CRI
Centre for Regulatory Innovation

Regulatory Experimentation Expense Fund

Innovation, Science and Economic Development Canada

1 April 2020 – 31 March 2022

Enabling Regulators and Businesses to Ease Regulatory Burden through Digital Credentials and Wallets

Digital credentials are an emerging technology that would enable governments and organizations to issue digital versions of official documents that can be shared through a secure digital wallet. The use of digital credentialing would make it easier and more affordable for businesses and regulators to engage in digital transactions.

Innovation, Science and Economic Development Canada (ISED) has identified that the lack of knowledge and expertise regarding digital credentials and supporting technologies (e.g., digital wallets) were significant barriers to the adoption of this innovation. To address these barriers, ISED proposed to develop educational material to help regulators, businesses and other entities to develop enough proficiency with digital credentials to be able to use them.

The goal of this project was to develop and test three different educational approaches to determine their effectiveness in developing knowledge and expertise and whether they impacted stakeholder buy-in.

Three educational approaches were developed and tested for their effectiveness in partnership with the Digital Identity Laboratory (DigIDLab), an independent Canadian not-for-profit entity dedicated to providing services to the public and private sectors.

1. **Educational Portal**: An online self-directed learning portal that provides learners a foundation of knowledge on what digital credentials are and how to apply them. This educational approach helps clients to learn by reading, watching, and listening to topics such as why digital credentials matter, what they are and what is involved in issuing and verifying them.
2. **Demos and Recipes**: A collection of digital credential demos and recipes to assist users with practical demonstrations and experimentations. This educational approach helps clients to learn by observing, experiencing, and experimenting with digital credentials approaches.
3. **Interactive Sessions**: One-on-one evaluation, orientation and guidance provided to a client based on their specific context, digital readiness, and objectives. This educational approach helps clients to learn by providing personalized assistance with applying digital credentials within their specific context.

Question:

- How effective are different educational approaches in helping regulators, businesses, and other entities to improve knowledge and expertise with digital credentials?

The participants completed the educational approaches assigned to them and the impact of the educational approaches on their knowledge and expertise regarding digital credentials was measured.

Participants' knowledge and expertise regarding digital credentials were assessed before and after using each educational approach. Follow up qualitative surveys and interviews with select participants were also used to provide more data about participant experience and performance.

While just under 300 participants registered to the online portal, only 20 participants completed the online portal training. Of these, only 16 completed the demos and recipes and fewer also completed the interactive sessions.

This high number of initial registrants confirmed that there is a high level of interest in digital credentials and their potential applications to both industry and government processes and programs. However, ISED learned that if the educational approach format is too dense, long and complex, participants will not complete the training, even if they enjoy the experience and see value in it.

When comparing the different approaches, the experimental outcome showed that after completing the educational portal, participants' average score on a knowledge questionnaire improved by an average of 25%. When participants then completed the other approaches their average result on the questionnaire decreased (a 10% decrease after completing the demos and recipes and another 9% decrease after completing the interactive sessions).

While these results suggest that the educational portal alone is best to improve participants' knowledge and expertise on digital credentials, qualitative data gathered during the experiment suggest otherwise. Qualitative data suggests that the demos and recipes approach needs improvement and that if effectively implemented, showed potential to reinforce and advance knowledge and expertise when paired with approach 1. Approach 3 wasn't about building knowledge and expertise and was instead focused on assisting organizations with applying digital credentials within their specific context.

ISED learned that there is no one-size fits all to educational approaches. Each of the different educational approaches addressed different needs and worked best in different contexts. Approach 1 served to provide a common base of understanding but didn't help participants with how to apply digital credentials within their context. Approach 2, if effectively implemented, showed potential to reinforce and advance understanding when paired with approach 1, but didn't provide a common base of understanding. Approach 3 wasn't about building understanding and was instead focused on assisting organizations with applying digital credentials within their specific context.

Lessons Learned:

To compare the effectiveness of the educational approaches, the approaches were developed and remained unchanged throughout the experiment. This allowed for the quantitative data (measure of improvement in knowledge and expertise) to be comparable throughout the duration of the experiment.

However, the experimental approaches were not piloted before the experiment was conducted and the qualitative data obtained during the experiment quickly showed that the educational approaches could each be improved, limiting the value of the comparative quantitative data. This experience taught ISED that experiments aiming to quantitively compare the effectiveness of different tools may be better suited for tools that are further in the development process and/or that have been implemented for some time. In cases where new tools are being created, simpler and more agile experiments allow for more agility, quicker learnings, and faster improvement.