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Data Fluency at the Bank of Canada: a Learner Centric Approach

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A little bit about me

A little bit about the Bank

- ~2000 employees
- Established via the Bank of Canada Act to "*promote the economic and financial welfare of Canada*"
 - › *develop and implement monetary policy;*
 - › *oversee the financial system;*
 - › *develop and issue currency;*
 - › *Act as the fiscal agent for the GoC;*
 - › **new* provide supervision over payment service providers*





Why should we focus on data fluency?

Foundational Definitions: Data Fluency

1. *The ability to spot and identify opportunities to use data to derive meaningful information, to improve operational efficiencies and generate business insights in a secure and responsible way*
2. *"... the ability to read, write and communicate data in context — with an understanding of the data sources and constructs, analytical methods and techniques applied — and the ability to describe the use-case application and resulting business value or outcome."*

1.) Internal Bank of Canada definition – based partially on the DMBOK

2.) Gartner definition (verbatim) – from the Gartner Glossary

Why do WE do data fluency training?



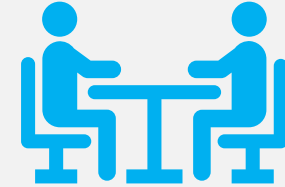
Build a stronger “data culture”

- Create an environment where data are central to most conversations
- Incentivize the use of data for decision-making, and analysis
- Make data “cool”



Upskill our workforce

- Provide on-the-job training that allows staff to apply their knowledge to day-to-day tasks
- Support advanced learners by providing open-ended and self-guided resources
- Make significant transformations to your standing workforce



Make better “business moments”

- Have rich conversations and debate that are rooted in data
- Highlight performance by pointing to metrics and not anecdotes
- Move away from heuristic decision-making to evidence-driven decision-making

A high-altitude mountain landscape with snow-covered peaks and a trail of hikers. The scene is dominated by a large, rugged mountain peak in the background, partially covered in snow. The foreground shows a wide, snow-covered slope with a trail of footprints leading towards the mountain. Two hikers are visible in the foreground, one in a red jacket and another in a green jacket, both carrying large backpacks. The sky is clear and blue.

The challenges of implementing Data Fluency programs

The bumpy road of data fluency

Addressing Challenges

Learner Heterogeneity

In a large, diverse organization, there is a range of starting data fluency levels



Appetite for Investment

Upskilling is time-intensive. Is your organization ready to make that investment?



Modality

There is a wide range of preferences for how learning content is delivered



Strategic Alignment

Are we aligned on what we expect to get out of the training? Is it for culture, or is it for upskilling?



Learner Fatigue

Especially over COVID, many employees have learning fatigue, particularly for online content



The Challenge: building an “enterprise” data fluency strategy

Department 1



- Low starting data fluency
- High investment appetite
- High fluency aspirations

Department 2



- High starting data fluency
- Moderate investment appetite
- Moderate fluency aspirations

... Department n



- Low starting data fluency
- Low investment appetite
- Moderate fluency aspirations

There is no “one size fits all” approach for most organizations

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are arranged in a way that they appear to converge towards the top of the frame, creating a sense of height and scale. The sky is a clear, bright blue with scattered white clouds. The glass reflects the sky and each other, creating a complex pattern of light and color.

Putting the learner first: Data Fluency at the Bank of Canada

Putting the learner at the center of the journey

- This is really about understanding the unique needs of learners at your organization, and trying to “meet them where they’re at”
- Taking an empathetic approach to developing programming
- Understanding that learner time is valuable, and learner attention is priceless

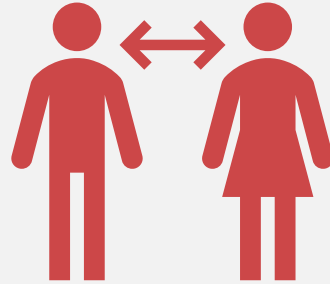


Bank of Canada Data Fluency Program Components



Enterprise Learning Content

- Geared towards general learners from across the organization
- Can be guided (pathways) or self-service content licensed by the Bank
- Includes Job-aids, podcasts, conferences, and related broadly applicable material



In-person Support

- Hands-on training and development support provided by data experts to Bank staff
- Delivered in a wide range of vehicles
- Focus on real problems from day-to-day work



Custom Content

- “White glove” custom content generation and delivery
- Focused on specific needs (not available elsewhere, audience requirements, etc.)
- Can be generated internally, or procured via outside vendors

Diversifying Delivery

| Delivery Method | Program Component | | |
|--------------------|-----------------------------|-------------|----------------|
| | Enterprise Learning Content | 1:1 Support | Custom Content |
| e-Learning | ✓ | ✓ | ✓ |
| Podcasts | ✓ | | |
| Conferences | ✓ | | |
| Office Hours | | ✓ | |
| Drop-in Support | | ✓ | |
| In-Person Training | | ✓ | ✓ |
| Job-aids | ✓ | | ✓ |
| Intranet | ✓ | | |
| CoP's | ✓ | ✓ | ✓ |
| ... | ... | ... | ... |

Enterprise Learning: Structured Learning Pathways

The screenshot shows a LinkedIn Learning profile for the 'Data Fluency Program / Programme de la maîtrise des données'. The profile includes a header with the program name, a follower count of 82, and a 'Following' status. Below the header is a navigation menu with options like 'Home', 'About', and 'Introduction to Data'. A search bar and a 'Card Type' filter are also visible. The main content area displays a grid of learning cards, each representing a different module or pathway. The cards are organized into two sections: 'Introduction to Data' and 'Guided Learning'. Each card features a video thumbnail, a title, a difficulty level (e.g., 'Beginner'), and a duration. The first card in the 'Introduction to Data' section is 'Data Terminology, Types and Terms', which is 21 minutes long and has 2 likes. The second card is 'Terminologie des données, types et termes', also 21 minutes long. The third card is 'Data Journey', which is 15 minutes long and has a rating of 5 stars. The fourth card is 'Cheminement des données', which is 15 minutes long. The 'Guided Learning' section starts with 'Data User', which is 7 months long, followed by 'Utilisateur de données' (1h 23m), 'Data Analyser' (7h 31m), and 'Analyseur de données' (4h 36m).

Channel: Programme de maîtrise des données

Data Fluency Program

82 Followers

Following

Data Analytics | Data Collection | Data Governance and Management

learning – here you will learn the terminology, concepts, capabilities and tools required to put data first!

quairées.
Le programme Littéracie de données est un lieu central pour l'apprentissage de vos besoins en matière de données - ici, vous apprendrez la terminologie, les concepts, les capacités et les outils nécessaires pour donner la priorité aux données!

Home | About | Introduction to Data | Introduction aux données | Guided Learning | Apprentissage guidé | More

Card Type | English | Search Content...

Introduction to Data | Introduction aux données (6) [View All](#)

- Data Terminology, Types and Terms**
Pathway | Beginner | 21m | 2 likes
- Terminologie des données, types et termes**
Pathway | Beginner | 21m
- Data Journey**
★ 5 | Pathway | Beginner | 15m
- Cheminement des données**
Pathway | Beginner | 15m

Guided Learning | Apprentissage guidé (8) [View All](#)

- Data User**
Journey | Beginner | 1h 7m
- Utilisateur de données**
Journey | Beginner | 1h 23m
- Data Analyser**
Journey | Beginner | 7h 31m
- Analyseur de données**
Journey | Beginner | 4h 36m

Enterprise Learning: Digital Artifacts

Podcasts

BoC Podcast - Data Makes it Happen Episode 2: Data-Driven COVID Response

Erik Balodis (Director - Analytics and Decision Support) | 25 Mar 2022



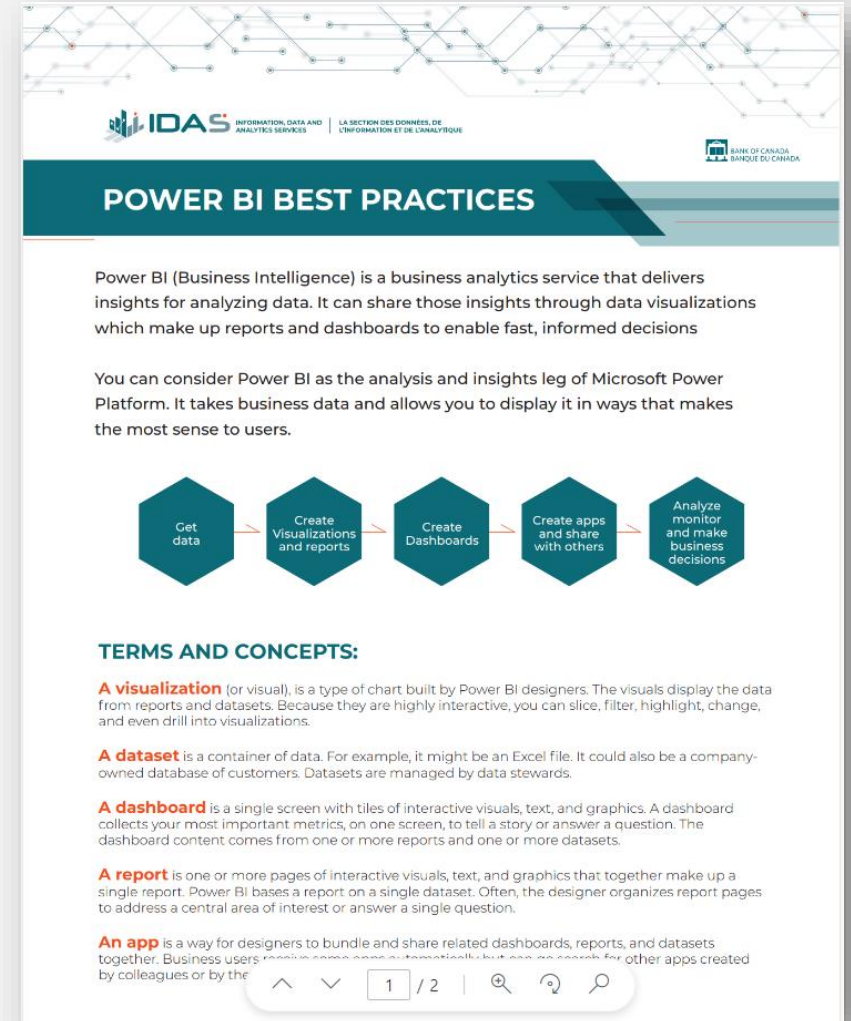
BoC Podcast - Data Makes it Happen Episode 2: Data-Driven COVID Response

In this episode, host Karen Hodge Cunningham and guest Marty Olson discuss how data has shaped the Bank's COVID-19 Response. [Open Content](#)

Podcast | Unspecified

Mark as Completed

Job-aids



POWER BI BEST PRACTICES

Power BI (Business Intelligence) is a business analytics service that delivers insights for analyzing data. It can share those insights through data visualizations which make up reports and dashboards to enable fast, informed decisions

You can consider Power BI as the analysis and insights leg of Microsoft Power Platform. It takes business data and allows you to display it in ways that makes the most sense to users.

```
graph LR; A[Get data] --> B[Create Visualizations and reports]; B --> C[Create Dashboards]; C --> D[Create apps and share with others]; D --> E[Analyze monitor and make business decisions]
```

TERMS AND CONCEPTS:

A visualization (or visual), is a type of chart built by Power BI designers. The visuals display the data from reports and datasets. Because they are highly interactive, you can slice, filter, highlight, change, and even drill into visualizations.

A dataset is a container of data. For example, it might be an Excel file. It could also be a company-owned database of customers. Datasets are managed by data stewards.

A dashboard is a single screen with tiles of interactive visuals, text, and graphics. A dashboard collects your most important metrics, on one screen, to tell a story or answer a question. The dashboard content comes from one or more reports and one or more datasets.

A report is one or more pages of interactive visuals, text, and graphics that together make up a single report. Power BI bases a report on a single dataset. Often, the designer organizes report pages to address a central area of interest or answer a single question.

An app is a way for designers to bundle and share related dashboards, reports, and datasets together. Business users receive apps automatically, but can also search for other apps created by colleagues or by the

1 / 2

Enterprise Learning: CoP's and Conferences

Communities of Practise



Power BI Community of Practice

Power BI Best Practices

When to use Native Queries, Power (M) Query, and DAX

Review of Top Power BI Best Practices from 2022

Power BI Desktop Optimization

How to split Power BI Report | Dataset : Report

Office Hours with PBI Experts

Regularly scheduled times when PBI experts are available so the community can engage with them. Community users can receive assistance with minimal process overhead.

Bi-Weekly Power BI Best Practices - Working Sessions

Purpose:

- Review Best Practices (i.e. show/tell, community experiences, etc.)
- New Features Availability and/or Feasibility
- Q&A related to Power BI at BoC

Will Provide the Agenda before each meeting separately. **Conflicts will be adjusted** based on most suitable time for majority of attendees.

Conferences and “Data Month”

Data Month 2022 – Everything runs on data

October 28, 2022

Data Month is back. Register for events and activities throughout November to improve your understanding of data and how you can use it in your work.



All Bank staff and consultants can participate in Data Month activities. For more information about these events, contact [Sara Chen-Wing](#).

November 8 – The importance of data in the world of sports analytics (English only)

11:00–12:00 (ET)

Hear how Maple Leaf Sports & Entertainment Partnership uses data and analytics to deliver top quality sport and entertainment experiences to fans.

[Register now.](#)

November 16 – Data hackathon - the FIFA World Cup 2022

9:00–12:00 (ET)

What insights can data reveal about the FIFA World Cup? Explore tools like Power BI and Tableau as you work in your team of five to develop dashboards for a chance to win a prize. You will use provided data sets, creativity, available Bank tools and expert support from the Information, Data, and Analytics Services team throughout the three-hour challenge. The team with the most insightful and creative dashboard wins.

NOTE: All team members must register individually. Team captains are asked to contact [Sara Chen-Wing](#) with the names of all team members.

[Register now.](#)

November 17 – The data behind the MPR

In-Person Support



Office Hours

- Regularly scheduled time for Bank employees to reach out to designated data experts for 1:1 support
- Can cover any subject: data modeling, data science, tools, languages, etc.



Personalized 1:1 Support

- Bespoke support for consulting, project-related support, specific product support
- Often tied to a broader initiative
- Closer to “data mentorship”



Data Café

- Held in the atrium of the Bank of Canada
- Multiple data experts present
- Refreshments served
- Open-forum “AMA” style engagement with the Bank community

Custom Content



Custom learner paths

- Hyper specific role-relevant learner paths developed in collaboration with client departments
- More immediately applicable than enterprise-wide content
- Builds off the library of general content, but may have area-specific examples or use-cases



Custom in-person training

- Development of custom course content for targeted audiences
- Useful for high-touch stakeholders where focused interactions are most important
- Can be developed and delivered "in-house", or outsourced



Role-specific job-aids

- Data fluency artifacts developed for specific areas/roles
- Provides an opportunity to serve diverse clients with a range of best-practices
- Contributes to a large library of job-aids for the Bank

What about Advanced Users?

Self-service learning

O'REILLY®

LinkedIn Learning

Microsoft
Learning

Topic-specific training

python™



databricks

MATLAB®

What comes next?

- “Hard to get to” stakeholders and clients (executives, niche pockets of the organization)
- Data fluency self-assessment framework and tool
- Strengthening decision science training
- Reviewing content, collecting feedback, continuing to iterate





A final note on strategy

- We've taken the approach that data fluency content is largely commoditized:
 - › DataCamp, LinkedIn Learning, Coursera, EdX, etc. etc.
- That means that the value in the programming is in the strategy, curation, and execution
- This may not be appropriate for your organization

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are arranged in a way that they appear to converge towards the top of the frame, creating a sense of height and scale. The sky is a clear, bright blue with scattered white clouds. The glass reflects the sky and the surrounding buildings, creating a complex pattern of reflections and refractions. A semi-transparent dark grey horizontal band is overlaid across the middle of the image, containing the word "Conclusion" in white, bold, sans-serif font.

Conclusion

Tracking our Progress

- ✓ **#1 Learning Channel on our LxP**
- ✓ 10 learning pathways developed and launched
- ✓ 2 bespoke data academies developed and launched
- ✓ 3 data conferences delivered
- ✓ 2 “data month” calendar events delivered
- ✓ 3 Enterprise CoP’s established
- ✓ 100’s of hours of 1:1 support provided
- ✓ Dozens of digital artifacts (job-aids, podcasts, glossary of terms, etc.)

Strategies for overcoming challenges

1. Put the learner at the center of the journey
2. Take a “group-by-group” approach
3. Develop a wide range of learner paths
4. Build a diverse array of delivery methods
5. Make the learning relevant
6. Invest intelligently



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Thank You!