Three Big Ones

for the

NSF Workshop on New Collaborative Relationships:
The Role of Academic Libraries in the Digital Data Universe

John Leslie King, Vice Provost for Academic Information and
Professor, School of Information, University of Michigan jlking@umich.edu

Access and agency: The digital data universe brings significan changes in fungibility and interactivity in the origination, movement and use of data, information, and presumably, knowledge. The concept of "source" must be broadened to include not only human-mediated works of the kind we are used to, but direct sensory data from machine sensor networks and machine-constructed works at all levels from simple tabulation to syntheses that can take many forms (text, visuals, audio). These can be moved around at virtually zero marginal cost, and mashed-up into new creations by machines or humans for uses not even foreseeable at this time. Unlike the current "broadcast" model of most data/information transfer, in which a producer "sends" content to a consumer, the new model will embrace a growing population of producer/consumers whose roles are more difficult to distinguish. And, to top it off, if historical trends hold, this access and agency will eventually extend to the population of humans with access to telephony – at present about 2.8 billion people and growing rapidly (figure half the population of the Earth by 2031, a mere 25 years away).

Productivity implications: Traditional labor productivity is simply the output produced as a function of labor input. Productivity is not very well understood in the realm of knowledge work, but everyone seems to think knowledge work is the important work for the 21st century. Assuming the traditional case – that dramatic changes in factor costs (*e.g.*, the cost of moving information around) alter factor ratios (*e.g.*, the amount of information that one person can provide to the population) – we can expect astonishing improvements in knowledge work productivity. We have been stuck trying to answer the question of what value academic libraries really provide for the academy and for the society at large. Other than the usual shibboleths about public goods and conservation of human knowledge, our stories are pretty anemic. This problem might soon change to one of explaining why we are not moving more quickly to provide the enormous benefits available to the world in the digital data universe. Time to think outside the stale old box.

Who's to say? We've gotten used to knowing what's "real" and what's not in the realm of information and knowledge because we've built a huge credentialing infrastructure to answer such questions. We are moving to a world where producers and consumers are increasingly indistinguishable from one another, and the traditional production pathways can be ignored, along with their credentialing mechanisms. It will become more difficult to challenge the veracity and reliability of particular "entries" in the digital data universe, but more troubling, it will be increasingly difficult for anyone to claim and hold the authority to decide the answers to such questions. This should be of particular concern to academic libraries, which are residual claimants on such authority in many societies.