

## Chapter 15

# Using an Ethical Framework to Examine Linkages Between “Going Green” in Research Practices and Information and Communication Technologies

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### ABSTRACT

*The link between “Going Green” in research practices and Information and Communication Technologies (ICTs) is studied using general ethics and social psychology literature. This paper investigates and concludes that a researcher’s ethical judgment is the strongest factor influencing their intention to follow green research practices (GRP). Their ethical judgment is molded indirectly by the researcher’s attitude towards environmental awareness. Their intention towards GRP is influenced by existing research practices and experience in using a technology touted as a greening enabler, Web 2.0. The strength of the relationship suggests there is no pivotal turning point in the research practices to become green. This paper concludes that GRP represent a smaller, albeit important, paradigm shift affecting the conduct and dissemination of research with positive spillover effects for the environment.*

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## INTRODUCTION

Researchers are probably unthought-of offenders in increasing the world's carbon footprint. In this article, we examine the transition from research practices anchored mainly in travel and paper (what we call traditional research practices) to work facilitated by Information Communication Technologies (what we call green research practices). We argue that research work using Information Communication Technologies (ICT's) is a part of a paradigm shift in researchers' attitudes and behaviors towards “Going Green.” We view “Going Green” in research practices, not as change representing a pivotal turning point in scientific development as described by Kuhn in his influential work, *The Structure of Scientific Revolutions* (1970). Instead, we propose that green research practices represent a smaller, albeit important, shift affecting the conduct and dissemination of research with positive spillover effects for our environment. While Kuhn's (1970) focus was on the process of scientific discovery in a general context, subsequent scholarly work extended his theory to many disciplines and types of changes (Driver-Linn, 2003; Jones, 2008; McDonagh, 1976; Polsby, 1998; Price, 2006). We also propose using Kuhn's (1970) work as a superstructure in our attempt to understand the adoption of green research practices. Our interest in this topic is in response to a general study of research practices in the digital age which called for scholarly communication and the development of a research infrastructure, that was coherent, and *sustainable* (emphasis added) (Houghton, Steele, & Henty, 2003 p. ix). To date, however, we found no studies answering this call. Our study begins to address this gap by examining, within an ethical framework, the intentions of researchers to use greening practices enabled by ICTs. We first offer a summary of Kuhn's theory and its application to our work. Then we detail our research objectives, followed next by our proposed model and

hypotheses. We conclude with our methodology, results, and discussion.

Kuhn (1970) wanted to understand better, how scientific knowledge grew. He suggested that the development of scientific knowledge was characterized by periods of calm acceptance of the current scientific knowledge, punctuated by revolutions of change. The growth of scientific knowledge was not based on seamless transitions, but rather he saw distinct stages when rival theories stood together with ensuing periods of argument, sometimes, heated, and the eventual adoption of one theory (Polsby, 1998). Central to Kuhn (1970) is the importance of social-psychological elements in change; mechanisms of persuasion and judgment within a community of scientists blend with logical proofs as the conversion process from an old to a new paradigm enfolds (McDonagh, 1976). One of the critical contributions of Kuhn (1970) is the expansion of science from traditional cognitive components to include affective and normative components. All scientific discoveries reveal a process of psychological transformation with the increasing awareness of an anomaly, the gradual and simultaneous emergence of both observational and conceptual recognition of alternatives and the replacement of the existing theory, all accompanied by resistance. Key to emerging as the “winning” alternative is the ability to communicate and persuade.

It is not always possible to know which innovation will “win” (Rogers, 2003) until an innovation becomes part of the organizational life. We suggest that the linkage of going green in research practices with information and communication technologies is an innovation in the early stages before what Kuhn calls the phenomenon of “conversion” (Polsby, 1998). Consistent with Kuhn (1970) we develop a research model that includes both affective and normative components and seek to understand how the traditional ways of conducting research maybe transitioning to the digital ways of conducting research.

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