence-Based I–O Psychology Is Expanding

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The practice of industrial–organizational (I–O) psychology is evidence based. Briner and Rousseau's (2011) article offers a righteous way forward to make it even more so. That way forward is built on two key activities: one infrequent and another that has waned. The infrequent activity is the act of generating what the authors call ''systematic reviews'' of evidence, reviews that synthesize essential research-based findings to provide answers to practical problems. What has waned, as indicted by publication rates, is ''practice-oriented research'' that involves collaboration between I–O psychologists in primary research institutions and those in settings where practice is paramount.

Briner and Rousseau's prescriptions fit well in an I–O psychology universe of two worlds, the ''We'll do the research and you apply it'' and the ''Give me something useful—and hurry'' worlds. These are quite visible in passages that speak of the need to ''bridge,'' ''translate,'' and ''transfer'' between them. It is not much contestable that these worlds are realities in the I–O universe. However, that universe is expanding, and the implications for evidence-based I–O psychology are huge.

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The Expanding Universe

Organizations in which I–O psychology is practiced are rapidly accumulating digital data about people, their behavior, and the workplace. ''Rapidly'' may be an understatement. Google's CEO Eric Schmidt says that there were five exabytes of information created in history through 2003. (An exabyte is one billion gigabytes; it is estimated that an exabyte of storage could contain 50,000 years worth of DVD-quality video.) Now, that much information is created every 2 days, with the pace increasing (Schmidt, August 4, 2010, CNN.com). I am certain that only a fraction of that information is about people, situations, and behavior of relevance to I–O psychologists, but I am also certain that the relevant data are already vast and growing.

The mechanisms by which data are accumulating are many. The central mechanism is the typical human resource information system (HRIS). It is a comprehensive source of facts that are updated, corrected, and cumulated. In an HRIS, one can find employee demographics as well as lots of other facts about individual employees, such as the positions they have held, the duration and sequencing of those positions, and other internal mobility events (e.g., changes of location, function, or line of business as well as the presence of international experience) that can have motivational and personal consequences. Career accomplishments (e.g., promotions) with the current employer are there as are compensation data. Individual behaviors such

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as voluntary turnover and job performance (recent and past performance, mostly in the form of ratings but sometimes via objective indicators) are almost always in the HRIS data as well.

In addition to being a source of data about individuals, HRISs are excellent sources of data about coworkers, supervisors, and the workplace. For example, from HRIS data one can reconstruct quite a number of specifics such as work group size, the distribution of experience among coworkers and group members, and the extent of shared backgrounds. Reporting relationships are often knowable from HRISs, as are such things as supervisors' experience, their performance, the frequency of leadership changes, the steepness of the hierarchy in a work location, and so on. Basic workplace conditions such as unit size and composition, and the prevalence of certain events (e.g., incidence of colleague turnover or other indicators of stability) and management practices (e.g., spans of control) also can be read from HRIS data.

Other systems and databases complement the HRIS. Examples include recruiting and applicant tracking systems (sources of expansive biographical and work history data about applicants turned employees), ''talent management'' software (competencies, development, performance, potential, successor status, and other attributes of people), and payroll and timekeeping systems (hours worked and overtime hours worked). Benefits-related record-keeping systems also can be sources of relevant facts. Increasingly, data from these multiple systems are being joined up in a ''data warehouse,'' an integrated repository of employee information that is friendly to extraction. The net effect of this integration is the rapid rise of high-quality, cumulated, accessible facts about populations (not just samples) of individuals and their behavior in their places of work.

Typically missing from these electronic sources are insights into cognitive processes, most preemployment test data, and the subjective side of employees and their work experiences, such as can be captured through surveys. As regards employee surveys, there seems to be a growing use of identified surveys. Identified surveys enable individuals' responses to be linked to other data about the respondents such as are found in HRIS databases and data warehouses (without necessarily revealing employees' identities to the employer). Such linkages open up a wealth of opportunity for insight from research.

Implications for the Practice of Evidence-Based I–O Psychology

Three major implications of this rapid accumulation of research-ready data are (a) organizations and the I–O psychologists in them are now situated to be primary producers of research as well as consumers; (b) opportunities for ''practice-oriented research'' as Briner and Rousseau describe it—collaborative efforts between application-oriented and research-oriented worlds—are rekindled; and simultaneously, (c) organizations are now very well positioned to be self-sufficient in matters of research to support practice. Large enterprises are recognizing this fact. Fink (2010) documents the recent growth of in-house research capabilities and the applications of sophisticated methods of analysis to human capital data. That is, scientific methods of analysis are being applied in house to support business decisions and practice, and I–O psychologists in the midst of it all are expanding the frontiers of the universe of I–O psychology as an evidence-based discipline.

Changes and Challenges

There are important changes to expect and challenges to meet. One change will be a rise in the use of techniques of statistical modeling of longitudinal data to establish cause-and-effect relationships. The nature of the accumulating data readily lends itself to such analyses. That is not to say that quasi-experiments in field settings will forever fade away or that cross-sectional surveys will become a lost art or that qualitative

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work will not complement the quantitative. But the potential of longitudinal data to generate causal insights is very great due to clarity and orderliness in the cumulative record of events, experiences, and conditions over time and the inherent capacity to control for many confounding influences when analyzing outcomes of interest. Such modeling will become a prevailing—perhaps dominant—method of analysis for in-house I–O psychology researchers.

Another change to anticipate is a rise in interdisciplinary research for practice. Organizations' data are available to researchers from disciplines other than just I–O psychology—labor economics, human resources, and sociology come to mind—and researchers in those domains, like I–O psychologists, are facile with sophisticated methods of analysis. Consequently, evidence-based practice by I–O psychologists will become more interdisciplinary in nature as complementary disciplines use common methods and data to address shared practical interests.

Two challenges to successfully advancing evidence-based practice via this new way forward are especially noteworthy. One is the risk of decoupling theory and practice. Understandably, the primary objectives of organizationally based I–O researcher–practitioners will be to solve practical problems not to advance psychological theory per se. Data-rich, self-sufficient, internally focused researchers still need to ''read the journals,'' so to speak. Failing to stay connected to the theoretical developments that bind will make for incoherence in the discipline. The second, and highly related, challenge to meet is the dissemination of research findings. There are important research-based findings being generated in this expanding universe. The magic will be in getting those findings out of the producing organizations and into the broader scientific domain. Here, Briner and Rousseau's ''systematic reviews'' may prove to be useful devices, with a twist. But can we have a name change? As an author of both traditional narrative and meta-analytic reviews, I find it distasteful to regard those prior works as ''unsystematic'' as Briner and Rousseau's current terminology would imply.

The twist is to use a stylized, pithy format not only for synthesis but also for reporting original research results. Katzell, Bienstock, and Faerstein (1977) provide an early and successful example of stylized summaries of practice-oriented research findings. True, such stylized reporting formats will not satisfy the requirements for publishing original research in top-tier journals. But that does not mean that these short-form reports lack quality control. They can be subject to peer review and agreed-to standards. And just because research reports are short-form does not mean that the work behind them is necessarily not journal-level quality. In the expanding universe of data-rich, research-producing organizations, we need new mechanisms for getting evidence into evidence-based I–O psychology.

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