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Garcia-Perez, A., Bedford, D. A. D., Jones, W., Freeburg, D., Tatian, P. & Testa, D.

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Lost in Knowledge Translation: Our Shifting Research Landscape

Alexeis Garcia-Perez, Ph.D.
Coventry University, United Kingdom. ab1258@coventry.ac.uk

Denise A. D. Bedford, Ph.D.
Georgetown University, United States, db233@georgetown.edu

Wayne Jones, Ph.D.
University of the District of Columbia, United States. dwane.jones@udc.edu

Peter Tatian
Urban Institute, United States, ptatian@urban.org

Pawan Handa, Ph.D.
Goodyear Tire and Rubber Co., LLC (retired), United States, pawanhanda52@gmail.com

To Be Determined
Bill & Melinda Gates Foundation, United States. Email

ABSTRACT

In 2018 there is a new research modality. Research is increasingly produced by individuals and organizations not formally affiliated with academic institutions; based on funding that does not come from the public sphere; aligned with and intended to support advocacy perspectives, and is designed for use by particular communities and agents. The new research modality presents challenges and opportunities. While all of these new agents in the research landscape are well educated and qualified to conduct research, in many cases they are operating outside of the traditional research environment and perhaps with a different set of "research cultural norms". This new research modality in fact begs for a solution similar to that promoted within the health sciences field – a model of knowledge translation. A panel of researchers drawn from across the new research landscape will engage with information professionals to discuss six key questions.

Keywords: Research landscape, community-based research, research markets, research processes, research safeguards

INTRODUCTION

The research landscape has evolved over the past century. Prior to World War II research was the purview of independent scholars and inventors. The victories of the Allied forces in World War II and the critical role that research played in that outcome stimulated post-war public sector investment in academic research. Academic research conducted with federal funding was the dominant model until the 1970s. In the 1990s the landscape shifted to include private foundation support. The early years of the 21st century have seen research funds and researchers shift further to the local and community level.

NEW RESEARCH MODALITY

In 2018 there is a new research modality. Research is increasingly: produced by individuals and organizations not formally affiliated with academic institutions; based on funding that does not come from the public sphere; aligned with and intended to support advocacy perspectives, and is designed for use by particular communities and agents. This new research modality is a logical result of the shift in the research landscape. It is further supported by a refocus on communities and individuals in the new knowledge economy and knowledge society. Today, four of the most highly educated generations are alive and contributing to the broader knowledge base. The number of individuals who are sufficiently well educated and skilled to undertake good quality research is significant. Retirees may be leaving the paid workforce but they are not leaving the knowledge workforce, and they are increasingly interested in contributing to applied and basic research. Citizens of all ages are engaged in maker spaces that afford access to local expertise, tools and technologies needed to do innovative research. Think tanks increasingly undertake research pertaining to public policy and "hot topic" issues. While some think tanks tend toward advocacy research rather than applied or basic research, their results are routinely reported out in the media. Think tanks such as the Urban Institute and National Bureau of Economic Research (Bedford and Hadar, 2014) routinely generate high quality research products that used by communities and non-profits. Private industry is now a major source of research – with much research being conducted in house and targeted towards products and services. The University of the District of Columbia's Muirkirk Experimental Farm and the Shenandoah Master Naturalists are communities of volunteer citizen scientists and researchers who advance applied and basic knowledge in agricultural and natural resources. This new research modality is significantly different from the pre-World War II era of the independent inventor or the post-World War II academic researcher working from large public agency grants.

IMPACT ON RESEARCH LIFE CYCLE AND KNOWLEDGE TRANSLATION

The new research modality presents challenges and opportunities. While all of these new agents in the research landscape are well educated and qualified to conduct research, in many cases they are operating outside of the traditional research environ-

ment and perhaps with a different set of "research cultural norms". This new research modality in fact begs for a solution similar to that promoted within the health sciences field – a model of knowledge translation. What is knowledge translation? What are the opportunities? What are the new challenges? According to the Canadiant Institutes of Health Research, knowledge translation is defined as "the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system." While the model has been primarily applied to the health services context, it has value for today's increasingly complex research environment. Knowledge translation involves the collaborative and systematic review, assessment, identification, aggregation and practical application of high-quality …research by key stakeholders (i.e., consumers, researchers, practitioners, policy makers) for the purpose of improving the lives of individuals.

Knowledge translation models (Figure 1) provide a holistic view of the activities essential to ensuring that knowledge which begins its life as research ultimately impacts those who can benefit from it. In the new research landscape, we might find that defining research questions and methods (KT1) and conducting research (KT2) follow standard practices. However, subsequent translation steps - publishing in plain language and accessible formats (KT3), placing research findings in the context of other knowledge and sociocultural norms (KT4), making decisions and taking action informed by research findings (KT5) and influencing subsequent rounds of research based on the impacts of knowledge use (KT6) - may not be built into the processes of new players in the research landscape. Additionally, non-academic research or research funded by non-regulated sources may not conform to quality or safety standards (e.g., no Institutional Research Board oversight). Where they achieve the goal of direct knowledge translation and implementtation, they may bypass the publication step entirely. In some cases, they may produce gray literature or simple media communications but not result in any persistent or peer reviewed information.

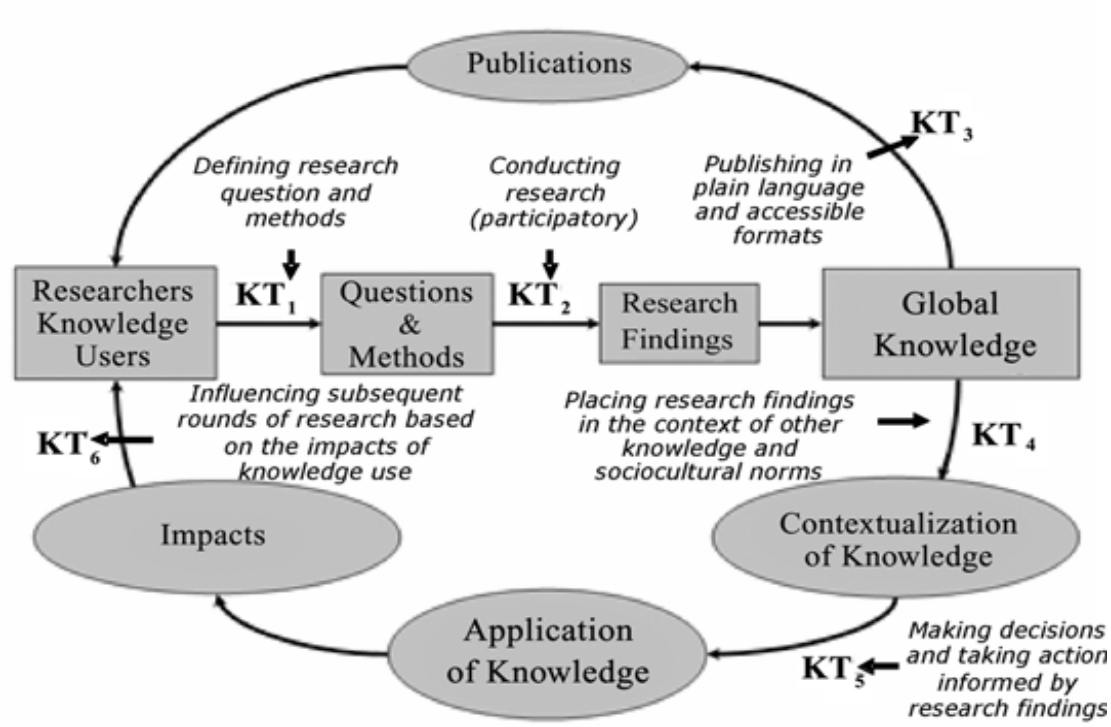

Figure 1. Canadian Institutes of Health Research Knowledge Translation [KT] within the Research Cycle Chart.

How do we capture and ensure access to this new wealth of research? How do we ensure this simple preservation of the new knowledge that is being generated and used? Do these new models address some long standing challenges of research uptake?

NEW RESEARCH MARKETS – NEW KNOWLEDGE MODELS

The Knowledge Economy is grounded on markets for ideas and innovation. We need to think about research markets differently in the knowledge economy. Information and knowledge scientists have developed robust methods for identifying, reviewing, capturing, organizing and making accessible the formally published results of research generated in academic environments. These methods are predicated on an understanding of the traditional research market – which is grounded in the pre-1970s academic research model. Do these methods need to be adapted or extended? Does the research community need

to be expanded to go beyond publishers, information scientists and academic researchers to include all of the new players in the landscape? Is there a new role for information scientists in the new research landscape, or does this role belong to the knowledge scientists who are engaged in research with these new players? Who consumes and looks for research has also shifted. In the new research landscape, producers and consumers are part of the same community. What does this mean for where we capture, preserve and make available research results? Do all of these new research players still look to an academic or public library to discover, preserve, and access this research? Or, is there a need for a new open research repository model? What is the impact of the growing interest in making underlying research data available to the larger community?

New knowledge markets challenge existing research reward and recognition systems. In the traditional areas of the landscape, research is rewarded with publications and life-time tenure awards. In other parts of the new landscape, the reward for research is a practical implementation with tangible impacts. In the private sector, traditional rewards are based on financial returns or an increased market share. However, private-public-community based research collaborations are generating multifaceted rewards including environmental and social reputational capital. What models need to be created to align or mediate these different economic rewards? Six key questions for this new research landscape include how might we: (1) align the research agendas and questions across the research landscape? (2) share basic knowledge about how to conduct research across the landscape? (3) ensure all the players have the capacity to capture, publish, distribute and preserve their research? (4) ensure that there are appropriate peer review processes in place for all knowledge generated through research - emphasis on "peer" here focuses on the intended consumers of the knowledge)? (5) ensure that feedback or impacts from any part of the landscape are accessible to all researchers? And (6) design a new preservation, publishing, search and access models to support this new research community?

PROGRAM DESIGN

This program is designed for interaction among a panel of researcher practitioners who are actively engaged in this new research landscape, and information professionals attending the ASIST 2018 annual meeting. The facilitator will open the program with short case studies from each of the six panelists to set a context for exploring the six key questions. Next the facilitator will introduce each of the six key questions and open discussions to panelists and audience. The intent is to generate a highly interactive discussion around the challenges and opportunities among panelists and the audience. The expected outcomes include: (1) increased awareness among information scientists of the new research landscape; (2) increased awareness of researchers of the need to ensure their research fulfills all six knowledge translation steps; and (3) identification of new partnerships between academic librarians and non-academic researchers.

Alexeis Garcia-Perez is Reader, Coventry University's Faculty Research Centre for Business in Society. Dr. Garcia-Perez will speak to a critical gap in today's research markets, specifically the gap that exists between society's vision and expectations for intelligent transportation systems and the actual research that is being produced by academic institutions today. Dr. Garcia-Perez will provide a case study from the United Kingdom that highlights the challenges and opportunities from the university, public sector and private sector industry perspective.

Denise Bedford is Adjunct Faculty, Georgetown University's Communication Culture and Technology and Retired Senior Information Officer, World Bank. Dr. Bedford will speak to the shifting research landscape from an economic perspective. Dr. Bedford's economics background, and her experience in private sector, public sector, university and community-based research provides a unique perspective and backdrop for the panels discussion. Dr. Bedford will provide a case study from academies of science research project carried out by a consulting company. This case study highlights the need to ensure that quality and peer review standards are built into all research projects.

Pawan Handa is retired Director, Research Strategy and Operations, Goodyear Tire and Rubber Company LLC. Dr. Handa will describe his experience in designing and implementing collaborative research projects among private industry, national research laboratories and universities to bring innovative products and processes to the market efficiently and effectively.

Dwane Jones is Professor, University of the District of Columbia's **Center for Sustainable Development** . Dr. Jones is heavily engaged in community-based research at the University and across the District of Columbia. Dr. Jones will share his experiences in CBPR at the Muirkirk Farm and talk about how members of the community are prepared for and drawn into research. He will also talk about how CBPR addresses the challenge of knowledge translation and shortens the time between the time of discover, the time of uptake,

Peter Tatian is Senior Fellow, Urban Institute. The Urban Institute is one of several "think tanks" in the United States that conduct research. Peter will speak to the Urban Institute's approach to research and their collaboration with both academic and community-based organizations. Peter will provide a case study of their work with the University of Baltimore's Neighborhood Indicators Alliance project.

A yet to be named researcher from Google will describe Google's general approach to research, including its 22 in house research focus areas and its outreach to schools and universities across the globe. This innovative private sector case study model includes consumers, the general public, faculty, students and public sector researchers.

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