Digitalization in Regulation

A White Paper
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Presented by

PIVOTAL RESEARCH Inc.™

Introduction

Organizations and related bodies that manage self-regulation of professions and occupations are constantly working through the multitude of changing policies, shifting governance and evolving public interests. Raising awareness among the public, creating impactful strategies and running smooth operations are critical ingredients to successful regulation. With the advent of frequent technology use seen during COVID-19, regulation has been impacted by the dominance of digital technologies. Stakeholders at various touchpoints during the awareness, operations or engagement phases with a regulatory body are forming higher expectations that can be met with a combination of digital methods applied across your regulatory organization.

This white paper focuses on the concept of digitalization and its implications for the regulatory space. Beyond the push from COVID-19, digitalization enables organizations to standardize processes, which not only decreases the probability of error, but increases the availability of resources (such as time, personnel) to focus on emerging strategic priorities. Digitalization also enables organizations to go beyond daily operations to invest in longer term improvements that are informed by real life data.

Our team at Pivotal Research is well-versed at digital transformation and all the change management required for it and can partner with your organization for successful implementation. Digitalization is a gradual journey, and our partnership is to enable you to move forward through incremental innovation. Before diving deeper, it is important to remember that each organization is different (and run by people) and it is vital to evaluate your team's comfort, digital literacy, as well as existing and potential resources (data, financial, people and technical) before digitalizing your core areas.

What Does Digitalization Mean?

Digitalization is re-imagining of organizational processes through the use of technologies and is one of the first steps taken within a digital transformation journey. The aim with digitalization is to enhance a given process and improve its application by monitoring key performance indicators (KPIs) connected to the process. Digitalization requires digitization, and this means ensuring all required data is of a digital format.

Example of **digitization** (Analog to digital)	Example of **digitalization** (Improve digital work)
• Files being scanned • Receipts being inputted into spreadsheets • Converting paper reports to PDF	• Automating reporting using digital technologies • Reviewing various data sources to support decision making

VS.

For regulatory bodies across Canada, data (which is core to digitalization efforts) is generated through your operations in multiple ways. Some common sources of data include:

Complaints data (text data, complaint journey information, mitigation plans, outcomes, etc.)

Member data (number registered, number certified, membership dues, etc.)

Engagement data (website traffic, social media, newsletters, feedback surveys, etc.)

Data is an important consideration for your organization as you digitalize. Understanding the quality and quantity of your data allows you to invest in the right set of solutions for your operations. For example, if you are creating systems to receive member feedback, it is critical to review the type of data you want to receive (qualitative vs quantitative), the number of times you would like to see this data over the year, the stakeholders involved in collecting and operationalizing on the data, and the ways you will support engagement with the data once it is collected. The lifecycle of the data collected will allow your team to determine the type of technologies that need to be employed and how advanced your digitalization efforts must be for success.

What Are Some Use Cases For Digitalization?

COVID-19 has pushed most organizations into some levels of digitalization in the past two years. Information is being shared through multiple digital formats, and expectations of most members (Board or Member/Registrant) and staff are to incorporate technologies in ways that increase efficiencies and improve engagement overall. As mentioned before, understanding the type of data as well as the resources you have available is the first step to digitalizing. Once that is understood, many types of technologies can be applied to give your organization a solid digital foundation.

The use of data analytics across various industries is now status quo. The regulation space is no exception and use cases below show the impact of data and the potential of digitalization, both in its early and late stages.

Digitalization through Data Analytics

Analytics is beyond a trend; it is the ability for your organization to employ resources economically, innovate for quality improvement, mitigate risks, and enhance engagement. The field of data analytics is varied and can involve the following types of analysis:

Descriptive Analytics:

This type of analysis is focused on reviewing existing data and understanding what has occurred based on the context of data provided. A lot of the time, data collection (surveys) and further presentation and review of the data (cross-tabulations or dashboards), is all that is required within this analysis. Through descriptive analysis, you are able to understand what has happened and make informed decisions based on that conclusion.

Diagnostic Analytics:

Analysis here is supported by the need to understand why something has occurred. Once your organization has understood what has happened, it's important to further analyze (through the introduction of historical data) and identify outliers, relationships and patterns. All results are context based and employ various statistical analysis methods to make correlations.

Predictive Analytics:

This analysis generally employs more sophisticated models fueled by various branches of artificial intelligence (AI). Descriptive and diagnostic analytics set up your organization to create forecasting methods through predictive analytics. The aim is to increase your understanding of what might happen down the line and help your organization effectively strategize across all areas of work.

Prescriptive Analytics:

Once you understand what has happened, why it occurred the way it did, and the likelihood of it occurring again, prescriptive analytics can guide you to determine what actions need to be taken in order to realize the potential of your analysis or prevent further errors.

Case Study – Am I Meeting My Mandate?

The aim of the regulatory body is to uphold professional standards and protect, as well as inform, the public about regulations and protections. For professional regulators, however, this vital work can go unnoticed the majority of the time. Much of the public and professional Members only concern themselves with the regulator during times of duress (complaints), at random when they chance to network with the regulator or, perhaps, use the services of professional Members.

What follows here is a fictional case study about the Alberta College of Stationery Manufacturers (ACSM), where you can be certified as a designated Stationery Manufacturer. As many real professions are, our fictional example is governed by legislation, in our case study the Alberta Stationery Manufacturing Act (ASMA). The ACSM protects the public from irregular or erroneous composition and manufacturing of stationery products for both personal and office use through the regulation of professionals and stewardship of professional standards. The ACSM has a Board and Committees, as required by the legislation.

Lindy is the Registrar at ACSM and has been working there for several years. Overall, her job had been pretty steady until COVID-19 hit, when her operations pivoted to supporting her Board, staff and other stakeholders online. In 2020, and 2021, Lindy was focused on ensuring everyone was safe, and reacting to all problems arising during operations. This year, operations are much smoother, but Lindy has been re-thinking what her role and the role of ACSM are moving forward.

During the Board Meeting in January, Lindy was asked many questions:

"Are members aware of the new regulation regarding inks at stores?"

"How are we reaching out to younger folks in universities? There seems to be more direct sellers of toxic chemical based stationery in school."

"Are members aware of the new COVID-related virus protection additives they can include in their manufacturing?"

"Have we incorporated a digital way to manage complaints?"

Although discussion and engagement at the Board Meeting in January was great, Lindy felt a bit overwhelmed. She found the questions asked could be answered anecdotally, but she still had limited evidence on engagement numbers from professional Members and the public . The ACSM had a 5-year strategic plan developed pre-pandemic, but a lot of those operational details feel a bit irrelevant when considering how digitally powered the world has become. Lindy also realized that the basis of most of these questions is steeped in complaints management. Complaints drive the ACSM and managing the entire process, along with expectations that follow from stakeholders, is the core purpose of ACSM. Therefore, proper engagement and awareness could help mitigate complaints and provide evidence-backed answers to questions Board Members posed.

Lindy's next step after this Board Meeting was to call on her team and together, they started investigating what data they do have on awareness and engagement. A lot of this data – complaints, member data, website traffic – were being reported to the Board regularly, but most often remained in silos, with different methods to collect, review and report each source. The team also realized they had no ongoing engagement of Members or the public, with feedback provided only sporadically based on annual events or worse, after a complaint was disposed.

This investigation of sources of existing data within ACSM, as well as potential sources that could be collected (continuous feedback), allowed Lindy and her team to devise a plan. ACSM operationalized a new Research and Knowledge Mobilization Centre catered towards Member and public engagement for the purpose of preventing complaints. They built the capacity of the Centre to review, analyze, and effectively report current data while identifying new sources of data to collect to further ACSM's public protection mandate. 2022 is almost at its end and the ACSM team has:

Created a centralized dashboard with built-in KPIs that standardizes reporting for Board Meetings and pulls rich ACSM data out of its silos;

Identified the potential of social media to increase reach– hashtags can be analyzed for target reach and then used strategically to increase engagement;

Introduced a quarterly pulse survey as touch point with both Members and the public on existing operations as well as new topics introduced by the Board.

Lindy is still cautious but realizes her role as the Registrar has changed and it is her responsibility to move ACSM towards the future, including investigating how digitalization has impacted her operations. Her next steps are to assess if AI models and see how custom software can help her further act on the expanded feedback ACSM now collects.
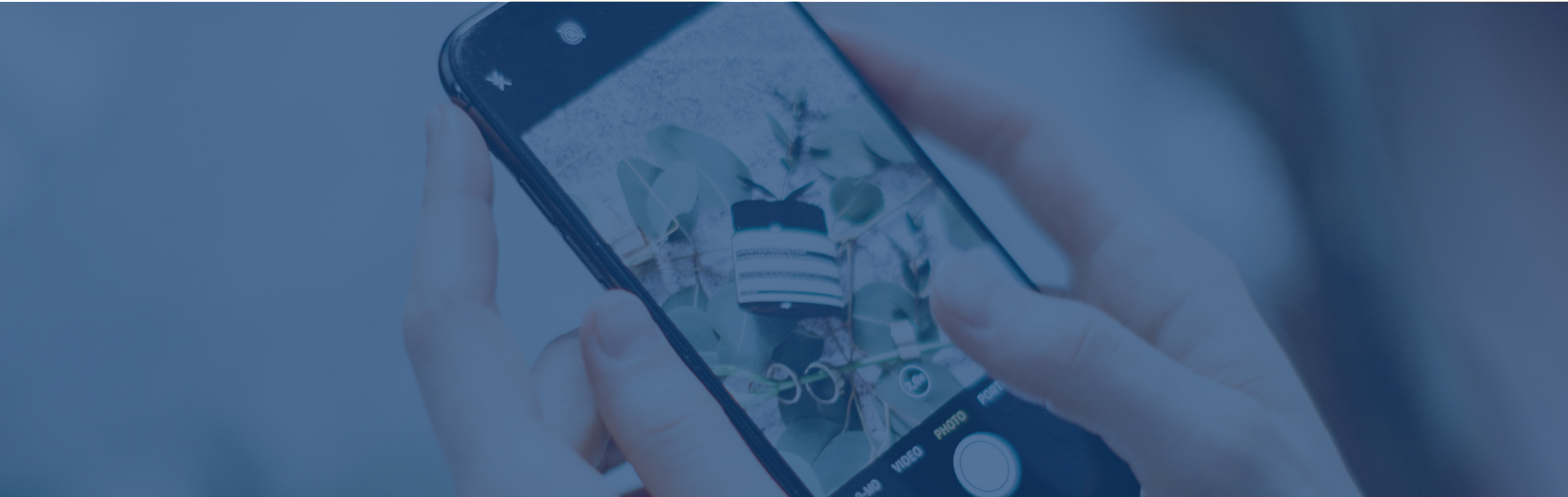
Case Study – Do I Need an App?

Fast forward two years, it's 2024 and ACSM is celebrating its 30th year of protecting the public. The last two years operating the Research and Knowledge Mobilization Centre have been eye-opening, and Lindy, along with her team, have fully realized how big of an impact digitalization efforts can have on the professional regulatory sector. The increased awareness of ACSM through the surveys and engagement on social media has doubled the number of complaints, but the standardization of reporting, as well as the development of KPIs, has allowed the operations team to effectively manage the increase.

Lindy recently hired an Innovation Officer to further capitalize on the findings discovered by the Centre. Overall, the Centre has discovered the following:

Historical data can be used to uncover deeper insights: Complaints can be further categorized and tagged to potentially predict what type of regulation affects what demographic group and why.	**Data insights drive greater engagement:** Customized digital engagement strategies need to be explored to inform and engage with all Members.
Online public posts can be mined: ACSM has just started to use social media effectively and there is potential to mine the online information (specifically awareness and use of stationery products) to understand public concerns and mitigate these concerns before they become complaints.	**Proactive public protection is possible:** Based on the resolutions offered so far and the data collected from the public survey, ACSM has the potential to identify health regions that may receive a complaint in the future, allowing the regulator to be proactive in their public protection mandate.

These findings require further investigation and have the potential to be supported through big data analytics, use of AI, and the application of software. Lindy hopes that the new Innovation Officer, Andy, can help ACSM make decisions that are sustainable in the long-term and support ACSM values of transparency, public protection, and accountability.

Andy is excited in his new role at ACSM and has been presenting his ideas to the Board and staff. He is deciding on options to fully operationalize through multiple small pilots. Although he has Lindy's support, a lot of ACSM staff and the Board are hesitant to take up some of the brand-new ideas coming from the Centre. Andy is familiar with these sentiments, realizing that the status quo is hard to change. Through his pilots, he hopes for successful results to convince ACSM to invest fully in technologies that support the Centre findings. The pilots also allow him to learn and test before making larger investments (financial and other resources). The pilots he is excited about include:

Building a complaints management application that lightens the complaints operation load and provides all parties to the complaint process a transparent view of where the complaint is in the process. It allows parties to appropriate access to documents related to the complaint and facilitates communication between parties (and stores all communication) within the application itself.

Automating the labeling and categorization of complaints and their resolutions to create an AI-powered predictive model that will strengthen the effectiveness of regulatory decision making.
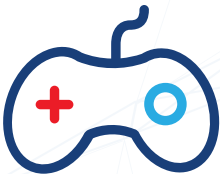
Gamifying internal operations through Microsoft teams to increase engagement of staff during hybrid work, while also reducing digital burnout.

Andy is working through resourcing needs to implement the pilots. A lot of the time he sees that although technologies exist (there's an app for everything), most of the work required for successful digitalization is culture change. He is collaborating with teams of two different risk temperaments, so he and Lindy are identifying champions for the vision he wants to achieve. He understands that only 1 of the 3 pilots will be implemented within the year, but as the first one is operationalized, the rest are likely to follow as ACSM gets introduced and accustomed to the efficiency and value of incremental innovation.

Lindy is participating in the gamification pilot (raking up points daily through team challenges) and is excited for the complaints management app to become available. The Research and Knowledge Mobilization Centre continues on, and she is working with them to create robust evaluation programs for the anticipated pilots, ensuring rich data to support the digitalization efforts Andy is undertaking.

Bottom Line

Digitalization is proving to be the way forward for regulation when supported by the collection, accessibility and transparency of quality data. Championing robust data collection through research and evaluation activities, adopting technology and building on findings often requires a shift in culture and mindsets, but with time, regulatory bodies can be expected to digitalize successfully.

Given the high level of specialized knowledge required within the regulatory environment, within technological and analytical spheres, and the investment required for future gains, it's often advisable to bring on contracted partners for the intensive start-up and acclimation phases of digitalization. Once operations become fluid, a regulatory body can examine its own data to assess what roles to bring in-house, and which to continue contracting out.

If undertaken with consideration for the people in the process, digitalization provides incredible opportunities to increase protection of the public, encourage greater engagement, uptake and ongoing education within professions, and increases the efficiency with which a regulator meets its mandate.

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