EXPLORING DATA LITERACY WORKSHOP

# WLC- WSWA MEMBERS

**NOVEMBER 4, 2021** 

Valerie Logan, CEO & Founder, The Data Lodge Cathy Huyghe, Co-Founder, Enolytics









Valerie Logan, The Data Lodge

Cathy Huyghe, Enolytics

# WELCOME! ABOUT TODAY'S SESSION...

# **EXPLORING DATA LITERACY WORKSHOP**

# TODAY'S SESSION



# Data Literacy: A Deeper Dive into "Speaking Data" as a Key Differentiator

Join us for a follow-up round of learning how to "speak data" with Valerie Logan, CEO of The Data Lodge and Cathy Huyghe, co-founder of Enolytics.

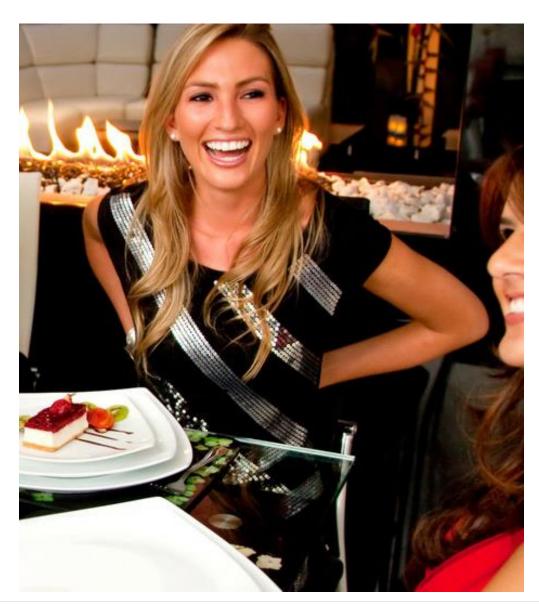
In this extended session, we'll dive more deeply into data literacy as a key differentiator in three separate scenarios.

- First, we'll investigate how to level-up your own data and decision-making abilities, illustrated with a
  personal life example and a few wholesaler use cases.
- Next, we'll explore how data literacy skills are critical to innovation, and today's demands for transparency.
- Finally, we'll consider ways to foster data literacy for your team and organization, including examples of what other pioneers are doing in this space.



# **EXPLORING DATA LITERACY WORKSHOP**

# TODAY'S SESSION



# Keep in Mind...

- <u>Everyone can level-up in our session!</u> But no worriesthis isn't intended to be a "deep-dive data science course for wholesalers".
- How we compete is increasingly about data how we innovate and how we share data transparently matters.
   We will cover how data literacy and a shared language around data are key to both.
- This isn't just about your own data literacy. How do you
  plan to <u>build this muscle within your team or</u>
  <u>organization</u> in 2022? We'll give you some ways to start.







# **SETTING CONTEXT**

# WHAT IS DATA LITERACY?

Data Literacy: The ability to read, write, and communicate with data <u>in context</u> — in both work and life.

#### **MINDSET**

Being open, willing & curious.

Seeing the world through data glasses.

#### LANGUAGE

Business, Data + Analytics Acumen. "Speaking Data" as a shared language.



#### **SKILLS**

Thinking critically. Engaging others.

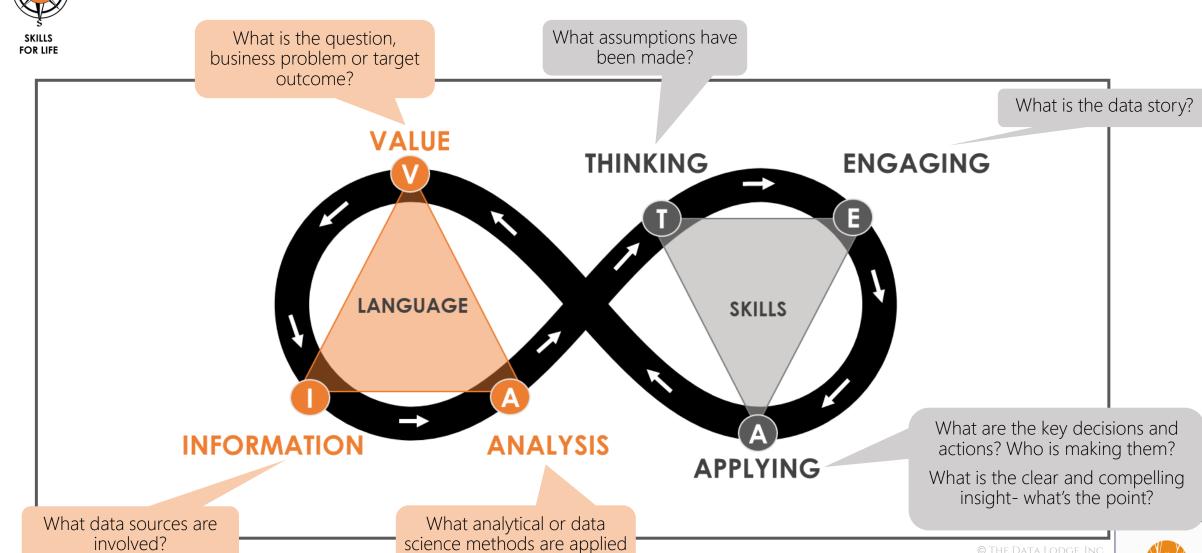
Applying data constructively.







# **USING YOUR DATA LITERACY MAP & COMPASS**



to the data?



# **DATA LITERACY 101**

# TOP 20 DATA LITERACY ESSENTIALS

# LANGUAGE VALUE FOUNI

# **W** BUSINESS VALUE FOUNDATIONS

- 1. Processes and outcomes
- 2. Metrics & Key Performance Indicators (KPIs)

# DATA/INFO FOUNDATIONS

- 3. Basic Data Types
- 4. Diversity of Data sources
- 5. Data bias
- 6. Characteristics of data quality

# ANALYTICS FOUNDATIONS

- 7. 4 types of analytics (Descriptive/Diagnostic/Predictive/Prescriptive)
- 8. Distributions and Measures of Central Tendency (mean, median and mode)
- 9. Outliers
- 10. Correlation vs. causality

# SKILLS

# THINKING WITH DATA

- 11. Context, source and assumptions
- 12. Cognitive and confirmation bias
- 13. Point or pattern
- 14. Scientific method & hypothesis testing

## **E** ENGAGING WITH DATA

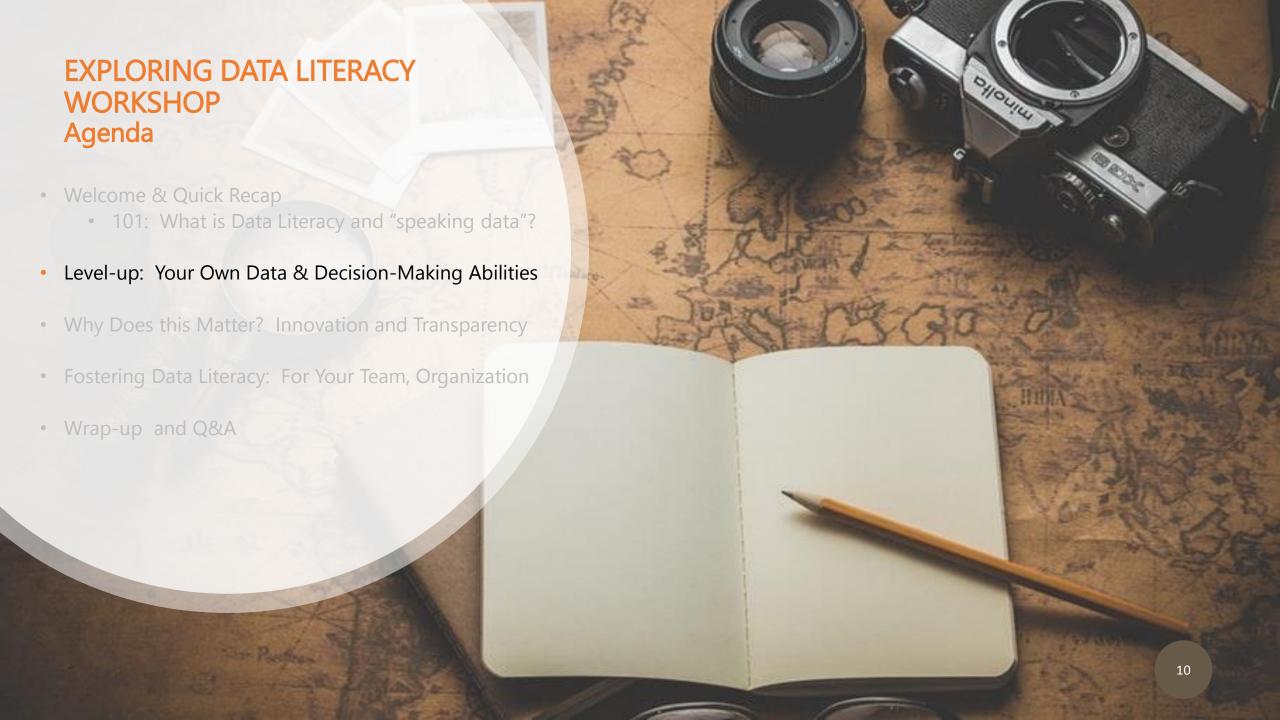
- 15. Elements of a good chart
- 16. Reading and interpreting a real-world data visualization
- 17. Basics of telling a story with data

# A APPLYING DATA

- 18. Human vs. augmented vs. automated decisions
- 19. Gut instinct vs. data-driven
- 20. Ethics and data privacy









Do you speak a second language?



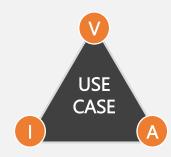
Do you "speak data"?

# MAKING DATA LITERACY PERSONAL

# SPEAKING DATA- IN LIFE, AND WORK.

#### **Value**

What is the question, business problem or target outcome?
How is value realized?



#### Information

What data or data sources are involved?

### **Analysis**

What analytical or data science methods are applied to the data?

# **Workshop Question:**

What are some "real-world" examples of using, or "speaking data"?

Put into the chat a few examples where data and analytics play a role in your life.

ENOLYTICS

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# MAKING DATA LITERACY PERSONAL

# SPEAKING DATA- IN LIFE, AND WORK.

- Buying/Selling your home?
- Mortgage financing?
- Personal finance?
- Monitoring your credit score?
- Insurance rate comparison?
- Driving Using your dashboard, GPS and fuel alerts?
- Travel planning and logistics?
- On-time flight arrival stats?



What are some "real-world" examples of using, or "speaking data" in your personal life?

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- Connected home monitoring?
- Evaluating colleges?
- Nutrition labels?
- Online shopping?
- Weather forecasts?
- Personal fitness?
- Counting your steps?
- Medical records/history?
- Fantasy sports league?
- Reading and deciphering the news?



# STARTING WITH THE BASIC VOCABULARY

ISL

# Information as a Second Language ® (ISL): The Foundation for Data Literacy

#### **Value**

What is the question, business problem or target outcome? How is value realized?



### **Information**

What data or data sources are involved?

## **Analysis**

What analytical or data science methods are applied to the data?

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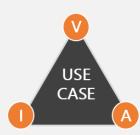


# AN EXERCISE

# Try to Describe This "Real-Life" Example

#### Value

What is the question, business problem or target outcome?
How is value realized?



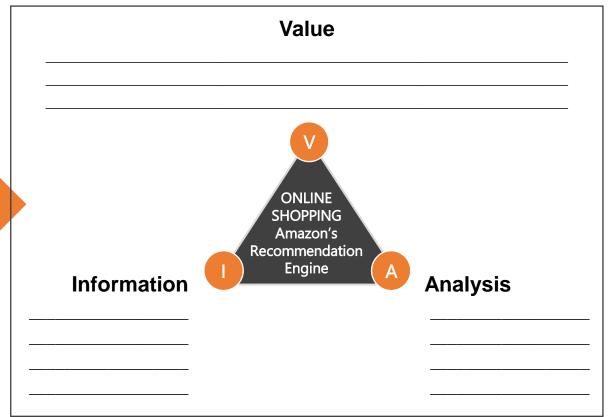
#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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# AN EXERCISE

#### **Value**

What is the question, business problem or target outcome?
How is value realized?



#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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# Try to Describe This "Real-Life" Example

#### Value

Business Value = Maximize customer revenue/share of wallet. Cross-sell and upsell. Profitability.

Customer Value = Enhanced personalization and experience with advice on selections and recommendations.



#### Information

Shopping history, browsing history, shopping cart items, ratings and review comments, demographics, social media history, for example.

#### Analysis

ENOLYTICS

A recommendation engine. Based on affinity analysis and market basket analysis. Plus, pricing algorithms, campaign analytics and customer profitability optimization models, for example.



# THE WINE AND SPIRITS "DIALECT" OF DATA LITERACY

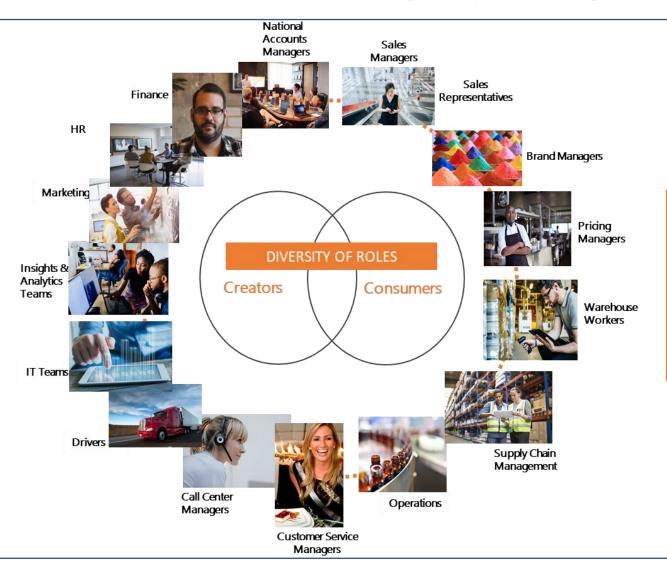
# FOR WINE & SPIRITS WHOLESALERS

Diversity is desired, and healthy.

Yet it can result in natural communication friction and disconnects.

#### Diverse Backgrounds

- Industry sector experience
- Business domain experience
- Data versus analytics backgrounds
- Global vs. local
- Veterans vs. rookies



Creating and nurturing a "shared language around data" is fundamental in an increasingly digital world.



# **APPLYING THE VIA MODEL**

# Wholesaler Example #1 of 3

#### Value

What is the question, business problem or target outcome? How is value realized?

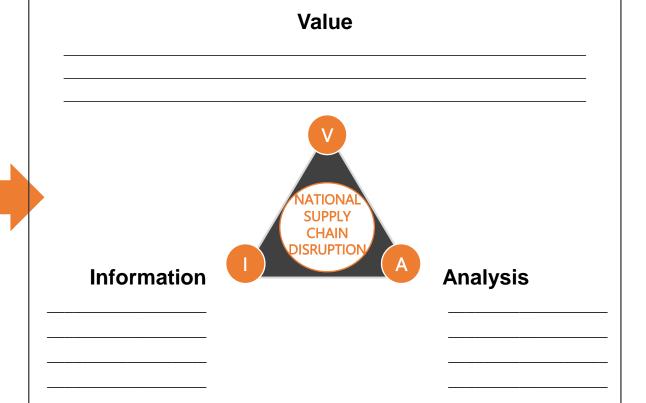


#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?





# APPLYING THE VIA MODEL

# Wholesaler Example #1 of 3

#### **Value**

What is the question, business problem or target outcome?
How is value realized?



#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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#### **Value**

Understand and manage the business impact of supply chain challenges. Effects of supply chain agility on profitability/gross profit.

#### Information

- State-imposed caps (Virginia, Pennsylvania) on consumer purchases of certain types of alcohol
- Ingredient shortages (agave for tequila)
- Limited availability of glass bottles
- Labor shortages hampering delivery of product
- Labor costs with port delays



#### **Analysis**

- Inventory analysis
- Seasonality

- Demand patterns of premium vs mid-shelf vs lower-tier products
- Resource modeling and optimization



# **APPLYING THE VIA MODEL**

# Wholesaler Example #2 of 3

### Value

What is the question, business problem or target outcome?
How is value realized?



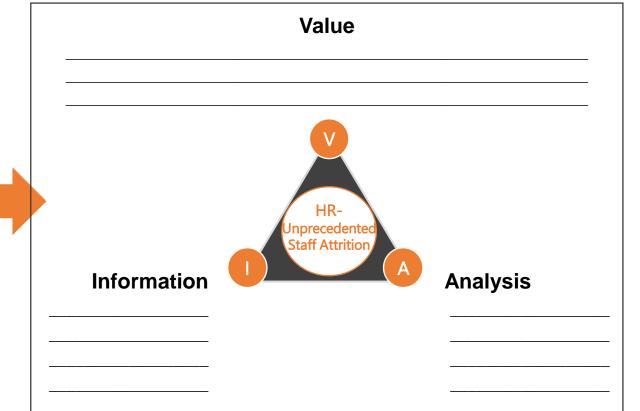
#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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# APPLYING THE VIA MODEL

# Wholesaler Example #2 of 3

#### **Value**

What is the question, business problem or target outcome?
How is value realized?



#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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#### Value

Retain wholesaler staff during the Great Resignation



#### Information

- Review of benefits and salaries relative to competition (and defining who the competition is)
- Performance review histories
- Tenure
- Manager ratings

#### **Analysis**

- Turnover analysis to identify trends and possible incentives
- Churn analysis
- Staff sentiment analysis
- Natural Language processing (NLP)
- A/B Testing



# **APPLYING THE VIA MODEL**

# Wholesaler Example #3 of 3

#### Value

What is the question, business problem or target outcome?
How is value realized?



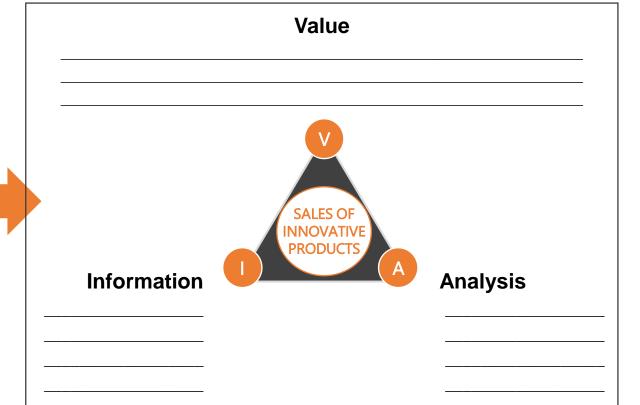
#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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# APPLYING THE VIA MODEL

# Wholesaler Example #3 of 3

#### **Value**

What is the question, business problem or target outcome? How is value realized?



#### Information

What data or data sources are involved?

#### **Analysis**

What analytical or data science methods are applied to the data?

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#### **Value**

Partner to sell. Educate different accounts on an innovation item. Consultative selling/partnering with key accounts.



#### Information

- Transaction histories of similar items
- Press coverage of innovation item
- Demographics
- Usage occasions

#### **Analysis**

- Market basket analysis
- Advanced product segmentation





# **UNDERSTANDING DATA LITERACY**

# KEY TO UNLOCKING THE VALUE OF DATA

#### **Data as a Strategic Asset**

Data & Analytics Strategy.

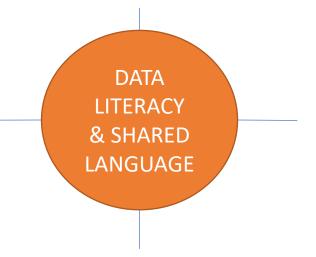
Chief Data Office (CDO)

Data monetization. (Not just selling data- but using the power of the data we have.)

Talent Strategy (Upskilling, Attracting & Retaining)

#### **Innovating with Data**

Artificial Intelligence (AI),
Machine Learning (ML),
Natural Language Processing (NLP),
Augmented & Automated
Decision-Making



#### **Data for the Masses**

Self-Service BI, Reporting,
Visualization & Dashboards;
Data Democratization
(not just for specialists anymore)

#### **Data Quality, Trust & Transparency**

Data Access and Sharing;
Data Governance;
Ethics & Bias;
Privacy & Security



# **UNDERSTANDING DATA LITERACY**

# **KEY NEEDS & DRIVERS**



**UPSKILLING** 



**COLLABORATION** 



TALENT



**CULTURE** 



# WHY DATA LITERACY?

- 1. To <u>upskill</u> your workforce as part of broader digital dexterity.
- 2. To unlock radical **collaboration**, innovation and transparency using data.
- 3. To maximize capacity and **talent** of your Data & Analytics professionals.
- 4. To foster a data-informed and insight-driven <u>culture</u>.

AN INSURANCE POLICY TO REALIZE VALUE FROM YOUR DATA & ANALYTICS INVESTMENTS.



# **SOME PERSPECTIVE**

# LEARNING FROM HISTORY

### The Ford English School, 1914

Fostering shared language across diverse immigrant workers for enhanced safety & efficiency



http://www.autolife.umd.umich.edu/Labor/L Overview/FordEnglishSchool.htm

#### **BOTTOM LINE**

Data literacy is the new baseline literacy of our digital age.

Ignore it- get left behind.

Embrace itpioneer the way forward and grow personally.



# WHY DO YOU THINK THIS MATTERS? HOW COULD THIS SHARED LANGUAGE MAKE A REAL DIFFERENCE?



# **DATA LITERACY**

# THE NEED FOR A SHARED LANGUAGE

# Share your responses in the chat!

- 1. What are some of the data, analytics and business terms that you hear used, but not necessarily understood commonly?
- 2. How could this shared language make a real difference in your role, teams and efforts?

1.			





# **DATA LITERACY**

# MAKING THIS PERSONAL







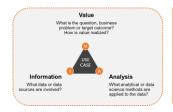
"We don't see things as they are, we see them as we are." ~ Anaïs Nin.







# **ASSESSING YOUR STRENGTHS**



QUESTION: Where Is <u>your</u> personal strength in the vocabulary of "Speaking Data"? Areas for development, or teaming with others?

- Value. My strength is in the business value aspect of the language. I come from a business or operations background, and business acumen is natural for me. I speak in terms of outcomes, KPIs, data-driven decisions and value drivers.
   Information. I bring strength in the data side the understanding of data sources, data management, data quality, metadata, etc.
   Analysis. Given my background, I bring strength in analytics, BI, data science, AI and related areas. Some might call me a quant, and I'm fine with that!
   Two of the Three. I have strength in two of these but need to grow more in the third.
- \_\_\_\_\_ 5. All Three. I am equally balanced in all three aspects of the language. I am often called upon to translate between business and IT and am known as a strong data storyteller.
- —— 6. None of the Above. I don't relate to being strong in any one of these, but I am eager to learn and grow.



# WHAT DOES DATA LITERACY MEAN TO YOU? EXAMPLES OF GOOD AND POOR DATA LITERACY?



# FOSTERING DATA LITERACY YOUR EXPERIENCE, IDEAS

# Share your responses in the chat!

- 1. Where do you see signs of poor data literacy today? Examples?
- Where do you see signs of good data literacy today? Examples?

Ι.			
2.			



# Understanding Data Literacy

# **GOOD & POOR DATA LITERACY**

#### From An Individual Perspective

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#### POOR/LIMITED DATA LITERACY

- Reacting, assuming or avoiding.
- Asking for "all of the data". (We'll figure out what to do with it once we get it.)
- Satisfaction with internal, structured data because that is what has always been used.
- Confusion about what type of chart to pick for a set of data.
- Not knowing the source, assumptions, quality or lineage of data used for key decisions.
- Assuming a cause-and-effect relationship when there isn't one.
- Hoarding data within your group.



- Being curious. Engaging with clarifying questions.
- ✓ Asking good questions. Describing use cases, value drivers, and outcomes to help prioritize.
- Exploring and considering the use of additional, diverse data sources that may add context and situational awareness.
- Confidently interacting with data on a dashboard to compare, assess and derive insights, and able to tell a story based on it.
- Being open to using technology that actually helps pick the right type of chart for you! (e.g. not allowing you to plot time-series data in a pie chart)
- Hovering over a data attribute and seeing that it is from a certified dataset, as well as its key characteristics(definition, source, lineage, assumptions, and data steward name/email).
- Knowing the difference between correlation and causality and being able to explain it.
- ✓ Sharing data as appropriate given an understanding of how your group's data can inform other use cases.



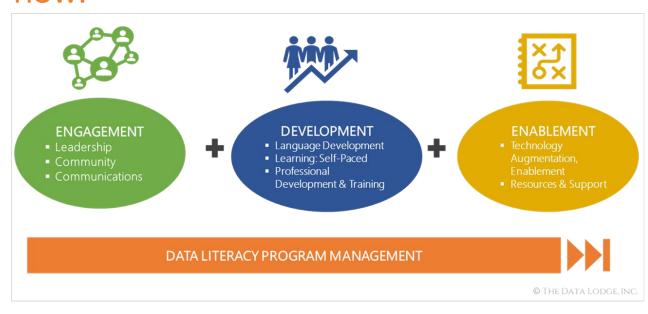
#### WHAT IS A DATA LITERACY PROGRAM?

#### WHAT & WHY?

# An intentional commitment to upskilling the workforce and culture:

- to enable the full **potential of** all associates
- with a shared mindset, language around data, and modern data literacy abilities (e.g. critical thinking, data storytelling, understanding data bias, blending insights with judgment, etc.)
- at the moments that matter (to drive growth, reduce cost, mitigate risk, delight customers, improve data quality, innovate across functions, etc.)

#### HOW?



REMEMBER: You can be the Sponsor or the Spark.



## So... WHO IS DOING THIS TODAY? READ/HEAR THEIR STORIES!



# EXAMPLES (Commercial)

- <u>Lurie Children's Hospital</u>
- Red Hat
- <u>JLL</u>
- General Motors
- Regeneron
- Airbnb

# EXAMPLES (Public Sector)

- Canada School of Public Service Digital Academy
- <u>U.S. Department of Education</u>
- <u>Data Literacy for Prosperous</u>
   <u>Nepal</u>

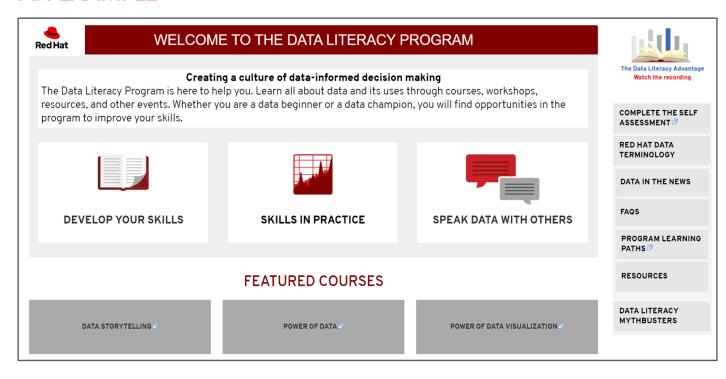
# EXAMPLES (K-12 Education)

 The <u>Data Science for</u> <u>Everyone (DSE)</u> Movement



#### **HOW TO GET STARTED?**

#### AN EXAMPLE



### The Key Steps:

- a) Determine your **Sponsor and a Lead \***.
- b) Develop your Case for Change.
- c) Craft your **Blueprint and initial Plan**.
- d) Run some pilot workshops.
- e) Launch 3-5 quick, low-cost wins.
- f) Share the **stories and engage** leaders and influencers at all levels.
- g) Refine your plan for scale.

\* This work is attracting diversity with 2/3 of programs led by women and POC!



#### **GETTING STARTED**



1. If you could place 2-3 bets over the next year in fostering data literacy, where would you place them? What would be key priorities?

Share your responses in the chat!

•			





#### **WRAP-UP!**

### **RECAP & NEXT STEPS**

#### Recap of Today's Session

- ✓ Level-up your own abilities
- Understanding why this matters (innovation and transparency)
- ✓ Fostering this across your team, organization

#### Takeaways...

- ✓ Try using the VIA model in a meeting
- ✓ Repeat some of today's exercises with your team
- Pick a few data literacy skills to develop (e.g. critical thinking, data storytelling)







# Q&A





## THANK YOU!

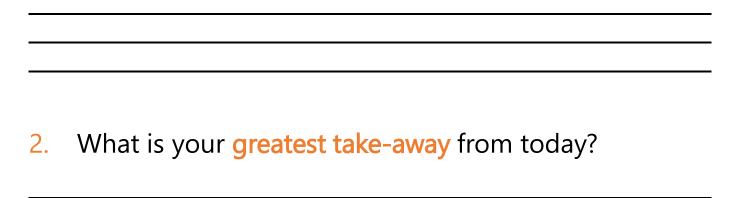
## Connect with us at:

Valerie Logan (vlogan@thedatalodge.com) Cathy Huyghe (cathy@enolytics.com)



## TWO FINAL QUESTIONS

1.	How has your view of data literacy shifted today as a
	result of this workshop?





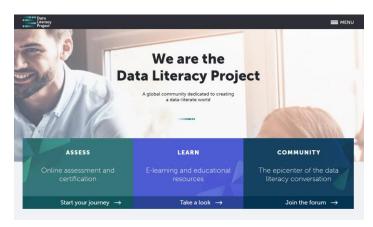


### RESOURCES: BUSINESS, DATA, ANALYSIS, DATA LITERACY

#### WINE & SPIRITS INDUSTRY

#### **DATA LITERACY** (Individual Development)

The Data Literacy Project



## **DATA LITERACY** (Program and Competency Development)

- The Data Lodge & our Webinar Series for DL Program Development
- Data to the People with Data Literacy Assessments
- <u>dataliteracy.com</u>- with Data Literacy courses and resources

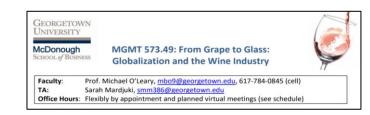
#### **INDUSTRY-SPECIFIC**

Business Glossaries, Data Catalogs & Data Dictionaries for the Wine & Spirits Industry

- Enolytics 101
- Wine & Ontologies: "there's a robust genre of "wine encyclopedias" that classifies everything from the grapes themselves to the geographies to soil types. Yet there has never been an encyclopedia of the operational, financial and strategic aspects of wine, the behind-the-scenes business components."

#### **Business Acumen (University Courses)**

- University of Adelaide- <u>"World of Wine: From Grape to Glass"</u> edX online course
- Georgetown Course:





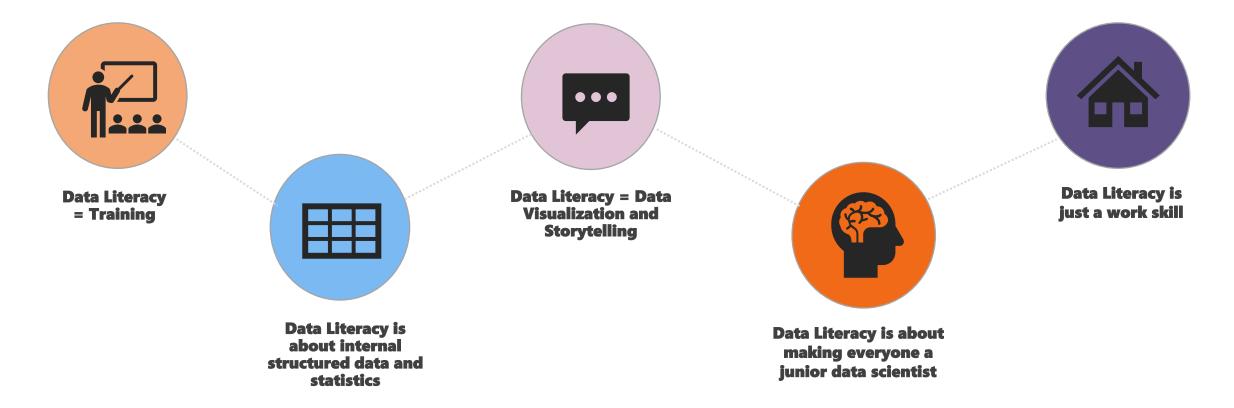
#### **Articles**

 Vivino: Choose Your Next Great Wine With Big Data And Artificial Intelligence, Bernard Marr, 5/7/21



### **RESOURCES: UNDERSTANDING DATA LITERACY**

### **5 COMMON MYTHS & MISCONCEPTIONS**





## RESOURCES: INFORMATION AS A SECOND LANGUAGE®

## **ONE PAGE CHEAT SHEET**

VIA	VOCABULARY	TEA	SKILLS
VVALUE	<ul> <li>Value context (Business acumen)</li> <li>What company strategies, processes, business areas, and objectives are involved?</li> <li>What are the key metrics/KPI's?</li> <li>Acknowledge assumptions</li> <li>Value drivers</li> <li>What are the key value drivers?</li> <li>What is the business problem?</li> <li>Value realizations (target-outcome)</li> <li>What are the key decisions or actions required?</li> <li>What are the business moments that matter?</li> </ul>	T THINKING	<ul> <li>Context-aware         <ul> <li>Critically evaluating sources</li> <li>Challenging assumptions</li> </ul> </li> <li>Critical thinking         <ul> <li>Framing questions</li> <li>Logic &amp; Reasoning</li> <li>Scientific method/Hypothesis testing</li> </ul> </li> <li>Curiosity/Creativity         <ul> <li>Considering alternative viewpoints</li> <li>Approach with curiosity- mindful of confirmation bias</li> </ul> </li> </ul>
INFORMATION	<ul> <li>Data Sources/Data Assets</li> <li>Is the data relevant for the intended purpose?</li> <li>Nature of data; data diversity</li> <li>What other data sources might be useful?</li> <li>What data is missing?</li> <li>Soundness: sample size, skew, bias, anomalies, quality</li> <li>Acknowledging assumptions &amp; uncertainty</li> <li>Appropriate use of data</li> <li>Compliance; protecting privacy</li> </ul>	E ENGAGING	<ul> <li>Collaboration         <ul> <li>Diversity of voice</li> </ul> </li> <li>Communication         <ul> <li>Considering audience and purpose</li> <li>Message consistency; commonality</li> </ul> </li> <li>Comfort -&gt; Confidence -&gt; Conviction         <ul> <li>Acknowledging uncertainty</li> </ul> </li> <li>Coaching/Guiding others         <ul> <li>Sharing expertise; ensure common understanding</li> </ul> </li> </ul>
A ANALYSIS	<ul> <li>Purpose         <ul> <li>Descriptive, diagnostic, predictive, prescriptive, optimization</li> </ul> </li> <li>Data transformations &amp; KPIs/Metrics         <ul> <li>Preparation, sampling, aggregation</li> </ul> </li> <li>Analysis methods         <ul> <li>Acknowledging assumptions, bias, and uncertainty</li> </ul> </li> <li>Systems thinking</li> <li>Method of communication         <ul> <li>Data visualization/storytelling</li> </ul> </li> </ul>	A APPLYING	<ul> <li>Constructive         <ul> <li>Clear intentions</li> </ul> </li> <li>Clear/Compelling Insight         <ul> <li>What's the point?</li> </ul> </li> <li>Conscientious         <ul> <li>Considering alternative viewpoints, ethics-aware</li> </ul> </li> <li>Current/Continuous         <ul> <li>Timeliness; time elements</li> </ul> </li> <li>Common Sense         <ul> <li>"Don't lose the forest for the trees"</li> </ul> </li> </ul>

