Transport Canada

1 February 2022 – 31 March 2023

Electronic Personnel Licence

Specified flight staff (i.e., pilots and air traffic controllers) are currently required by the Canadian Aviation Regulations to hold a valid licence, in the form of a passport-like booklet, to exercise their functions. Due to several challenges caused by the administration of paper licences for industry and the regulators, Canada's key trade partners have initiated work toward the implementation of Electronic Personnel Licences (EPL). Transport Canada is also taking steps in this direction and is considering options for EPL models, including using a QR code (possibly housed on a polycarbonate card), and/or a mobile solution (e.g., smartphone application). Uncertainty exists as to the effectiveness of the various EPL models and TC is planning a series of experiments to help select which model to adopt.

Transport Canada implemented improvements to its information technology infrastructures and created a central licencing data repository creating the foundation necessary to support an EPL. Transport Canada also developed a prototype web based EPL that users can log into using GC Key to access a digital representation of their Transport Canada licencing information.

This is the first experiment conducted as part of Transport Canada's plan to develop and test prototypes for different EPL models.

Learning objective:

- Validate user satisfaction with the prototype including identifying any unforeseen glitches or business requirements and their impact on user satisfaction.

Thirty participants from NAV CANADA Air Traffic Services tested the web-based EPL prototype between 1 Feb 2022 and 31 Mar 2023. When these participants were required to provide their licence information, instead of using their paper licence, they produced the information using the web based EPL prototype instead.

To validate user satisfaction with the prototype including identifying any unforeseen glitches or business requirements and their impact on user satisfaction, participants were surveyed post participation to gather feedback on the prototype.

Experimental findings:

The user satisfaction survey was completed by 11 of the 24 participants. The key findings were:

1. 54% of the participants rated the process to retrieve their EPL was easy or very easy and 63% found viewing the EPL information to be easy or very easy.
2. 45% of participants agreed or strongly agreed with the statement that the EPL retrieval process was fast an efficient. The overall low score is partly attributed to the multi-step initial retrieval process. Furthermore, the process had to be split into two parts for security reasons, resulting in a delay in retrieving the users EPL.

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3. 27% of the participants agreed or strongly agreed with the statement that the EPL is an improvement over the paper-based booklet. There are likely several factors behind this sentiment such as technical issues encountered during the experiment, technology aversion, and inaccuracies in the EPL information retrieved from TC databases. Further exploration of this topic is planned for the next round of user research.

Lessons learned:

A key learning for Transport Canada (TC) in considering digitizing its licences was to understand its internal processes and data resources and how they would be impacted by digitalization. In practice, this means starting with an examination of each service and their associated process within the context of the entire operation. In TC's case, this examination identified that some of the processes/data resources were dependent on another group at TC. If that had been identified later in the project, TC would have had to face a choice between incurring significant delays or limiting the functionality for the end user.

An additional lesson learned is the importance of understanding the relationship and capacity of each legacy IT system and process associated with the service that will be used to support digitalization, including the quality and standardization of data. In TC's case, challenges were faced with inconsistent data structure that limited interoperability between the data repository and the systems used by the EPL initiative. For example, when the client name used an accent, a middle name or an initial, the program was unable to recognize the user when they logged in.

Regulators are encouraged to explore relevant communities of practice to better understand and leverage the technical expertise and experience of other federal organizations, which TC noted helped in ensuring that its EPL minimum viable product complied with GoC technical requirements. As an example, the Digital Credential program at TBS helped TC enhance the success of the project by identifying relevant technical partners early in the development space.

It is also important to consider GoC requirements and common procedures early in the project, such as for staffing, funding, IT architecture and cyber security and to incorporate those considerations into the project plan. The project team learned as they navigated those requirements that, while the requirements slowed the initial progress, using an agile management approach enabled a better understanding of how to manage them going forward.