What is the National Institute of Justice (NIJ)?

The National Institute of Justice — the research, development and evaluation agency of the U.S. Department of Justice — is dedicated to improving knowledge and understanding of crime and justice issues through science. NIJ provides objective and independent knowledge and tools to reduce crime and promote justice, particularly at the state and local levels.

What is a Criminal Justice Technology Operational Evaluation (TOE)?

The term technology operational evaluation (TOE), includes any effort to investigate how the implementation of a new technology impacts criminal justice operations. The aim of a TOE is to generate generalizable findings, independent of the specific proprietary product(s) tested, that a wide range of criminal justice agencies would find useful. By quantifying the operational impact, NIJ can provide information that defines expectations of a technology intervention based on a formal test and evaluation approach. A formal approach requires that the testing be measurable, relevant, and repeatable; that the test methods and results be documented; and that the research design evaluate the value of technology as implemented.

These evaluations can support smart procurement decisions by criminal justice agencies and ultimately help maximize the impact of increasingly scarce resources. TOEs shed light on the efficacy of new classes of technology, best practices related to implementation, management issues agencies can expect, and the overall value proposition the technology offers.

Background

Criminal justice agencies often lack the capacity to engage in a systematic review of the operational impact a new technology will have if broadly implemented, relying rather on anecdotal testing of samples received from technology vendors. A comprehensive cost-benefit analysis demands taking a close look at how an agency plans to absorb the new technology, associated implementation, training, and upkeep costs, and the overall short- and long-term impact it is anticipated to have on the agency’s ability to fulfill its mission.

Put simply, criminal justice agencies need to answer the “so what” question, that is, how will this new technology advance the core goals and objectives of an agency.

An investment in a new technology that works exactly to a manufacturer’s specifications and outperforms competing options available in the marketplace, but that has a marginal impact on criminal justice outcomes or is cost-prohibitive when training and upkeep expenses are taken into account, may not be an efficient allocation of resources.

Guiding Principles

To create a culture in which the operational impact of criminal justice technologies are routinely evaluated when introduced into the field, we are attempting to develop guiding principles which identify the key elements to be included in the design and implementation of Technology Operational Evaluations. Ideally, these guidelines will be specific enough to account for the major user interfaces, research variables, and human information processing characteristics of a technology driven system, as well as the organizational and other contextual factors which may impact GPS technology research outcomes detailed in figure 1.

Challenges

There are numerous challenges associated with the development of TOE guiding principles. Among them are:

- Building a vision of collaborative research that includes the values and interests of all relevant disciplines
- Focusing on Core Metrics and ensuring that these are measurable throughout all phases of the project
- Establishing a bridge between a technical, research, and practitioner mindsets
- Developing a common language that is precise but universally understood
- Creating a mechanism for disseminating TOE research findings to practitioners in a timely and relevant manner

Invitation

NIJ is actively involved in the development of a criminal justice Technology Operational Evaluation framework and guiding principles. We welcome suggestions, inquiries, and shared insights from members of all disciplines who are involved in Team Science work and familiar with the challenges of conducting technology assessments and cross-disciplinary research.

Contact

For questions, comments or suggestions regarding the development of Guiding Principles for Criminal Justice Technology Operations Evaluations:

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