

Project Summary

The Building Information Sharing Networks to Support Consumer Choice Project (I-Choose Project) is a three-year research activity funded by the National Science Foundation. The research team consists of a network of researchers and practitioners from Canada, Mexico, and the United States. The project aims to develop a data interoperability framework to provide consumers with a wide range of information about how, where, and by whom products are manufactured and brought to market. The project will focus first on development of interoperability among stakeholder communities for the single case of coffee grown in Mexico, and distributed and consumed in Canada and the United States. The lessons learned from this specific case will then be generalized across other product domains.

Scope of Work

This project aims to create I-Choose, a data interoperability framework, to support the provision of a wide range of information about how, where, and by whom products are manufactured and brought to market. This includes information about “green” supply chains or production methods, wages paid to producers or workers in the supply chain, working conditions, environmental impact, or a wide range of other information about the products that they purchase can be delivered to consumers. The project will focus on development of interoperability among stakeholder communities for the single case of coffee grown in Mexico, and distributed and consumed in Canada and the United States. The project builds on previous efforts of members of the North America Digital Government Working Group (NADGWG).

The project team consists of a network of stakeholders involved in Mexican coffee production for distribution in Canada and the US, along with researchers from the fields of information science, computer science, economics, and political science. The project explores interoperability with three types of specific information systems: (1) those designed and maintained by government regulators; (2) those designed and maintained by consumer advocates using social networking technologies; and (3) proprietary data systems from individual firms in the producer, supply chain, or retail systems.

The I-Choose data interoperability network will be unprecedented in nature as it will involve consumers, producers, government regulatory agencies and supply chain/distribution across multiple domains and countries. It will allow more information into market transactions so that consumers can make decisions that maximize their specific utility preferences and align the strategies of these stakeholder groups through market mechanisms rather than through cumbersome regulation. These diverse stakeholders will collaborate to create a series of technical products of the increasing granularity and specificity (ontology, taxonomy, data architecture) necessary for supporting interoperability while gradually expanding their network. The result of this process will be a fully-formed research and practice network and a high quality set of deliverables produced through the consensus of all relevant stakeholder groups, thus ensuring maximum interoperability of information systems. The knowledge gained through constructing and expanding I-Choose will inform a wide range of future collaborations in terms of how to create a trusted environment where incentives for collaboration and competition are complementary, not mutually exclusive. The study is relevant for a wide range of actors who are already experimenting with new forms of collaboration such as labor, environment, and agriculture departments and agencies in the NAFTA region, interested legislators, businesses, trade unions, environmental NGOs, consumer groups, and agricultural associations.

The products to be produced during this three year period are as follows:

- I-Choose as a community-based data interoperability network.
- An ontology that describes the domain of coffee production, distribution, and consumption.
- A hierarchical taxonomy that describes the domain of coffee production, distribution, and consumption.
- A data architecture.
- An iChoose consumer preference prototype evaluated by selected stakeholder groups.
- Policy analysis and recommendations.

Publications & Results

Journal Articles and Conference Papers (4)



Beyond Open Government: Ontologies and Data Architectures to Support Ethical Consumption

October 22-25, 2012

Two important trends on openness are promoting improved accountability from government and private organizations. The case of private transparency finds its roots in consumer and other stakeholder movements. The open government movement in the US is looking for alternatives to “smart disclosure,” which implies providing consumers with better information to make better buying choices. We explore current knowledge on ethical consumption, as well as two influential technological tools to support consumer decisions. Our initial discussion suggests that the use of ontologies and data architectures, together with the appropriate policy environment and governance system, may solve some of the current problems identified.

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A Stakeholder Analysis of Interoperable Data Architecture: The case of I-Choose

June 4-7, 2012

This paper presents the challenges associated with developing a data architecture supporting information interoperability in the supply-chain for sustainable food products. We analyze information elicited from experts in the supply-chain for organic and fair trade coffee to identify relevant stakeholders and the issues and challenges connected with developing an interoperable data architecture. This study assesses the salience of individual stakeholder groups and the challenges based on the stakeholders' attributes in terms of power, legitimacy and urgency. The following five issues/challenges were found to be the most salient, requiring primary focus in developing interoperable data architecture: trust in data, cost to maintain the system, political resistance, oversight and governance, and the cost to consumers in terms of time and effort. In the conclusion we discuss potential future research and practical implications for designing an interoperable data architecture.

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Full Information Product Pricing Regimes: Policy Implications for U.S.-Mexico Sustainable Commerce

April 18, 2012

Current trends in making supply chains more transparent and bringing information usually not available to the consumer and other players into the market are changing the ways in which consumers make decisions about the

goods and services they buy. One example of these changes is the networks of consumers, producers, and other players in the supply chain sharing value-adding information packages about the social and environmental impacts of the products they exchange, or Full Information Product Pricing (FIPP) Networks. Our current research suggests that these FIPP Networks have the potential to promote market-driven approaches to international trade systems, which may work as a complement to more traditional state-led trade systems, such as the North American Free Trade Agreement (NAFTA), in promoting sustainable trade. We envision that such an approach should involve collaboration among government, supply chain and sustainability experts, industry associations, and consumer organizations sustained by a technological architecture to support interoperability and information sharing. We discuss important trade-offs related to costs and sustainability, privacy, and access to information. The paper finishes with a set of recommendations involving the creation of a governance system to promote this market-driven approach to sustainable international trade.

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I-Choose: Consumer Choice, Digital Government, and Sustainability in North America November 3, 2011

In this paper, we address the challenges and opportunities that the new development in ICT poses for governments, and begin to outline some potential solutions. Governments in North America have set explicit goals to increase the environmental sustainability of their infrastructure, promote sustainable local economic development, protect consumer health, promote nutrition, or establish greener, more efficient supply chains. These commitments are real, and substantial, but the information problems found in real markets have, until now, made many of those goals more elusive. This paper presents observations from research sponsored by the National Science Foundation (through its Community-based Interoperable Data Networks Program), the Consejo Nacional de Ciencia y Tecnología (CONACYT-Mexico), and the Canadian and COMEXUS Fulbright Commissions. Our interdisciplinary and multinational research team blends approaches from digital government research, public policy analysis, and system science to investigate new ways of combining traditional regulatory tools with crowd-sourced information from stakeholder networks.

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Press Releases & News Stories

Press Releases

UAlbany Researchers Receive National Science Foundation Grant to Give Consumers more Information about NAFTA Products
Wed, 27 Oct 2010

News Stories

UAlbany grant will encourage 'fair trade'

Daily Gazette

November 12, 2010

Related Web Sites

North American Digital Government Working Group

Building a Sustainable International Digital Government Research Community

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