

Bank of Canada's IM perspective on the digital transformation journey

CEMLA Seminar on Document and Archives Management, Madrid, September 10-13, 2019



Agenda

- Main components of our Information strategy
 - Challenges, vision, maturity and evolution
- Main projects to embrace the digital age:
 - DROP Decrease Records on Paper strategy
 - Email Management
 - Network Drives Content remediation
 - Data Catalog
 - ...and many others

Challenges we are facing in the digital age

- Governance for data and information is decentralized at the Bank
- Staff create information on many systems and in many formats
- Difficult to find critical information when you need it
- The volume of BoC information created is **growing exponentially** on a shorter timeframe
- Staff want to retain everything
- The Bank needs more and more data information that are externally purchased or acquired
- Supporting ATIP needs to find information is very difficult
- Supporting the Bank Open Access strategy

Support from key Executives

"INHOUSE: What is your No. 1 challenge with technology right now?

FARR: I can't really identify just one; I have to identify two. One is record retention and retrieval. We have a proliferation of systems across a variety of different platforms that don't communicate with one another. We don't have a centralized search capability, so, both in terms of responding to access to information and litigation discovery, it has become problematic. Add to that a corporate culture of retaining everything even though it is transitory and doesn't need to be retained and that's finally brought the institution to a critical halt in trying to respond effectively and efficiently. We have a major initiative underway of a single data management platform that is being introduced. Probably the biggest change management issue is a one-year retention period with automatic disposal: You either file what you have or you lose it after a year. That's just being rolled out now."

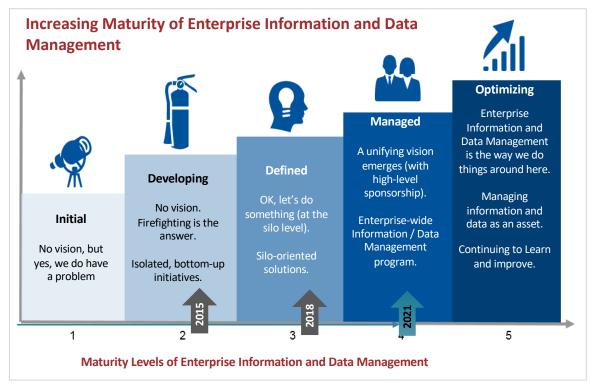
Jeremy Farr, General Counsel, Bank of Canada

Canadian Lawwer magazine August 2018

Vision

K&IS is a recognized leader in the Bank's digital transformation, equipping and enabling Bank employees to gain optimal value from data, information and knowledge

Information and Data Management Maturity Model



Source: Adapted from Gartner's Master Data Management Maturity Model



Where are we going at the Bank?

Vision

Managed

Developing 2016-2018 Records Management: Unified system to manage paper and electronic records in CC

Management with

Collaboration Centrale (CC)

CM Program: putting in place the foundation of Enterprise Content FOICY

Email management

Discovery Search

2019-2021

Artificial intelligence for Enterprise Search and Autoclassification

Reduction of Network

Drives and
disposition

SharePoint to the cloud

Research Tracking Tool

2022-2024

Digital transformation achieved by:

Information
Architecture:
information driven
architecture to enable
macro intelligence

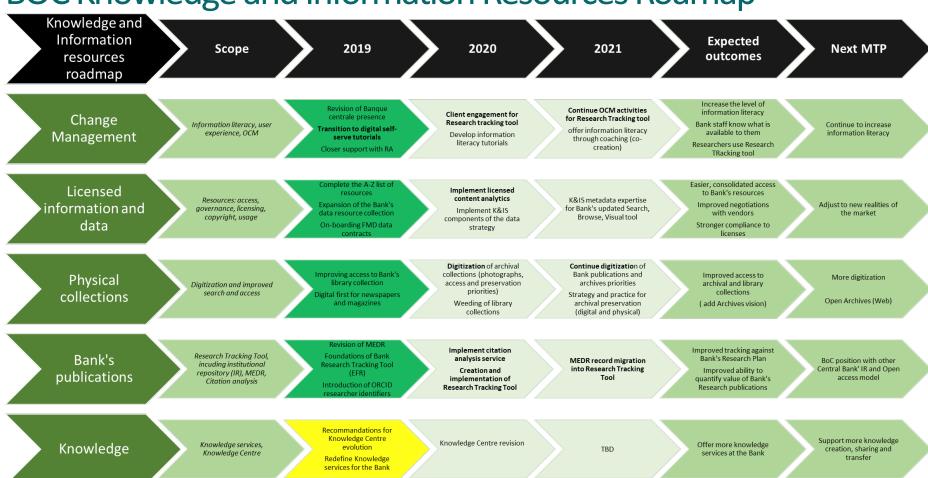
Records Management standards formalized in all Bank systems K&IS is a recognized leader in the Bank's digital transformation, equipping and enabling Bank employees to gain optimal value from data, information and knowledge



Bank of Canada IM Roadmap Expected Next MTP 2019 2020 2021 **Outcomes** Roadmap (Description) Assess policy needs for data Corporate Retention Matrix Standards applied to more Enabling Compliance, risk Important corporate systems Preservation Standards for Digital Information Standards & Consolidated and Simplified corporate systems manage the IM lifecycle management, information Archives Published Governance Retention rule applied to Develop other directives as properly standards. Determine and assess the Bank corporate repositories shared / group mailboxes required Holistic Departmental IM Digital Plan for other IM Digital Plan developed Entreprise Data strategy OCM Implement directives on IM/Digital transformation Significant increase in storage limits/limited use **Change Management** and negotiated for six activities related to adoption and use of CC plans to support transition Transition to digital selfnetwork drives departments metadata, etc. to working digital serve tutorials for IM/CC Design and configuration Adding more repositories Support for CRM EIA phase for Entreprise search Entreprise search Reduce user effort to file, (Metadata) to Entreprise search Significantly less time spent Search and EIA implemented CC Onen access model find and use information finding information Auto-classification (AI) addressed during cloud Search analytics (Delve) for enterprise search implementation migration All Bank records are born and 50% of eligible physical managed digitally through Disposition of physical Dispose properly paper **DROP** - Decrease records 20% of eligible physical records disposed records disposed Remainder eligible physical their lifecycle records and digital records: on paper records disposed signature Digital signature Significant reduction in paper More digitization implemented records managed Network Drives cleaned for Network Drive Reduction. Digital Asset Mangement Network Drives no longer used for user-generated content and ELS. FBD and TBD Network Drives cleaned for Network Drives cleaned for DAM (Digital Asset Mngt), E-records Archival preservation system for CS, HR, FIN and CUR remainder departments Collabspace (cloud) collaboration e-RM digital records Bank staff have access to SharePoint to cloud CC, O365, Support more and enhanced Implement 0365 Service and support Model Continue evolution within the collaborative features to Collaboration evolution of collaboration O365 environment for O365 developed and Tools/Services exchange knowledge and platforms to the cloud implemented Other categories of data are Access to analytic data is Support evolution of the Entreprise Data strategy Data search capabilities Data better governed and improved Bank's data strategy implemented implemented Data search and metadata



BOC Knowledge and Information Resources Roamap



DROP strategy – Decrease records on paper

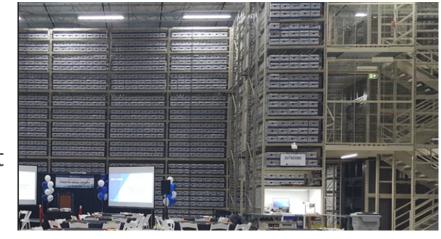
 What? Establish a strategy to work with all Bank departments to significantly reduced paper records and change their related business process to get to a fully digital lifecycle management of their information

■ Why? Disposition to reduce storage space, enhance search, better access to

information process, etc.

■ When?

- 2018: established the strategy
- 2019-2021: implementation
- Start with « Low hanging fruit » than the rest



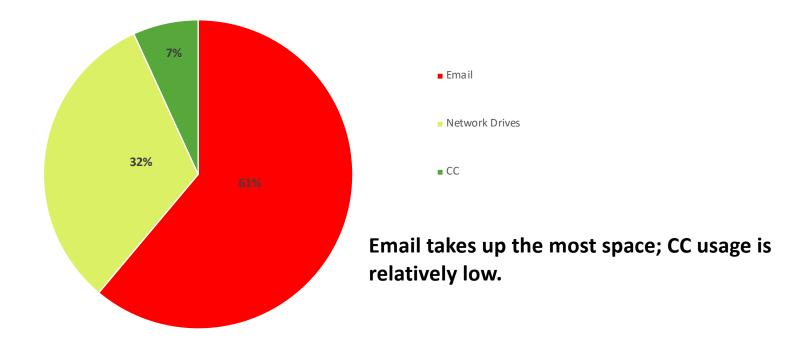
DROP strategy

- **How?** Digital transformation plans with each department to change their business processes when necessary
 - Includes:
 - Disposition of eligible records
 - Digitization of archives and very limited active paper records
 - Change management activities
 - Business processes improvement to get to manage fully digital through the entire lifecycle



Where we were: Dec 2017

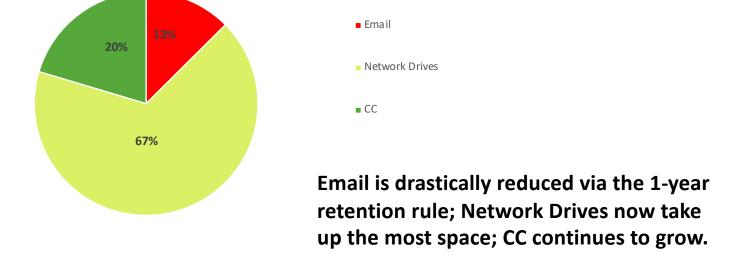
Space used (TB) for user generated content on Email, Windows Network Drives (user files) and CC





Where we are: January 2019

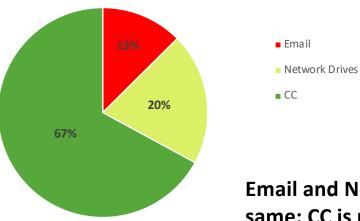
Estimated space used (TB) for user generated content on Email, Windows Network Drives (user files) and CC





Where we will be: December 2021

Estimated space used (TB) for user generated content on Email, Windows Network Drives (user files) and CC



Email and Network Drives are roughly the same; CC is now the primary storage location for documents – anything remaining on the Network Drive is considered inadmissible to CC.

Email management

What?

■ Introduction of a one-year retention rule to individual Outlook accounts and a new tool to transfer email in our EDRMS (official corporate repository)

Why?

- Forced transfer of corporate records to corporate repositories
- Improve search for ATIP and other legal purposes
- Reduced maintenance and recovery of network environment



Email Management

When?

- 2017: environmental scan, option analysis, approval and planning
- 2018: One year for change management strategy with Bank staff and email standard definition
- 2019: January 1st, retention rule applied

■ How?

- Started with the Leaders
- Tailored presentations by department to all staff
- Methodology to assess and support each department throught the year
- Email standard and directive



Success!

We did it: the new email rules are up and running

January 16, 2019

The Bank's new email retention rules took effect this month, and we're pleased to report that the process of cleaning up over 2,200 mailboxes is now complete.

On January 3, we launched a process to delete all emails more than a year old. It rolled out smoothly and the final numbers are impressive:

63 million emails deleted

If we printed and stacked each one beside Mount Everest, our email pile would be more than 1 km taller.

24 terabytes freed up

That's 40 straight years of streaming music.

Seven calls to ITS

That's only 0.3% of users!

Network Drive Content Remediation

What? Reduction of Network Drives by transfering active and semi-active documents to our EDRMS were retention rules will be applied and disposition of eligible content after a risk-based methodology will be done. Only non eligible format will be allowed on network drives

Why?

- Ensure corporate records can be truly managed for their entire lifecycle
- Reduced maintenance and recovery of network environment
- Forced usage of formal corporate repositories (e.g. EDRMS)

Network Drive Content Remediation

When?

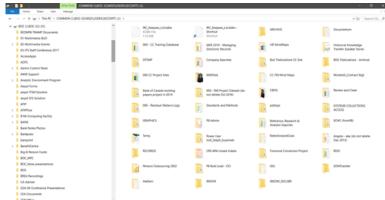
Started slowly in 2017

 2018: Revised methodolgy, developement of the risk-based approach and pilot for tools and processes

■ 2019-2021 Dedicated project — exploring using AI

■ How?

- Assessment of content
- Disposition of eligible content
- Migration of content on EDRMS
- Definition of a network drive standard and directive



Data catalog

■ What?

 Built a data catalog to inventory all data objects available at the Bank for the Analytic Environment and increase the information available to describe these data assets to improve findability e.g. search experience

Why?

- No real inventory available
- Volume of data exponentially growing
- Nature of the data acquired and created is increasingly varied (source, type and format)
- Data infrastructure mainly for time series data e.g. data warehouses

Data catalog

■ When?

- Started In January 2019 as a Data search initiative
- 2 years to implement by end of 2020

■ How?

- Proof of concept for the first 3 months using current library system
- Select and establish a metadata schema
- Find, select and implement a metadata repository and search tool
- Define and establish priorities of data objects to be catalogued
- Automate wherever possible (uploading and applying metadata)

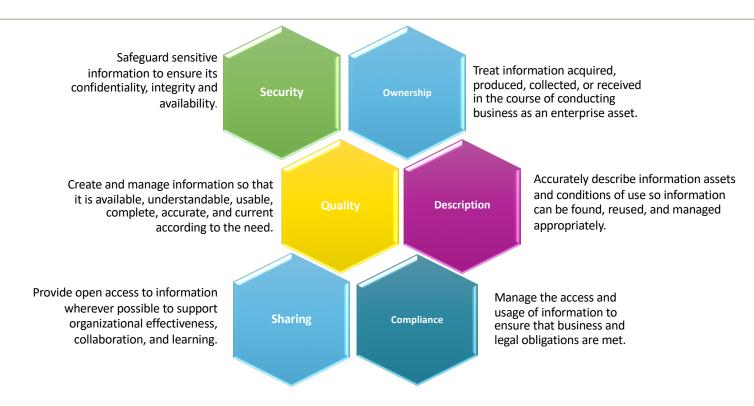
...and many others

- Digital authorization / signature
- Entreprise Search and auto-classification (AI)
- Research Tracking tool and Institutional Repository for Bank research outputs
- Digital preservation assessment and strategy
- Digitization of Bank's collections (Library, Archives and records)
- Development of policy instruments to mitigate and control Bank's data and information assets like Corporate repository standard, Entreprise metadata standard, Transitory information directive and standard, etc.

Questions, advices and feedback are welcome Chantal Marcoux cmarcoux@bankofcanada.ca



Bank of Canada Information Policy (2017) - Principles



Why dealing with the print legacy

- Continue to carry a heavy burden
- Difficult to find critical information
- Can not continue to have time and resources devoted to these activities
- Stop the too long transition of print vs digital
- Still need to be considered in ATIP requests
- It is courageous