

# *The Jetsons* Meet the Credit Department: Artificial Intelligence and Its Impact on Credit Managers

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# | IBM PRESENTATION, 1979



A COMPUTER

CAN NEVER BE HELD ACCOUNTABLE

THEREFORE A COMPUTER MUST NEVER

MAKE A MANAGEMENT DECISION

# | WHERE AI IS TODAY

- Primer on AI, Machine Learning, Neural Networks, and Natural Language Processing / Large Language Models
  - **Artificial Intelligence** is the term used to describe how computers can perform tasks normally viewed as requiring human intelligence, such as recognizing speech and objects, making decisions based on data, and translating languages. AI mimics certain operations of the human mind.
  - A **Neural Network** is a system that classifies information – putting things into ‘buckets’ based on their characteristics.
  - **Machine Learning** (ML) is an application of AI in which computers use algorithms (rules) embodied in software to learn from data and adapt with experience.
  - **Natural Language Processing** is an application of AI that learns to interpret the structure and meaning of text. Modern **large language models** (LLMs) can conversationally interact and generate content.

*L. Donahue, A Primer on Using Artificial Intelligence in the Legal Profession, Jan. 3, 2018, <https://jolt.law.harvard.edu/digest/a-primer-on-using-artificial-intelligence-in-the-legal-profession>*

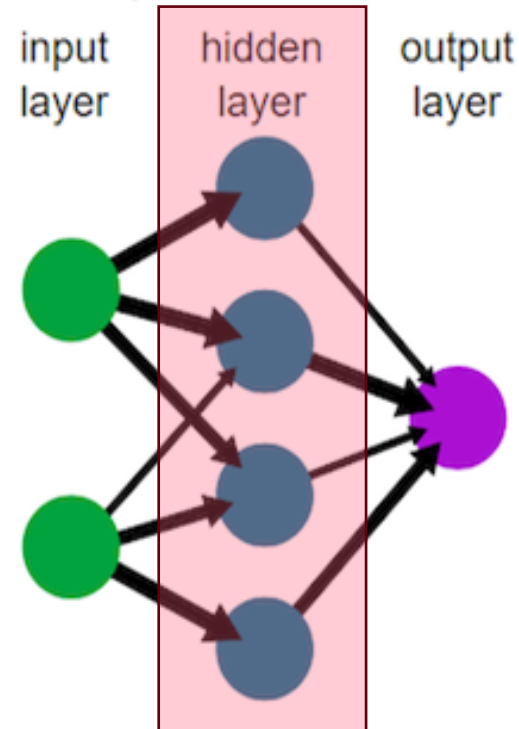
*Google Cloud, Artificial intelligence (AI) vs. machine learning (ML), <https://cloud.google.com/learn/artificial-intelligence-vs-machine-learning>*

# | NEURAL NETWORKS

- “In neural networks, the strength of the connections between ‘neurons’ changes as data passes from the input layer through hidden layers to the output layer, enabling the network to ‘learn’ patterns.”

*Wisio via Wikimedia Commons, quoted in <https://theconversation.com/why-humans-cant-trust-ai-you-dont-know-how-it-works-what-its-going-to-do-or-whether-itll-serve-your-interests-213115>.*

A simple neural network



The user doesn't know what's going on in here!

# LLMs: LET'S ASK THE COMPUTER!



ChatGPT 4o ▾



Please explain in under 250 words what a large language model is. Assume that I am the average computer user and not a highly technical person.



A large language model (LLM) is a type of artificial intelligence (AI) that can understand and generate human-like text. It's like a super advanced version of the autocomplete feature on your phone.

Imagine you're typing a message, and your phone suggests the next word. A large language model does something similar but on a much larger scale. It's been trained on vast amounts of text from books, websites, and other sources. This training helps it learn patterns in language, like how words fit together, the meanings of phrases, and even how to answer questions.

When you ask a large language model a question or give it a prompt, it uses what it has learned to generate a response that makes sense in context. It can write essays, help with coding, create stories, or even hold a conversation.

While it doesn't actually "think" or "understand" like a human, it's very good at mimicking human-like responses because of the patterns it has learned. However, since it's based on patterns, it might sometimes give incorrect or nonsensical answers, especially if the question is complex or unclear.

In short, a large language model is a powerful tool for generating and understanding text, making it useful for a wide range of tasks.



Message ChatGPT



ChatGPT can make mistakes. Check important info.



# | LLMs: LET'S ASK THE COMPUTER!



ChatGPT 4o ▾



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Thanks, ChatGPT! Could you shorten that a bit and phrase it like you're explaining it to my mother, who is 70 and very, very bad at technology?



Sure! Here's a simpler explanation:

A large language model is a kind of computer program that can read and write like a person. It's like when your phone tries to guess the next word you want to type, but much smarter.

It has read a lot of text, like books and websites, so it's learned how people talk and write. When you ask it something, it uses what it has learned to give a helpful answer or write something for you.

It doesn't actually understand like a person does, but it's really good at pretending to. Just think of it as a super-smart writing helper that can answer questions, write stories, or chat with you.



Message ChatGPT



ChatGPT can make mistakes. Check important info.



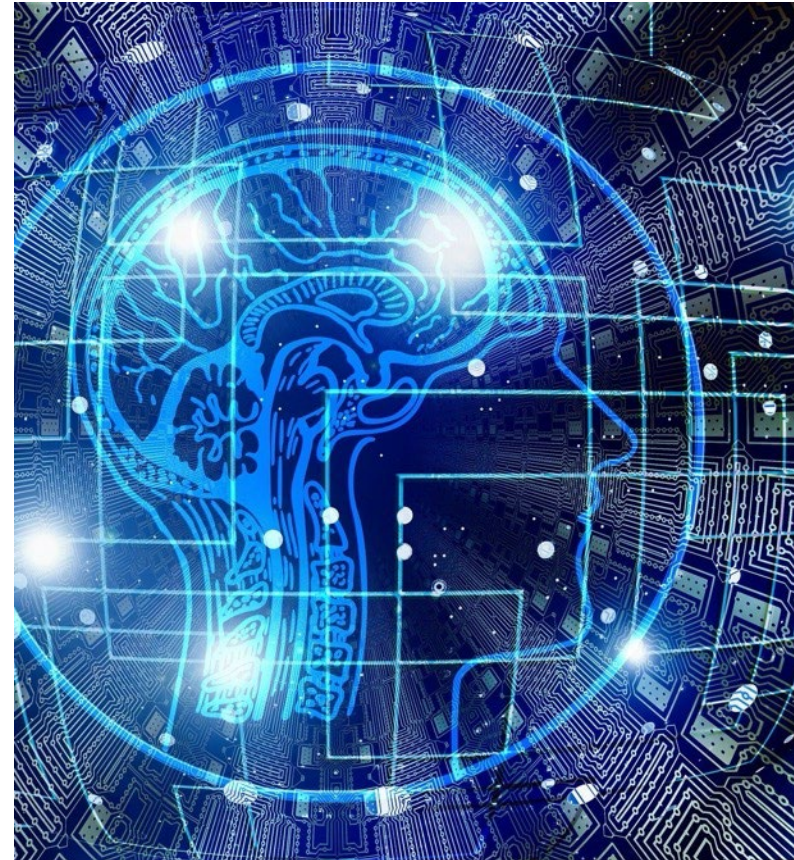
# | WHERE AI IS TODAY

- **GPT: Generative Pre-trained Transformer**
  - GPT technology, created by OpenAI, started as an LLM but has developed in subsequent iterations into a Large Multimodal Model (meaning it can work with content other than words)
  - GPTs respond to **prompts** – instructions, questions, and other inputs posed to them by end users
- **ChatGPT:** A conversational GPT-powered Chatbot from OpenAI
  - ChatGPT is just one implementation of GPT technology
- **Custom GPTs:** OpenAI permits the creation of **custom GPTs** tuned for specific topics, activities, tasks, and other purposes
- Processing power and data storage continue getting cheaper and more powerful by the day, driving **exponential growth** in the capabilities of artificial intelligence systems



# | BENEFITS OF AI

- Saving time and costs by offloading tedious or repetitive tasks from human workers
- Solving the “blank page” problem by creating first drafts of letters, e-mails, analyses, marketing materials, and other documents
- Summarizing meeting minutes and notes
- Providing greater business intelligence
  - Analyzing datasets to find new trends and patterns
- Enriching pre-existing content
  - Enhanced spellchecking, grammar, and tone
  - Brainstorming ideas on various topics





# BENEFITS OF AI TO CREDIT PROFESSIONALS

- **What can artificial intelligence help credit professionals do?**
  - **Research:** Enable faster, more efficient research of customers by summarizing articles, reviewing SEC filings and other available information, and digesting and analyzing large amounts of text to provide summaries, answer questions, etc.
  - **Analyze:** Analyze, summarize, synthesize, and explain credit application information, financial statements, projections, payment history, credit reports, and all sorts of other data to predict creditworthiness and make faster, better-informed decisions
  - **Score:** Implement customized, self-learning credit scoring systems
  - **Respond:** Provide conversational self-service functions to free up personnel for higher value tasks, reducing response time and increasing customer satisfaction
  - **Identify:** Assess trends in customer financials, payment history, and ordering trends and comparison to industry to mitigate risk, catch red flags regarding distressed customers and possible defaults before they happen, prevent fraud, improve supply chain efficiency
  - **Communicate:** Use generative AI systems to create and refine communications (letters, e-mails), develop scripts for collection calls
  - **Prioritize:** Evaluate historical data to identify which customers to contact, when, and how to maximize collection efficiency and effectiveness
- Deloitte, [Artificial Intelligence for Credit Risk Management](https://www2.deloitte.com/cn/en/pages/risk/articles/artificial-intelligence-for-credit-risk-management.html) <https://www2.deloitte.com/cn/en/pages/risk/articles/artificial-intelligence-for-credit-risk-management.html>

# | RISKS OF AI

- **Drawbacks of AI:**

- Intellectual property concerns
- Data privacy and security
- Regulatory concerns
- Analysis happens in a black box
  - Results can be unpredictable
- Response accuracy and hallucination risks
- Bias and objectionable content
- Reduced barrier to entry for novice hackers to conduct more sophisticated attacks



# EXPANSION OF AI IN CREDIT & LENDING DECISIONS

- Consumer Financial Protection Bureau (CFPB) has taken the laboring oar to promulgate rules governing the use of AI in credit decisions
- “Technology marketed as artificial intelligence is expanding the data used for lending decisions, and also growing the list of potential reasons for why credit is denied. . . . Creditors must be able to specifically explain their reasons for denial. ***There is no special exemption for artificial intelligence.***”
  - CFPB Director Rohit Chopra, Sept. 19, 2023, *CFPB Issues Guidance on Credit Denials by Lenders Using Artificial Intelligence*



# ADVERSE ACTION: NOTICE REQUIREMENTS

- **ECOA and Regulation B** require that, when taking adverse action against an applicant (such as denial of credit requested, rejecting a requested increase in credit line and / or terminating or reducing credit terms), a trade creditor shall notify the applicant, within a reasonable time, orally or in writing of the action taken
  - “[Creditor shall] provide a **written statement of the reasons for the adverse action** ... if the applicant makes a written request for the reasons within 60 days of the creditors’ notification
  - “This statement of reasons for the adverse action ... must be specific and indicate the principal reason(s) for the adverse action;”
  - “The specific reasons disclosed ... must relate to and **accurately describe the factors actually considered** or scored by a creditor.”
  - “Statements that the adverse action was based on internal standards or policies or that the applicant, ..., failed to achieve a qualifying score on the creditor’s credit scoring system are insufficient.”
  - Sample notification form in Appendix C to Regulation B provides examples of principal reasons for adverse actions.



# CONSUMER FINANCIAL PROTECTION BUREAU

- Advisory on Algorithms
  - In May 2022, the CFPB issued Circular 2022-3 addressing Equal Credit Opportunity Act (ECOA) adverse action notice requirements in connection with credit decisions based on algorithms
- Advisory on AI
  - Sept. 19, 2023, Guidance issued by CFPB on AI



“In today’s marketplace, creditors are increasingly using complex algorithms, marketed as artificial intelligence, and other predictive decision-making technologies in their underwriting models. Creditors often feed these complex algorithms with large datasets, sometimes including data that may be harvested from consumer surveillance. As a result, a consumer may be denied credit for reasons they may not consider particularly relevant to their finances. Despite the potentially expansive list of reasons for adverse credit actions, some creditors may inappropriately rely on a checklist of reasons provided in CFPB sample forms. However, ***the Equal Credit Opportunity Act does not allow creditors to simply conduct check-the-box exercises when delivering notices of adverse action if doing so fails to accurately inform consumers why adverse actions were taken.***”

CFPB Press Release, Sept. 19, 2023

# | CFPB'S LATEST RULE ON AI

- “Focus[ ] on the accuracy and specificity requirements of those notices, even when such models, driven by data gathered outside of traditional credit reports or applications, are utilized.”

*Consumer Financial Protection Circular 2023-03, Adverse action notification requirements and the proper use of the CFPB's sample forms provided in Regulation B, September 19, 2023.*

- If AI is used, then the pre-selected reasons for the adverse decision may not apply
  - Burden on creditor to provide the accurate basis for the adverse decision, even if not based on the list enumerated on Reg. B
  - Adverse notices should provide consumers with a "key educational tool" to either (i) improve their credit status or (ii) identify mistakes made by the creditor.
- **“Specificity is particularly important when creditors utilize complex algorithms.** Consumers may not anticipate that certain data gathered outside of their application or credit file and fed into an algorithmic decision-making model may be a principal reason in a credit decision, particularly if the data are not intuitively related to their finances or financial capacity.” **Circular 2023-03**



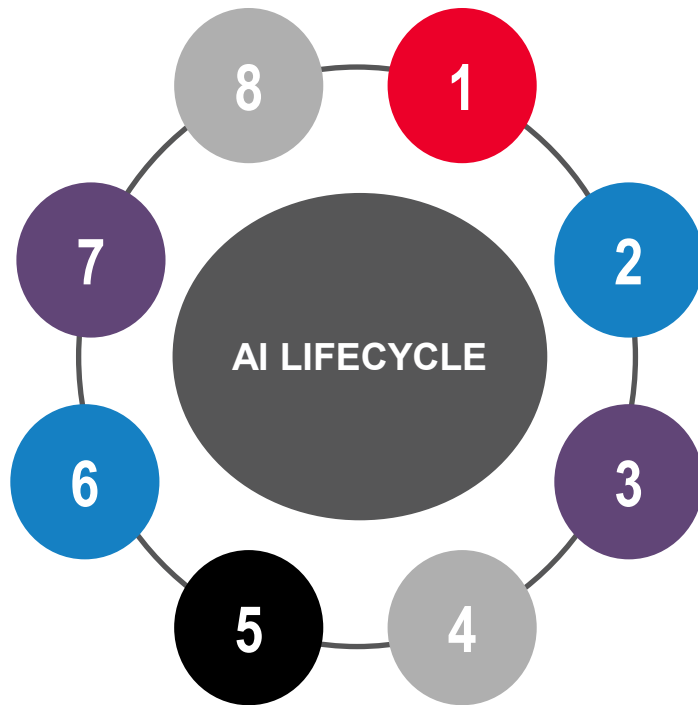
# | AI POLICIES FOR CREDITORS

- Companies need to be making predictions on how the future of AI will affect the financial services industry and the world
- Companies need to create a comprehensive AI policy or update existing Acceptable Use Policies with guidance on how to safely and responsibly use AI
- Security should not get in the way of business functionality, but should act as guardrails
  - All-or-nothing policies rarely work
  - Involve relevant stakeholders
  - Have controls in place similar to other technology functions (ex: File Sharing applications)
  - Define what functions are acceptable to use AI
  - Restrict the use of AI for specific important tasks
  - Restrict the use of AI for specific employees only
  - Update employee training and awareness
  - Update customer training and awareness through disclosures and contract revisions
- **AI is a supplemental tool that enhances, *but doesn't replace*, human capabilities for critical thinking and ethical judgment**

# SUGGESTED AI POLICIES & CONSIDERATIONS

- Internal-facing policies – for employee eyes only
  - Employee Handbooks
  - Company AI, Privacy & Information Security Plans / Procedures
  - Procurement / Contracts Considerations
- External-facing policies
  - Credit Agreements
  - B2B Contracts
  - Privacy and Information Security Terms for Website
  - IT Procurement
- Considerations:
  - Data privacy and security
  - Verifying information generated by AI
  - Bias and discrimination
  - Transparency and explainability
  - Employee training
  - Accountability and responsibility
  - Ethical considerations
  - Continuous monitoring and improvement
- Enhances but cannot replace Credit Professional

# FRAMING YOUR AI POLICIES & PROCEDURES



1. Business Requirements
2. Legal Requirements
3. Data Requirements
4. Vendor due diligence
5. Vendor selection
6. Implementing AI policies and procedures
7. Deployment of vendor and AI solution
8. Testing and review

# | DUE DILIGENCE & AI

- What features/functionality is provided? What is the intended purpose/use?
  - Are there any known limitations of the product?
- What types of AI models are used?
  - Commercial AI model
  - Open Source AI model
  - Vendor-developed AI model
- What data was the model **trained on**?
- What data does the model **consider in real time**?
- What rights do customers have with respect to the output generated by the product?



# FRAUD & ACCOUNTABILITY CONCERNS

- AI greatly increases opportunities for **generating** fraudulent activity
  - Example: A vendor your company regularly deals with sends an invoice or voicemail with a fraudulent mailing address
- AI greatly increases opportunities for **detecting** fraudulent activity
- The results impact all aspects of business
  - Phishing and other “tricks” for Business Email Compromise
  - Fraudulent wire transfers
  - Ransomware
  - Business interruption
  - Reputational risk



# A REAL-WORLD EXAMPLE: USING A CUSTOM GPT IN B2B COLLECTIONS



Hi! I'll help you build a new GPT. You can say something like, "make a creative who helps generate visuals for new products" or "make a software engineer who helps format my code."

What would you like to make?

Create a new GPT, which we will call CreditGPT. CreditGPT will be a GPT that assists business-to-business credit managers with certain daily tasks.

Credit managers work for companies (sellers) that sell goods and services to other businesses (customers) on credit. Sellers extend credit terms to customers, permitting customers to pay sellers in the future instead of paying cash in advance or on delivery.

Sellers, therefore, face credit risk when selling to customers on credit. Credit managers evaluate the creditworthiness of customers, make decisions whether to extend credit to customers (and if so, how much), and frequently are involved in collecting past-due debts from delinquent customers.



I'll set up CreditGPT with the following basic parameters. Then, we'll move on to choosing a profile picture.



# | QUESTIONS?





# | PRESENTERS



# ANDREW BEHLMANN

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## Education

Seton Hall University School of Law (J.D. 2009), magna cum laude; Order of the Coif  
University of Missouri-Saint Louis (B.S. 2005), Business Administration-Finance and Accounting; Beta Gamma Sigma

## Admissions

New Jersey  
U.S. Court of Appeals for the First Circuit  
U.S. Court of Appeals for the Third Circuit  
U.S. District Court for the Southern District of Texas

Andrew Behlmann leverages his background in corporate finance and management to approach restructuring problems, both in and out of court, from a practical, results-oriented perspective. With a focus on building consensus among multiple parties that have competing priorities, Andrew is equally at home both in and out of the courtroom, and he has a track record of turning financial distress into positive business outcomes. Clients value his counsel in complex Chapter 11 cases, where he represents debtors, creditors' committees, purchasers, and investors.

Andrew writes and speaks frequently about bankruptcy matters and financial issues. Before becoming a lawyer, he worked in senior financial management at a midsize, privately held company.



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#### **Education**

Boston University (J.D. 2001)  
University of Chicago (M.A. 1996)  
Sarah Lawrence College (B.A. 1994)

#### **Admissions**

New York  
U.S. District Court for the  
Eastern District of New York  
U.S. District Court for the  
Southern District of New York

# KATHLEEN A. MCGEE

With close to two decades of experience as a prosecutor and leading regulator, including as Bureau Chief of the New York Attorney General's Bureau of Internet and Technology, Kathleen A. McGee is a highly accomplished attorney with a unique and valuable skill set. Kathleen regularly leverages her extensive experience in the public sector by representing clients before federal, state, and local law enforcement and regulators on issues ranging from criminal and civil investigations before the DOJ, SEC, FTC, and state attorneys general, to commercial disputes and advisory matters involving technology, data commodification, cybersecurity and privacy, consumer protection issues, Artificial Intelligence, and data governance. Clients benefit from both her sophisticated grasp of technology-related criminal matters and her on-the-ground experience as a lead prosecutor in both jury and bench trials.

Kathleen's practice includes representing established global businesses, scale-ups, and startups (including fintechs, investment groups, and governments) in multiple sectors, including ad tech, financial services, insurance tech, biotech, IoT, and retail. Kathleen's practice covers a wide array of technology, data, and intellectual property concerns, with a focus on emerging technologies, data services, and cybersecurity.

An author of several state and local bills and laws, including New York State's SHIELD Act on data security, Kathleen brings a strong sense of regulatory policy and advises clients on the legal landscape affecting their business models. Kathleen authored the New York law chapter of the ABA Antitrust Law Section, State Consumer Protection Law (1<sup>st</sup> Ed. 2022) and is a regular speaker, author, and interviewee for events and publications ranging from government investigations to data security and privacy and tech regulation.

# KATHLEEN A. MCGEE

Kathleen's unique public sector experience gives her an edge in counseling emerging and mature companies on a broad spectrum of regulatory issues concerning technology, data security, and privacy. In addition, Kathleen's experience in state and municipal government and her understanding of how the administrative code affects business provide a unique perspective on the intersection of commerce and the law. Clients appreciate her insights into how to identify unanticipated problems and develop creative, business-focused solutions.

As Bureau Chief of the Bureau of Internet & Technology for the New York State Attorney General's Office, Kathleen was at the forefront of regulation, enforcement initiatives, and public policy involving privacy, data security, and consumer protection, among other issues. She led the NYAG's successful litigation against illegal daily fantasy sports operations (*New York v. Draft Kings, Fan Duel*), as well as investigations of New York State's internet service providers and successful litigation against the state's largest internet service provider (*New York v. Charter Communications*). Under her tenure, the Bureau launched groundbreaking investigations into a broad array of technology-focused issues including COPPA ([Operation Child Tracker](#)), [net neutrality](#) concerns, and IoT vulnerabilities, among other concerns.

Earlier in her career, she served as Director of the Office of Special Enforcement in the New York City Mayor's Office where, as lead counsel, she directed litigation on a number of intellectual property and civil nuisance matters, including the *Counterfeit Triangle* litigation encompassing an entire city block in Chinatown. She was also a policy leader on issues ranging from data analytics to human trafficking. While with the Mayor's Office, Kathleen developed the New Business Acceleration Team to streamline regulations and fast-track new business development. Kathleen started her legal career as an Assistant District Attorney for the Bronx County District Attorney's Office in New York, where she prosecuted domestic violence, child abuse, and sex crimes.



# BRUCE S. NATHAN

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## Education

University of Pennsylvania Law School (J.D. 1980)

Wharton School of Finance and Business (M.B.A. 1980)

University of Rochester (B.A. 1976),  
Phi Beta Kappa

## Admissions

New York  
U.S. Court of Appeals for the Second Circuit  
U.S. District Court for the Southern District of Texas

With nearly 45 years of experience in the bankruptcy and insolvency space, Bruce Nathan is a recognized leader in trade creditor rights and the representation of trade creditors in bankruptcy and other legal matters. He has represented trade and other unsecured creditors, unsecured creditors' committees, secured creditors, and other interested parties in many of the larger Chapter 11 cases that have been filed. Bruce also handles letters of credit, guarantees, security, consignment, bailment, tolling, precious metals leases, and other agreements with financially distressed counterparties, as well as other credit-related legal issues for institutional clients.

Bruce's experience spans a broad range of industries, including agriculture, food and beverage, paper, publishing, media, floor covering, furniture, chemicals, manufacturing, and precious metals. His recent creditors' committee engagements include MVK FarmCo (dba Prima Wawona), Pegasus Home Fashions, Nielsen & Bainbridge (NBG Home), and Gold Standard Baking.



# BRUCE S. NATHAN

With a national creditors' rights practice, Bruce has recently advised trade and other unsecured creditors in a broad range of complex matters, including:

- Representation of a precious metals lessor in the Instant Brands Chapter 11 case
- Representation of a pipe supplier in conjunction with the enforcement of its statutory mechanic's / materialman's lien rights in the Chapter 11 cases of MDC Energy and EdgeMarc Energy Holdings
- Representation of three major book publishers and two major paper-product manufacturers and distributors in the Chapter 11 cases of LSC Communications.

Bruce is a frequent presenter at industry conferences throughout the country, as well as a prolific author on bankruptcy and creditors' rights topics. His articles frequently appear in publications by the National Association of Credit Management, Credit Research Foundation (CRF), and the American Bankruptcy Institute (ABI). He is a co-author of "Model Business Credit Application and Terms and Conditions of Sale," published by CRF and Lowenstein Sandler in 2023; "A Business Guide to Antitrust for Credit Professionals," initially published by CRF and Lowenstein Sandler in 2020 (updated in 2023); and "Trade Creditor's Risk-Mitigation Tools and Remedies Manual," published by ABI in 2019.

Bruce is a former member of ABI's Board of Directors, former co-chair of ABI's Unsecured Trade Creditors' Committee, and former co-chair of the Avoiding Powers Committee that worked with the ABI Commission to Study the Reform of Chapter 11.



**THANK  
YOU**

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