THE HESTER
VIEW

Submission to the consultation on Canadian Content in a Digital World

The Canadian government is set to frame a new model to support the creation, discovery and export of Canadian content in a digital world. A new consultation paper, published last month, shapes the discussion around three principles: focusing on citizens and creators; reflecting Canadian identities and promoting sound democracy; and catalyzing social and economic innovation. While the ideas presented go a long way forward, they fail to incorporate a crucial sector for both Canadian art and the economy: data.

We all agree that how we collect data, manage it, use it, and disseminate it will determine success. Unless the data is easy to understand, it remains inaccessible and unused. Even governments who keenly promote "open data" recognize the need to move to "open knowledge" which is what open data becomes when it's useful, usable and used. Fortunately, innovation in data visualization and in infographics, particularly the art-driven approach, is at the forefront of turning complex data into knowledge that reaches a wide audience.

This is an area of economic growth where Canada has the potential to be a global leader.

First, let's clarify the meaning of "art-driven approach." Traditionally, visualizations are developed by computer scientists with training in visual or applied arts. In contrast, an art-driven process starts with individuals who are, first and foremost, artists and designers, who are knowledgeable on computer sciences as applied to visualizations. It is the design team who drives the dialog with the data/subject experts until the desired look and feel is approved. Only then does the work shift to the computer coding team. When designers drive the process they are able to create beautiful, quiet, and clean visual spaces capable of attracting and retaining attention which allow the user to absorb complex information easily.

For example, consider the Inter-American Development Bank's (IADB) Energy Database (www.iadb.org/energydatabase), and the Canadian National Energy Board (NEB) pilot concept www.neb-one.gc.ca/energyfuturesdata . The first allows users to compare energy production and consumption between countries over time, while the second gives users a way to explore the NEB forecasts of Canadian provinces' energy production and consumption.

It is interesting that when individuals are first introduced to an art-driven visualization database the immediate reaction is of appreciation for the visual aesthetic, and second, mostly unconsciously, the user adopts a receptive attitude. Art does touch individuals in subjective ways. The reaction to the NEB pilot concept was so positive that in addition to publishing the source codes for the visualizations on opencanada.ca, the organization is now embarking on an initiative to transform its data management and presentation/sharing to incorporate effective art-driven visualizations.

Best of all is that the NEB project is set to leverage Canadian expertise to drive this initiative. The lead on design will be in the hands of one of the largest data visualization labs in the country, the University of Calgary's Innovis, led by Dr. Sheelagh Carpendale. She is one of the Canada Research Chairs the Canadian granting councils established in interactive technologies, information visualization, digital culture, and related subjects. She and her colleagues in other universities are leading innovation in the field.

The spillovers are already at play. The fact that visual artist Christi Belcourt won a 2016 Governor General's Innovation Award for her use of cutting-edge applied arts and design and new technologies to raise awareness about murdered and missing indigenous women, is proof that combining technology, art, and information to aid in knowledge transfer is the way of the future.

There are countless areas in which art-driven visualisation could expand knowledge and understanding of critical global issues. Think of the increased understanding and engagement to be gained though effective graphic rendering of data related to health, energy, and especially climate change. On this polarizing issue, Canada could take a leadership position globally with clear and easy to comprehend data visualisation.

There is a significant potential for art-driven visualization to become the go-to methodology for most data visualization projects in Canada if a concerted and effective support program is put in place by the Canadian government now. Support would cover not just the training of designers, but also create opportunity for contracts from government ministries and agencies that are contemplating data visualization projects. The existence of a highly trained work force, combined with the availability of open source codes of the highest quality, would lead to use by business and NGOs. In turn, they would be increasing the demand for designers and coders. More opportunity will attract more interest in the field and, with that, more research, more innovation. This would generate a positive cycle. These efforts would be amplified if the Innovation Agenda included similar support for all aspects of data management.

While the rest of the world is focused on traditional visualization Canada can move ahead by owning the art-driven space. The competition for attention in the digital world is intense and the attention spans are shorter and shorter. The website that offers us the quickest resolution to our search is the website we will rely on.