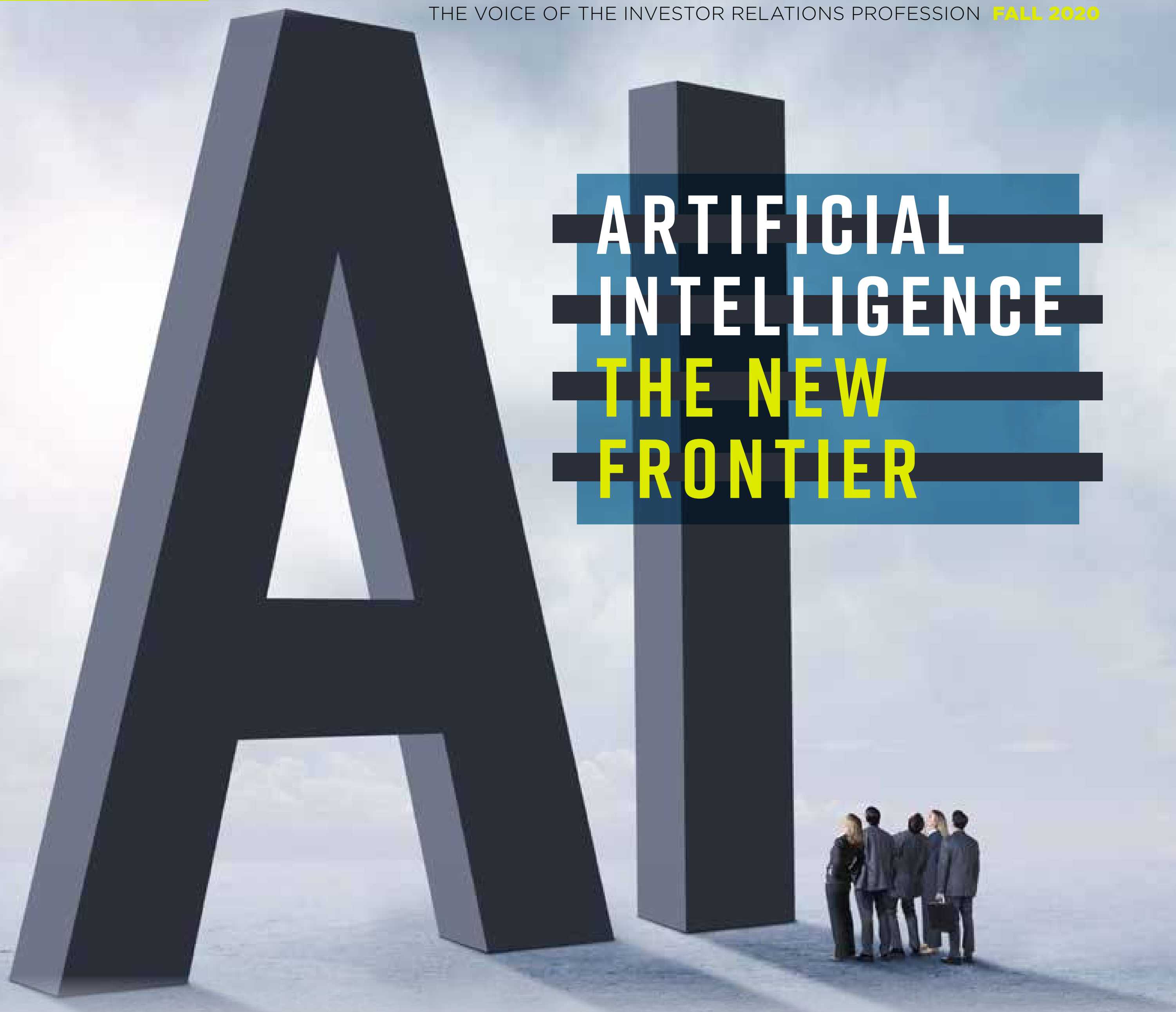
IR UPDATE

THE VOICE OF THE INVESTOR RELATIONS PROFESSION FALL 2020



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About NIRI
Founded in 1969, the National Investor Relations Institute (www.niri.org) is the professional association of corporate officers and investor relations consultants responsible for communication among corporate management, shareholders, securities analysts, and other financial community constituents. NIRI is the largest professional investor relations association in the world, with more than 3,000 members representing over 1,600 publicly held companies and $9 trillion in stock market capitalization. NIRI is dedicated to advancing the practice of investor relations and the professional competency and stature of its members.

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DEPARTMENTS

A Year of Disruption

Melissa Plaisance
NIRI Chair
Group Vice President,
Treasury & Investor
Relations
Albertsons Companies

This has been one of the most interesting years we have all experienced in our lifetimes. It was certainly eventful for all of us who practice in the investor relations field. Our worlds were turned upside down. Some companies, like mine, were lucky enough to flourish (as an essential service) and go public, and unfortunately, others hit real speed bumps. From our perspective in IR, the show must go on! We adapted to work-from-home policies, learned how to communicate via video, engaged in virtual conferences and roadshows, and did our best to keep information flowing to the investment community.

At the same time, NIRI as an organization needed to adapt, and with the help of President and CEO Gary LaBranche and his staff, and input and oversight from the NIRI Board of Directors, adapt we did! Who knew that the NIRI Senior Roundtable gathering in Santa Barbara in December 2019 would be the last time some of us would have the opportunity to gather as a group for 18+ months?

Many difficult decisions needed to be made this year, such as postponing the Annual Conference and then moving it to a virtual conference. Many thanks go to the 2020 NIRI Annual Conference Committee for its willingness to hang in there and adjust to the changing circumstances. This will be the longest-serving Annual Conference Committee in history!

At the same time, the Senior Roundtable Steering Committee experienced a change in venue and then took the event virtual – it will now be held in January 2021 rather than December 2020. The Steering Committee's creative thoughts along the way have been very much appreciated and valuable. And our annual Leadership Week, which typically includes visits to Capitol Hill to further NIRI advocacy objectives, had to be cancelled, but we still managed to set up virtual calls with the SEC and further our advocacy on some important issues, such as the proposed changes to the 13F rules. According to press reports, the SEC has decided to drop this proposal, and it's clear that the opposition from hundreds of public companies, NIRI, other business organizations, and investor advocates made a difference.

Another event that NIRI took virtual was The Big I. I was so glad I was able to carve out some time to participate in that event live, but if you were not able to, it is still available online at www.niri.org/bigi. I was fascinated by the speakers who shared information about the advancements in artificial intelligence in the investment community, and I took note of how that can and will change how we practice our craft for years to come.

As our theme for the Annual Conference spelled out, this has truly been year of disruption – one we hope to never repeat. We thank all of you who have hung in there with us. NIRI has been an important organization to me for 30 years, and I was honored to serve as your Chair this past year. With your help and support, we can keep this organization that hit its own speed bumps this year, alive and thriving for years to come.

I hope you are all staying safe and healthy, and I look forward to the day we can all gather in person again.

Take care. IR

NIRI2020
VIRTUAL CONFERENCE DECEMBER 8-10, 2020

NIRI2020 Virtual Conference Scheduled for December 8-10

The NIRI 2020 Annual Conference, which was previously rescheduled due to the coronavirus pandemic, has been reimagined and scheduled as the NIRI Virtual Conference on December 8-10, 2020.

NIRI2020 will deliver dozens of education sessions from leading industry professionals, as well as opportunities to interact with speakers and network with each other. Attendees will be able to access educational sessions on demand until March 2021.

Registration fees are 66 percent less than the in-person conference, originally scheduled in Miami Beach in June. Recorded sessions will be available beginning December 1, with live presentations, networking and exhibit hours offered in the afternoons (Eastern Time) of December 8-10.

"NIRI2020 will be transformed into a unique learning and engagement experience, at much lower cost to registrants, and with three months of access to educational sessions," said NIRI President and CEO Gary A. LaBranche. "Never have so many IR professionals have had such access to learning for so long at such little cost. I applaud the members of the 2020 Annual Conference Committee who have been so dedicated and flexible in their efforts since last year to deliver all the excellent professional development programming expected at a NIRI Annual Conference."

For more details and to register, visit www.niri.org/virtualconference.

The NIRI Senior Roundtable Annual Meeting, which was also rescheduled due to the pandemic, will be held as the NIRI Senior Roundtable Virtual Annual Meeting on January 13-14, 2021. Visit www.niri.org/srt for more information. IR

The Next Generation of IROs Starts Early

Finley Byerley, the granddaughter of NIRI member Kay Gregory, Senior Vice President and Director of Investor Relations, UMB Financial Corporation, is already showing her support for NIRI and the investor relations profession. She is wearing one of the NIRI "onesies" given out at the NIRI booth at the 2019 NIRI Annual Conference. IR

NIRI Member David Dixon Interviews Civil Rights Attorney Benjamin Crump

National attention continues to focus on the issue of racial justice across society, including in corporate America.

Against this backdrop, NIRI National Capital Area Chapter President David Dixon interviewed civil rights attorney Benjamin Crump in September 2020 in a virtual event held by the Society for Corporate Governance. Crump is the attorney representing the families of Ahmaud Arbery, Breonna Taylor, George Floyd, and Jacob Blake.

Serena Ehrlich, Director of Product Marketing at Business Wire, listened to the interview and reports on it here.

She highlights a question where Dixon asked Crump about the role of public companies in fostering greater racial equality.

Crump responded, "Companies have to want to make change. Humans have to want change. Corporate America has the most power when it comes to actual change. If you want to create a world where everyone has the same opportunities, it starts with businesses.

"If you want a more just America where all Americans are safe, it is going to take us to believe fundamentally that America is for all American citizens. We need to look at mentorship – finding the opportunity to mentor someone with a completely different background, so you can learn and teach. We need to seek out diverse hires and mentors. Diversity within an organization has been proven to increase the success of that business."

Ehrlich reports that Crump said he is optimistic about achieving positive change because of the multigenerational, multi-geographical and multiracial protesters who have spoken out in support of the Black Lives Matter movement.

Crump said, "It is those at the table, like those on this call, who make the real difference. People listen to leaders and those in respected roles. It is up to the individual to be great, to stand up and speak out. We will only be great once we have the full multitude of diversity. We cannot be great with only one perspective. We need everyone at the table, at a critical mass, to be truly great. So the question is, do we have critical mass? What are we doing to get gatekeepers in leadership roles to be people of diversity to help all audiences move forward? This is the emphasis of diversity and inclusion. We don't want companies to check a box; we need to find the right people for the roles. Many corporations are finally moving toward true equality." IR

> "We don't want companies to check a box; we need to find the right people for the roles. Many corporations are finally moving toward true equality."
>
> - Benjamin Crump

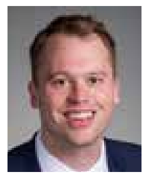
ON THE MOVE

Jason McGruder joined Rocket Companies as Vice President, Investor Relations. He came to the company from Cantor Fitzgerald, where he led the IR team for Cantor and its subsidiaries, including BGC Partners and Newmark Group. Before that he was head of IR at BGC for more than a decade. McGruder also worked in IR at eSpeed, which merged with BGC in 2007, and Double Click.

Angie McCabe, IRC, is the new Vice President of Investor Relations at Premier Inc. She succeeds Jim Storey, who retired from the position in June 2020. Her background of more than 20 years includes IR positions at Veracyte, WellCare Health Plans, Health Net, Valeant Pharmaceuticals, and WellPoint Health Networks. She also served on the NIRI Board of Directors from 2013-2017.

Jennifer Zibuda is the new Director of Investor Relations & Communications at Prothena Pharmaceuticals. Zibuda was previously Associate Director of Investor Relations at Portola Pharmaceuticals. She also held investor relations roles at Alkermes and The Navigators Group.

Kristen Stewart was appointed Senior Vice President of Strategy and Investor Relations at BD (Becton Dickinson and Company). She most recently led the medical technology research operation at Barclays Capital. She has been recognized by *Institutional Investor* magazine as one of the top three analysts in the Medical Supplies & Devices category several times during her career. Stewart began her financial career at PricewaterhouseCoopers.



Alex Jorgensen was named Associate Vice President of Investor Relations at Prosek Partners, joining the firm's growing IR practice. He was previously Senior Director at Ellipsis and before that was Account Supervisor at Edelman. He also holds the volunteer leadership position of Vice President, Communications with NIRI New York's NextGen Community.

Elizabeth "Liz" Werner was named Senior Vice President, Investor Relations, at Jackson National Life Insurance Company. She was previously Head of Investor Relations at AIG. Earlier in her career she was Director, Financial Services Sector Specialist at Bank of America Merrill Lynch; Director, Investor Relations at National Financial Partners Corp.; and Managing Director, Equity Research at Sandler O'Neill + Partners, L.P. IR

New *IR Update* Podcasts Celebrate Community Through Conversations

IR UPDATE PODCAST

NIRI launched its first-ever series of "IR Update Podcasts," in which NIRI President and CEO Gary LaBranche conducts wide-ranging conversations with members of the investor relations and capital markets community.

These 10-15 minute conversations will be released throughout the year and available on the NIRI website, Spotify, Google and Apple Podcasts.

In Episode 1, listen to Nils Paellmann, Ph.D, NIRI Fellow, and award-winning large-cap IRO, talk about his beginnings in investor relations, differences in working in IR for European and U.S. companies, and what made IR such a compelling career.

Episode 2 will feature Jennifer Warren, CEO, Issuer Services, North America, Computershare, speaking about the start of her career, fundamental lessons learned, and why coding is so important for young professionals.

Other future episodes will feature LaBranche's interviews with the 2020 class of NIRI Fellows. In 2021, he also plans to interview members of NIRI's diverse communities.

Learn more and access the podcasts at www.niri.org/resources/publications/ir-update-podcast. IR

Issuers and Counselors Oppose the SEC's 13F Proposal

BY TED ALLEN, JD

Two hundred-and-fifty issuers and 28 counseling firms joined with NIRI to oppose the U.S. Securities and Exchange Commission's proposed 13F amendments, which would exempt 89 percent of current filers from disclosure.

The 250 issuers that signed on to NIRI's 13F comment letters in August and September have a combined market capitalization of almost $3 trillion. NIRI also was joined by Nareit, the Federation of American Hospitals, the Insured Retirement Institute, the Independent Petroleum Association of America, and the Chief Executives for Corporate Purpose's CEO Investor Forum.

NIRI, which engaged with numerous business groups and companies on this issue, was pleased to see other associations submit comment letters, including the Society for Corporate Governance, the U.S. Chamber of Commerce, the National Association of Manufacturers, the Business Roundtable, the Biotechnology Innovation Organization, AdvaMed, and the Edison Electric Institute. NYSE, Nasdaq, and hundreds of their listed companies also weighed in against the SEC's 13F proposal. In addition, 11 NIRI chapters and dozens of public companies with NIRI members shared their concerns in their own comment letters.

On the shareholder side, the Council of Institutional Investors, CalPERS, the Investment Company Institute, the CFA Institute, the Consumer Federation of America, and hundreds of retail investors also expressed opposition to the SEC's 13F proposal.

NIRI also engaged directly with the SEC, holding virtual meetings with two commissioners and senior SEC staff members. NIRI urged the SEC to hold a public roundtable on ownership transparency, expand 13F disclosure to include short positions, and reduce the 45-day disclosure period.

NIRI also shared IR professionals' concerns with key lawmakers on Capitol Hill. U.S. Rep. Maxine Waters (D-CA), Chair of the House Financial Services Committee, and four Democratic U.S. senators urged the SEC to withdraw its 13F proposal.

In late October, Bloomberg News reported, citing people familiar with the matter, that the SEC had decided to shelve its 13F proposal. The SEC provided this response to Bloomberg: "It remains clear that the current threshold is outdated. The comments received illustrate that the form is being used in ways that were not originally anticipated when the form was adopted. We are focused on examining these important issues before we move forward with determining the appropriate threshold." IR

Ted Allen, JD, the NIRI Vice President for Communications and Member Engagement, oversees NIRI's advocacy efforts; tallen@niri.org.

The SEC Adopts Final Rules on Shareholder Resolutions

In late September, the SEC voted 3-2 to modernize its rules on shareholder proposals. The amendments to Rule 14a-8, which will take effect in 2022, should reduce the number of special interest resolutions that reappear on corporate proxy statements each year despite receiving minimal support.

The rules also will require resolution proponents to hold a larger economic stake or continuously own their shares for at least three years. The updated rules also should promote more engagement between public companies and resolution proponents.

"NIRI welcomes the SEC's efforts to modernize the shareholder proposal rules," said NIRI President and CEO Gary A. LaBranche. "We believe the SEC has struck the right balance between preventing abuses and ensuring that long-term investors can still use the shareholder proposal process to raise important corporate governance issues."

NIRI and other corporate organizations supported the SEC's modernization of Rule 14a-8, while governance activists opposed these changes. IR

Pamela Styles and Jason McGruder Speak About Value of Senior Roundtable

The NIRI Senior Roundtable was formed in November 1994 to respond to the needs and interest of NIRI's growing number of senior-level members. SRT maintains an informal, small group atmosphere requested by this group of leading IR professionals who each have at least 10 years of experience in the profession.

If you have at least 10 years of experience in the IR profession as an IRO and/or IR counselor, visit www.niri.org/srt to learn more about the benefits and application process to join SRT.

To provide more insight into SRT, *IR Update* interviewed two Senior Roundtable members to learn more about the value they derive from participation and some of their professional experiences.

The 2020 SRT Virtual Annual Meeting will be held January 13-14, 2021. This event is complimentary to all SRT members, who will be registered automatically. **Learn more at www.niri.org/srt.**

Jason McGruder
Vice President of Investor Relations
Rocket Companies, Inc.
Years in Investor Relations: 21
Joined NIRI in 2003
Joined Senior Roundtable in 2014

Why did you join Senior Roundtable?

It's where experienced veteran IROs share insight and ideas.

What have you found most valuable about being a member of the Senior Roundtable?

Hearing how my peers handled various scenarios and getting suggestions from them on best practices, vendors, etc.

What is the toughest IR challenge you've faced in your career?

The time period of March–September 2008. During this timeframe we completed a reverse merger at the same time that one of our largest clients, Bear Stearns, went under. We then had a secondary/follow-on offering as the stock of one of our top competitors was tanking, and two of our other largest clients (Lehman Brothers and Merrill Lynch.) were going away. During this timeframe, hundreds of our employees became shareholders for the first time as a result of the reverse merger, in addition to all the new outside shareholders we added who bought the offering.

Is there anyone who had a major influence on your career? Why?

In my first "real" professional job, I had a particularly mean co-boss. He was so mean he later got in trouble for abusive behavior (allegedly). However, I often find myself quoting his useful witticisms. Such as when I review documents written by others, I often look to see if certain figures pass what he used to call "the reasonableness test." Even without looking at the source material, is it reasonable that our company went up 10 percent in the quarter and the peers went up 500 percent? Probably not "reasonable." It's funny how often I quote him still. Even about having "dangerously low blood sugar."

What is the funniest thing that happened to you as an IRO?

Being laughably quote-mined in a filing by an "angry" activist shareholder. When this activist called on a Friday evening, he demanded to be given the private cell phone number of our Chairman. To which I said, "I would never put an executive on with an investor by himself or herself without IR or someone similar on the phone at the same time." Which made it into their filing as, "The head of IR told us…I would never put an executive on with an investor…" That literally made people in the company laugh out loud because they knew without asking me it was not what I actually said.

If you could have had another career than IR, what would it have been?

I was a professional disc jockey in college, and actually was pretty good at it. I also can, in fact, beat Shazam. So if money were no object, maybe I'd try to be a DJ/remixer/producer/recording executive.

Where did you go to college and what did you study?

I received a B.A. in Political Economy of Industrialized Societies from the University of California, Berkeley. They have since dropped the three last words in the name of the degree. I guess it was a lot to say! I also earned an MBA in Finance from the New York University Stern School of Business.

What would you like to have carved on your tombstone?

I am a big guy, so it would read, "No matter where I stand, I am in someone's way."

Pamela Styles
Principal, Next Level Investor Relations LLC
Years in Investor Relations: 25
Joined NIRI in 1995
Joined Senior Roundtable in 2005

Why did you join Senior Roundtable?

I knew early on that IR was a great fit for me. I couldn't wait until I could qualify to apply for SRT membership, for access to the deeper content and senior IRO career networking.

What have you found most valuable about being a member of the Senior Roundtable?

Being among senior peers to explore emerging issues and topics at a level more relevant to someone with many years of IR experience. Comparing perspective together with some of the most seasoned and experienced IR professionals, and seeing how the higher-level discussions and sharing experiences lead to developing deeper professional bonds and relationships.

What is the best/worst thing to happen in your IR career?

The best was when I was asked, in 2010, to be IR Fellow with the Governance & Accountability Institute. G&A is a leader and renowned resource in environmental, social and corporate governance (ESG) issues and trend-watching, and sole data partner for the Global Reporting Initiative in the United States, United Kingdom, and Ireland. Since 2010, stakeholder interest in ESG eventually shifted from largely activist attention to a dominantly mainstream focus, and ESG has increasingly become an expected area of participation and competency for IROs. It now brings me great joy to be in the position to help my IR colleagues harness these new career expansion opportunities.

What is something surprising about yourself that no one knows?

I am a professionally trained violinist who switched gears to the corporate world and eventually IR. It shows that stage presence is a transferable skill.

Where did you go to college and what did you study?

I received a BMA in Music Performance and Business from the University of Michigan School of Music and an MBA in Finance from the University of Chicago Booth School of Business.

How did you get into investor relations?

I was managing FP&A at a large holding company when the SVP of IR walked into my office and offered me the job as Director of IR – I didn't even know the position was open.

What advice would you give a person starting out in IR?

Learn as much as you can, as fast as you can, but never lose sight of the fact that relationships matter and your direct communications skills are just as important to develop as your technical skills.

What is the one quality you feel best describes you?

Caring. IR

THE THREATS AND OPPORTUNITIES OF ARTIFICIAL INTELLIGENCE

The NIRI Think Tank on Artificial Intelligence in Investor Relations recently published an insightful report on the threats and opportunities posed by AI. The analysis and future-focused resources are driving new NIRI programs and facilitating discussion across the IR profession.

BY MATTHEW D. BRUSCH, CAE

When NIRI convened its Think Tank on the Future of Investor Relations in 2018 as a future-focused analysis of the investor relations profession, it set in motion a series of strategic initiatives that are now shaping the future of the organization.

The Think Tank published a report, "The Disruption Opportunity," in early 2019 that summarized its work and suggested next steps for NIRI and the IR profession.

A key finding of the report was that the IR profession is evolving due to several drivers of change, including the changing nature of investors, data analytics, and artificial intelligence (AI).

The third driver – AI – is one that is increasingly accelerating change in capital markets, triggering a heightened focus in this rapidly growing area.

The NIRI Board of Directors, which commissioned the Think Tank, formed a subsequent NIRI Think Tank on Artificial Intelligence in Investor Relations, which convened a group of volunteer thought leaders in 2019 and generated a 2020 report, "Artificial Intelligence in Investor Relations." This Think Tank and its report was sponsored by Computershare/Georgeson and Q4.

Guided by an outside advisor, the Think Tank on AI in IR undertook a foresight process to examine the evolving dynamics of the effect of AI on the IR profession and identify specific recommendations regarding IR practice.

As with the first Think Tank, the group's charge was to consider a range of plausible futures and the implications for IR practitioners, rather than to predict a specific "official" future.

"While the use of AI technologies in adjacent functions, and in society overall, has increased in the past decade, there is not yet widespread adoption of AI in investor relations," explains Think Tank on AI in IR Chair Sam Levenson, Chief Executive Officer of Arbor Advisory Group. "This represents a clear call to action to IR professionals to develop the capabilities required to work effectively in a world with greatly increased AI and automation.

"We must also consider the evolution of AI through the lens of the COVID-19 pandemic, which reaffirms that the future is always much closer than we think. It confirms the need for all organizations to prioritize the practice of foresight to anticipate the unexpected and accept responsibility for shaping the future."

Implications for IR

The report delves into how AI and automation technologies will affect society, business, and investor relations.

It notes that AI use in IR is at a nascent stage. Most IR professionals are not heavy users of AI-powered tools in their internal day-to-day work. However, some of their external audiences use AI extensively. This puts IR professionals at a disadvantage to a degree and highlights the need for IR professionals to quickly come up to speed to understand AI and its implications.

The buy-side, for example, is increasingly using alternative data sets from many unconventional

Artificial intelligence is reshaping IR in fundamental ways, especially through the current Wall Street advantage over corporates in terms of access to both big and alternative data sets, greater computational power, and the application of AI to trading strategies.

sources as an algorithmic input to generate alpha. These non-traditional sources include, for example, satellite imagery, sentiment extraction from news media and social media content, weather patterns, credit card receipts, and shopping center traffic.

Other tools find signals in the words of corporate executives. For example, AI service providers use machine learning and natural language processing technologies to create products based on a specific company's most-used words. Such unique resources can help institutional investors develop a better understanding of a company's tone over time and the potential implications for corporate decision-making.

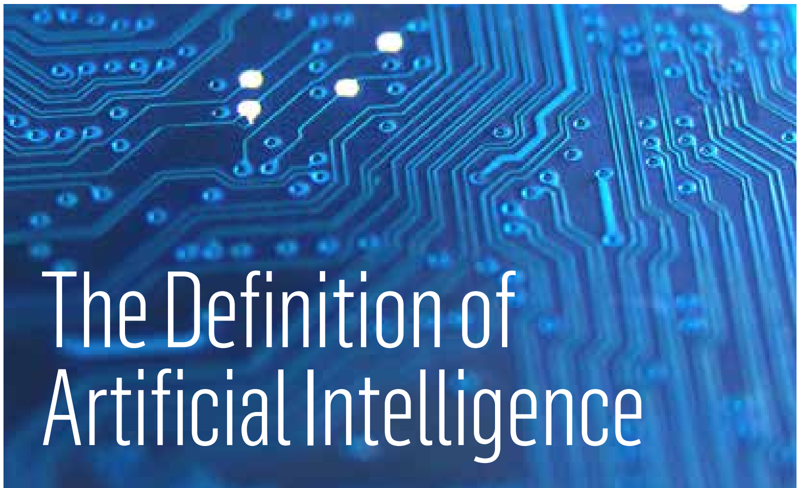
The financial media is moving in the direction of "automated journalism," or news articles generated by computer programs. *The New York Times* reports, as just one example, that about one-third of Bloomberg News content is generated by some form of automated technology. According to the Times, the system Bloomberg uses "can dissect a financial report the moment it appears and spit out an immediate news story that includes the most pertinent facts and figures." This practice is growing among news outlets.

Artificial intelligence is reshaping IR in fundamental ways, especially through the current Wall Street advantage over corporates in terms of access to both big and alternative data sets, greater computational power, and the application of AI to trading strategies. These advantages will not be easily overcome.

IROs unable to adapt in this rapidly changing environment risk being made obsolete over time due to a mismatch in skills versus unfolding market demands. They should view the introduction of AI and automation technologies as both an opportunity and a threat, and a provocative reminder to rapidly grow their understanding of these technologies, their applications, and implications.

To remain indispensable contributors to corporate success, the report urges IR professionals to:

- Understand and adapt to how AI is being used externally.
- Centralize external communications.



The Definition of Artificial Intelligence

Artificial Intelligence, or "AI," is essentially a predictive technology. It is the application of enormous computing power to analyze vast amounts of data to ultimately identify patterns and make predictions.

Including "intelligence" in the name may be a bit misleading in the sense that AI algorithms don't "know" anything, though some argue that prediction is an element of intelligence.

The phrase was coined in 1956 at a Dartmouth College technology conference on the topic of machine learning. The field has seen a boom during the past decade with the explosion of computing power and the growth of huge data sets. A key factor seems to have been a breakthrough in 2012 in which researchers used an "artificial neural network" (an algorithm that attempts to mimic the human brain with layers of connected "neurons") to demonstrate how AI could recognize images by employing more powerful computer chips and larger data sets.

In the time since, experts have been developing "natural language processing" systems that give machines the ability to read, understand and derive meaning from human languages, "machine learning" systems that automatically learn and improve without explicit programming, and "deep learning" systems (multiple layers of artificial neural networks), as the platforms for many important technological advances, including, for example, the use of algorithms for cybersecurity, the review of medical images and providing clinical decision support in health care, and the continuing evolution of autonomous vehicles. The potential applications for AI-powered prediction and decision-making are vast and will likely touch every industry.

- Determine how to use and benefit from AI internally.
- Proceed responsibly and ethically.

Leveraging Report Results

The report is intended to foster strategic and provocative conversation among IR stakeholders. NIRI will use the report to continue the dialogue through publications, professional development programming, online discussions, etc.

For example, the report was one of the catalysts for NIRI to focus its recent Investor and Issuer Invitational Forum (a.k.a. "The Big I") virtual event on the influence of AI on investor relations and capital markets. It featured a range of thought leaders who addressed multiple aspects of AI and automation technologies. The Big I also hosted virtual online forums for insightful discussion of AI among members and speakers. A report on this event is featured in the article, ""The Big I" Analyzes Artificial Intelligence," on page 14 of this issue of *IR Update*.

NIRI chapters are also encouraged to continue conversations about AI in their areas. These programs and discussions will ideally:

- Explore how IR professionals can adapt to a rapidly evolving environment.
- Identify new technology-related knowledge and skills that IR professionals will need.
- Generate dialogue and discovery around the expanding role IR professionals can take within their companies.

NIRI chapters and others in the capital markets engagement ecosystem are invited to participate in this type of continuing dialogue and are encouraged to take advantage of the four potential future scenarios and associated "Scenario Conversation Facilitation Guide" provided as a resource in the report for that purpose.

The NIRI Chicago chapter held a webinar about AI in June, and a report on that event is featured in the Spotlight on Chapters article, "Artificial Intelligence and the New Frontier of Investor Analytics," on page 46 of this issue of *IR Update*.

Matthew D. Brusch, CAE, is chief programs officer at NIRI; email mbrusch@niri.org.

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“THE BIG I” ANALYZES ARTIFICIAL INTELLIGENCE

A range of thought leaders led a deep dive into artificial intelligence at a NIRI event that provided a forum for insightful discussion and analysis.

BY AL RICKARD, CAE

Artificial intelligence (AI) is a hot topic. The explosion of data it produces is accelerating in ways that are just beginning to be analyzed and understood.

NIRI is proactively addressing AI on several fronts, including its recent Investor and Issuer Invitational Forum ("The Big I") virtual event on the influence of AI on investor relations and capital markets. It featured a range of thought leaders who addressed multiple aspects of AI and automation technologies. The Big I also hosted virtual online forums for insightful discussion of AI among members and speakers. Modern IR and Nasdaq sponsored the event.

NIRI President and CEO Gary LaBranche tied development of the event to an initial NIRI "Think Tank" discussion in 2018, which revealed that the investor relations profession is evolving due to several drivers of change, including the changing nature of investors, data analytics, and artificial intelligence.

A subsequent NIRI Think Tank on Artificial Intelligence in Investor Relations convened in 2019 and generated the report, "Artificial Intelligence in Investor Relations." A summary of this report is featured in the article, "The Threats and Opportunities of Artificial Intelligence," on page 10 of this issue of *IR Update*.

"It is the interaction between those three drivers that will influence the future," LaBranche says. "Our goal for The Big I was to identify the scope and ramifications of AI and help IROs adapt and successfully deal with AI in the future."

How Investors Use AI

To better understand how investors leverage AI and what tools IROs can use, Jonathan Neitzell, Founder and Managing Partner at Anduril Partners, delivered a presentation, "The Influence of New Tech in Asset Management." A report on this session is featured in the article, "Are You Using the Right Answers?," on page 20 of this issue of *IR Update*.

Another session, "The Use of Data in the Buy Side Today and What the Future Holds," also addressed investor AI trends. It was led by Tim Quast, President of ModernIR; Andreas Feiner, CEO of Arabesque S-Ray at Arabesque; and Kirk McKeown, Head of Proprietary Research at Point72 Asset Management, L.P.

"Data driven processes are the future of IR and investing," Quast noted. "Humans aren't going away. But a lot of the IR job is about interacting with the buy side and we need to keep up."

McKeown talked about the evolution of data to "big data" in about 2012 and how the more meaningful data that has proliferated since then. He likened it to using "night-vision goggles" instead of just a flashlight and a map.

He also believes, "As data proliferates, the IR function has the ability to be the context partner on how to think about the drivers of the business – what are the things that matter? They can talk about things at the macro level that help us understand the business more holistically. That will give surface area and texture to researchers to inform their models and make them more meaningful."

Looking to the future, McKeown predicts, "In 10 years, you can imagine a world where data is nearly free and there is so much of it, it doesn't matter what you buy because it will be out there for models to go get what they need."

Environmental, social, and governance (ESG) issues are at the center of AI as investors seek to identify, process, and structure data in ways that yield meaningful understanding of corporate ESG performance.

Feiner said that data he looks for includes publicly available information, data that is not yet public, and company disclosures. "Then you want to marry that up with what is being said about a company," he explained.

"Sustainability data is like swiss cheese with a lot of holes at the moment," he cautioned. Some companies do a good job of providing detailed ESG data, but if they don't, investors may fill in the ESG data gaps by averaging available data and make projections based on that.

To address this, Feiner encouraged companies to appoint Chief Sustainability Officers to manage these efforts, analyze ESG data, and present

"As we think about the application of technology in the market today, corporates are really at an information disadvantage… We need to explore how corporate issuers can more appropriately respond to new technologies for stock selection."

- Sam Levenson, Chief Executive Officer, Arbor Advisory Group

it to investors.

Other perspectives on investors and AI were offered in the session, "Disruptive Technologies and Communications with Investors: Insights from Academia." It was led by Kristi Rennekamp, CFA, PhD, and Blake Steenhoven, CPA, both from Cornell University, and Brian White, CPA, PhD, of the University of Texas at Austin. A full report on this session is featured in the article, "Disruptive Technologies and Investor Communications," on page 30 of this issue of *IR Update*.

> **Dan Romito, who wrote a white paper on active and passive investing, believes that the conventional thinking of investing as either "active" or "passive" is no longer the case. "We have to evolve our thinking," he suggested. "There is a continuum."**

The session, "Merging Megatrends: AI+ESG=Alpha," explored how investors use natural language processing to analyze public company ESG disclosures to evaluate whether companies are backing up their claims with action. It was led by Emily Chasan, Director, Communications at Generate; Mike Chen, Ph.D, Director of Portfolio Management at PanAgora Asset Management; and Martina Macpherson, SVP of ESG and Engagement Strategy at Moody's Corporation. A report on this session will appear in the Winter 2021 issue of *IR Update,* which will focus on ESG.

AI Technologies

To analyze AI technologies, Sam Levenson, Chief Executive Officer of Arbor Advisory Group, moderated a panel discussion on technology tools. Panelists included Evan Schnidman, Ph.D., Founder of EAS Innovation Consulting; Greg McCall, Co-Founder, President & CFO at Equity Data Science; and Dan Romito, AVP, Business Development & IR Product Strategy at Nasdaq.

Levenson cited a quote from the Blackrock 2020 Letter to Shareholders: "Over the last decade, investors increasingly recognized that portfolio construction, not security selection, drives the majority of returns."

In light of this, Levenson observed, "As IROs, we are always thinking that someone is doing fundamental analysis and making a decision to buy our stock, but that isn't necessarily true.

"I think there is an opportunity for the practice of IR to change moving forward. We're speaking to active asset managers. We're relying on the sell side to communicate our story. However, active equity asset managers and the sell side are shrinking ice cubes. Our audiences are getting smaller.

"As we think about the application of technology in the market today, corporates are really at an information disadvantage. We haven't had an opportunity to get insights into what is driving valuation. What KPIs are highly correlated with valuation? What is driving the stock? There is a lack of understanding of how trading strategies are being implemented by investors. We need to explore how corporate issuers can more appropriately respond to new technologies for stock selection. And, we need to think differently about the practice of investor relations going forward. We need to implement IR 2.0"

Schnidman noted, "I see three crucial themes in how IROs should communicate with investors. These include crafting language that will be accurately interpreted by humans and bots, addressing concerns of both active and passive investors, and understanding the KPIs that drive factor investing for increasingly quantamental asset managers."

He observed that in recent years asset managers have increasingly used automated tools to analyze language used on earnings calls, speeches by corporate officers, press releases, and the corporate website. Topic modeling and sentiment analysis have become more advanced during the past two years, and linguistic patterns can now be mathematically mapped.

McCall identified several questions that investors typically ask, which he noted are largely the same questions that IROs ask regarding their stock. They question what trends are driving the stock, what KPIs influence valuation, what peer group is relevant to the stock, and more. AI tools offer innovative ways to answer these questions.

Romito, who wrote a white paper on active and passive investing, believes that the conventional thinking of investing as either "active" or "passive" is no longer the case. "We have to evolve our thinking," he suggested. "There is a continuum."

Schnidman, who also wrote a white paper on the same topic, noted, "The flow of assets from active to passive management happens in a

"I work for a newly public company. Understanding what tools are out there and are being used by the people we talk to is extremely important. I have already brought back some of the ideas to my CEO. So the Big I event had an impact."
Melissa Plaisance, Group Vice President, Treasury & Investor Relations, Albertson Companies, and NIRI Board Chair

"Words do matter. How you present non-fundamental data, themes, and topics is increasingly being weighted to a greater extent in portfolio construction analysis."
Dan Romito, AVP, IR Product Strategy, Nasdaq

"We have to think about what is happening to IR. If more than half of assets under management are passively held, we need to think about who our audience is – it is becoming more and more machines. We need to write more. They scrape data. We need better analysis of what words to put on paper. That is the direction our thinking needs to go. We need to put machines to work for us."
Deborah Pawlowski, IRC, Chairman, Kei Advisors LLC

"The language of financial communications is changing, and we need to change along with it."
Gary LaBranche, President and CEO, NIRI

"Investors are armed with a lot of data. They are going to know the supply chain and everything that is occurring. That means IROs have to catch up."
Tim Quast, President, Modern IR

"We no longer have translators in the market. Sell-side analysts used to be the translator between the IRO and the investor. As less money flows into research, they are speaking slightly different languages. IROs need to learn the evolving quantamental language of the buy side."
Evan Schnidman, Ph.D., Founder, EAS Innovation Consulting

"Some of the non-standard metrics such as leverage or quality are often steeped in math and statistics. But resources now exist to translate these into formats that are easy for IROs to understand and communicate to their audiences."
Greg McCall, Co-Founder, President & CFO, Equity Data Science

"What drives trading of a stock is more often not a 'who' but a 'what.' More than 50 percent of equity assets under management are passively managed. Eighty percent of trading is not conducted by active asset managers; it is passive funds and algorithms. Valuation is not being set by the portfolio manager who you just spoke with."
Sam Levenson, CEO, Arbor Advisor Group

discontinuous way. When the market pulls back, assets flow into passive investments. So, you see spikes in passive investing on the heels of market volatility." Most passive investments also flow to large-cap companies because of a lack of research on small and mid-cap companies.

"This puts a huge burden on the IRO," Schnidman said. "They now need to not only communicate with their investors but find their investors. So IROs need to communicate in exactly the way that investors want to interpret information. They need to speak the language of increasingly quantamental investors."

Romito reviewed the many factors driving this evolution toward a mix of passive and active management, noting there are economic disincentives to conduct research in the traditional way.

"There is an explosion of non-fundamental data," he observed, especially in ESG data. "The SEC found that 90 percent of data now used in the capital markets has been created during the past two years."

Romito argues that because investors face compressed margins and fees and have fewer analysts to study data, it is no longer economically feasible to spend significant time analyzing fundamentals.

"Smart beta" – a variation of factor-investing that focuses on long-term performance – has largely replaced it. He noted the efficiency and affordability of using this data has increased exponentially during the past three years. Romito argues that smart beta allows investors to mitigate or decrease risk while increasing returns in their portfolios. It enables rapid analysis of overall sentiment trends in terms of positive and negative statements and is objective because technology is doing it.

Romito demonstrated how sentiment and subjective language analysis drives trading activity by showing a chart where negative language correlated with short selling, volume anomalies, and distinct selling patterns.

Stories, Relationships, and Data

"Much of AI is about understanding and adopting datasets that were not available two years ago," Quast believes. "The way Kirk McKeown put it is that this is the marriage of person and machine.

"IROs are not just managers of the story, they are managers of the scorecard. It is going to become an ever-bigger factor for how the buy side makes decisions. As we enter what Sam Levenson calls 'IR 2.0,' we move from relationship management to relationship and data management.

Quast also pointed out how non-fundamental data – or perhaps call it "alternative data" – is much more current and relevant to investor decision-making.

"What companies put out is dated," he cautioned. "A lot of what we release as disclosures is so far behind the curve when you can photograph a parking lot or have satellite images of the ports. Information coming from public companies is not a signal anymore; it is a consequence of things investors already know.

"The biggest thing for me is tackling the hard work of shifting the thinking in the boardroom and the C-suite from what we always thought drove valuation to what it looks like in the future where we manage a scorecard and not just the story."

- Tim Quast, President, ModernIR

"It puts us in an interesting position as a profession to figure out how we tackle that. The world is consuming data. If we are going to do a good job serving our shareholders, do we need to change our standards and timing to keep pace now that the world is becoming machine-driven?

"Then there is the question of the return on investment from this effort. That is something we are going to have to wrestle with. How does all the work we put into ESG scores, DNI, PRI, and all these things produce a return for us? ESG is still the wild west. We don't have clear standards yet."

Romito echoed those thoughts, adding, "If we are waiting around for non-fundamental data – primarily ESG data – to be standardized, it's not going to happen for at least the next half decade. You can't even get people to agree on definitions, let alone what you should be disclosing in a given framework."

He also noted, "If the IRO is not speaking the same language as the investment community, there is going to be an inherent disconnect in valuation.

"Behavioral finance is the future – understanding the tendencies of people and how they construct their portfolios. That was a lot of guesswork before, but now we have deep-rooted data sets that explain how tendencies exist and evolve given certain macro situations."

Quast concluded, "The biggest thing for me is tackling the hard work of shifting the thinking in the boardroom and the C-suite from what we always thought drove valuation to what it looks like in the future where we manage a scorecard and not just the story.

"Sentiment analysis and topic modeling is the future. Investors no longer have to rely on an army of people sifting through the public domain of earnings transcripts, Q&A, and financial documents. This is the data that is fueling the 'smart beta' revolution."

Al Rickard, CAE is Editor of *IR Update* and President of Association Vision, the company that produces *IR Update* for NIRI; arickard@assocvision.com.

Are You Using the Right Answers?

Artificial intelligence generates reams of data, but generating results means you need to separate wheat from chaff and focus on metrics that matter.

BY JONATHAN NEITZELL

The growth in available data and potential from analytics and artificial intelligence (AI) technology increases both the opportunity – and the challenge – for asset managers, investor relations professionals, and corporate management teams.

Analytics can influence corporate decisions in product management, capital allocation, and how equity shareholders impact share pricing. The size and scope strains comprehension:

- Approximately 20 billion Internet of Things devices are now online. By 2025, the number is expected to rise to 75 billion devices.
- There will be 4.8 billion internet users by 2022, up from 3.4 billion in 2017. 80 percent of data will be unstructured by 2025.
- More stored data has been created in the last two years than in the history of mankind prior to that point.
- Financial services firms are increasingly using this data to predict business model outcomes and set equity prices.

We continue to hear these statistics, but our eyes often gloss over given the challenge of understanding the disciplines required to integrate all this data.

We need five skills and tools to unlock the value of this data and use it our advantage:

1. Business knowledge of where value is created for the end customer.
2. The devices and sources of data and their biases.
3. Statistical and mathematical approaches to calculating what is known, and properly de-risking what is not.
4. Technology software and architecture requirements.
5. Cultural and organizational awareness and mutual respect for blending those respective skills into tangible workflow.

Thankfully, just as we saw with public cloud adoption, new "no code" tools and services are becoming available to make the scale and transparency of technology magic available to the business user who understands the core value proposition.

The Massachusetts Institute of Technology calls the knowledge made possible by this technology "shared intelligence." Early adopters have the opportunity to separate from the pack as Amazon did with its public cloud computing service and successful e-commerce businesses. The COVID-19 pandemic creates a further imperative to take action on these types of opportunities.

The Importance of Storytelling

Even with advanced technology that can synthesize and deliver data in actionable formats, further context and understanding is still needed.

As Nobel prize winners Danny Kahneman and Amos Tversky, were quoted as saying in the book, "The Undoing Project," by Michael Lewis, "No one ever made a decision because of a number. They need a story."

Call it the "human experience side" of AI if you like.

To ground us in reality and reasonable expectations, it helps to reflect on the early pioneers of behavioral economics, which is the study of psychology as it relates to the economic decision-making processes of individuals and institutions.

What researchers in this area found was fascinating. During studies of even highly educated, scientifically disciplined doctorates in medicine

Business KPIs: A Universal Language

Hypothesis (Burning Question) Formation	KPI	Data
- How can we move beyond static assumptions built on assumptions in fixed models, with few if any updates between public data releases? - How can we remove key variables from what is unknown in the stock price? - How can we put ourselves more in the operators seat, and ask more detailed specific questions based on data vs. generic uninformed "how's the quarter"? - What does management think of their own operational metrics, and the health of their business? - What names should be focused on…what would a data driven process surface as warranting attention for inflections? - What can be inferred from share shift, churn, and pricing changes?	- Average spend p/transaction - Number of transactions - Same store sales - Churn - New customers - Repeat customers - Share of wallet - Market share - Cohort spend over time	- Credit card transactions - Email receipts - Web Traffic/Scraping - Supply Chain data - Public municipal records - SEC filings - Natural Language Processing - Lat/Long Geo data

Source: Anduril Partners

and statistics, Tversky and Kahneman found most people walk around with mental heuristics (habits) including availability, representativeness, and anchoring. Their research indicated we are prone to using recent availability or representativeness of personal experience to extrapolate probability, and our expectations can be anchored by the order in which we receive information – a humbling and troubling proposition.

Their groundbreaking findings were published in a paper, "Judgment Under Uncertainty: Heuristics and Biases," in 1974. Today, coupled with the birth and global domination of software, we increasingly look to technology for answers to protect us from misjudgment.

However, there is a bit of humor here. As the profileration of technology solutions shown in the chart, "Data and the AI Landscape" on pages 24-25 further affirms, we need context and process to make the path realistic. As the famous poem, "The Rime of the Ancient Mariner," points out, a resource without calibration is nearly useless. "Water, water, everywhere, Nor any drop to drink…," poet Samuel Taylor Coleridge wrote.

Testing the Experts

As Kahneman and Tversky found among their highly educated audience decades ago, being surrounded by numbers is not relevant if it's not digestible in our daily workflow. To underline this point, Paul Slovic – a psychologist and a peer of Nobel laureate Daniel Kahneman – decided to evaluate the effect of information on decision-making. He gathered a group of professional gamblers and tested them with horse races over four rounds.

Slovic told them the test would consist of predicting 40 horse races in four consecutive rounds. In the first round, each gambler was given five pieces of information about each horse. One might believe years of jockey experience was a key performance indicator (KPI); another might want horse top speed; and so on. (Industry examples of these types of KPI calculations are shown in the chart, "Business KPIs: A Universal Language," on this page.)

In addition to picking winners, the experts were asked to indicate their level of confidence in their choice. In the first round with five pieces of information, they proved to be 17 percent accurate, substantially better than the 10 percent calculated chance prior to receiving their information. Their confidence

The Fusion of Data, Discipline, and Technology

Source: Anduril Partners

was cited at 19 percent, relatively in line with the outcome.

They were then given 10 pieces of information in the second round and so on until they received 40 pieces of information in the final round. Interestingly, while their predictive ability flatlined at the 17% accuracy level, their confidence continued to rise with the additional information to expect a 34% hit rate!

This has significant ramifications for our ability to use raw information often driven by fear of missing out (FOMO) and untested assumptions. Unless we have disciplined consistent process with feedback loops, we risk being guilty of simply cherry-picking data to enhance our confirmation bias – leaving us potentially wrong and extra confident about it.

Can You OODA?

Thankfully for those with humility and a desire to drive consistent outperformance, the concept of feedback loops has become increasingly prevalent to digest and filter the mountain of data resources from noise into insight.

The U.S. military recognized reailty is in a constant state of change (often in response to our own actions) and that excellence in process may be one of the few sustainable areas of persistent advantage. Based on this realization, strategy tactician John Boyd created a very straightforward framework called the OODA loop, which stands for Observe, Orient, Decide, and Act.

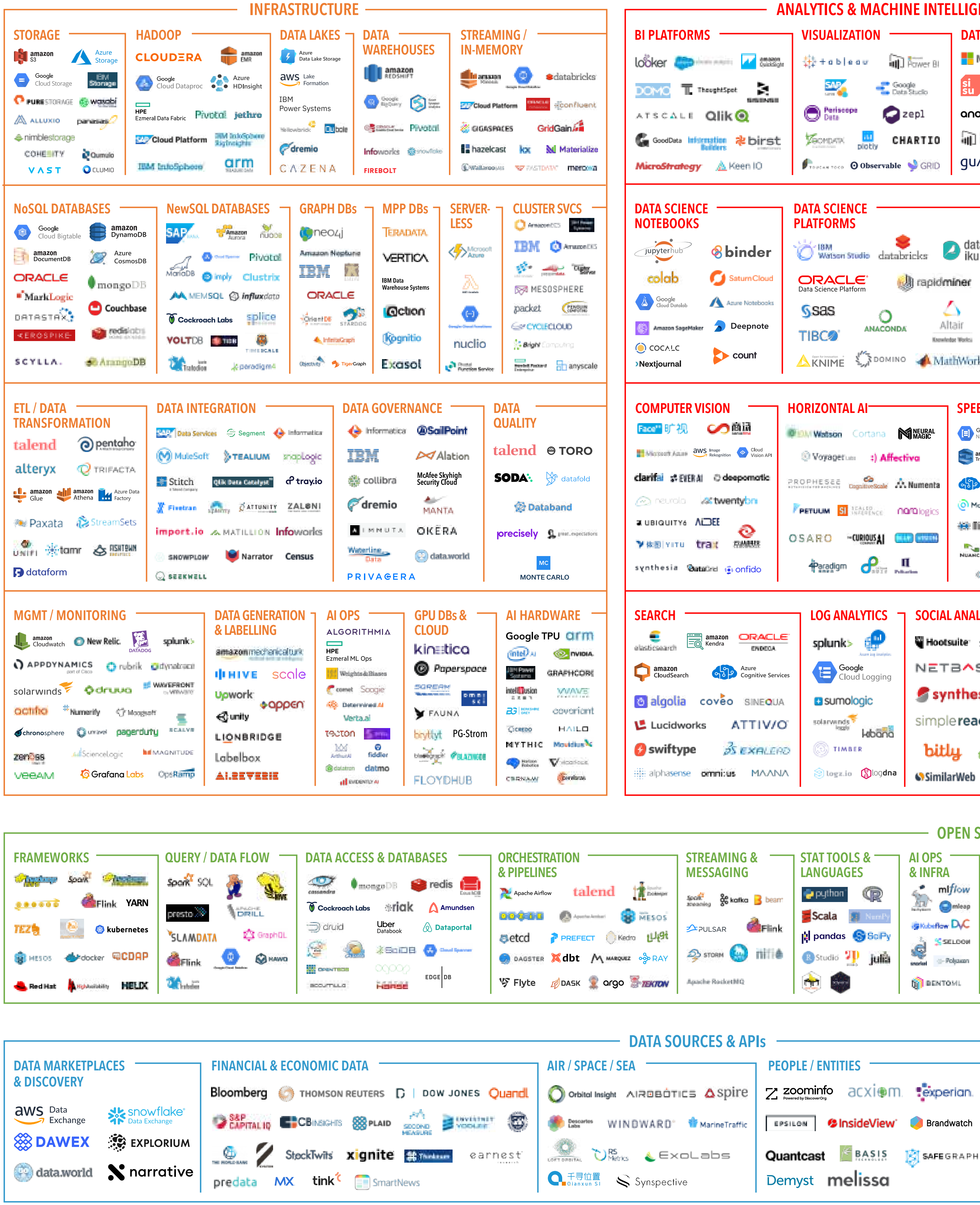
Now considered a foundational doctrine, it suggests that regardless of the backdrop, whomever is able to accurately observe (ingest data), orient (solve for KPIs), decide (designate the primary objective), and act (ability to execute) these steps and proceed back to the first step to observe success or failure of previous effort, will emerge victorious. To summarize, teams cycling well through this framework will win while opponents are choking on the noise and confusion of exponential information growth. Process matters!

Applying Process in Financial Workflow

How can we integrate qualitative (human experience) and quantitative inputs into “shared intelligence?” The chart, “The Fusion of Data, Discipline, and Technology,” on this page demonstrates how an asset management group might add specificity to an OODA loop concept, driving decisions on which allocations to purchase, how they integrate as a portfolio, and how they might assess attribution and error rate per input function step – a historical “holy grail” challenge.

On the left we have inputs such as SEC filings, internal or external analysis, industry relationships, and qualitative experiences. In the next column there are functions within systems that will change through manual or automated updates to reflect the changing reality of the world around us.

Data and AI Landscape 2020



Version 1.0 - September 2020

ENCE

A ANALYST PLATFORMS

Microsoft, pentaho, alteryx, MODE, Datameer, Starburst, outlier, Digital Reasoning, ENDOR, Power BI, ATTIVIO, Incorta, inter|ana, AVUS, ASCEND.IO, switchboard

MACHINE LEARNING

Azure Machine Learning, Amazon SageMaker, Google Cloud AutoML Vision, H2O.ai, DataRobot, gamalon, VISENZE, ELEMENT AI, deepsense.ai, OctoML

ECH & NLP

Google Natural Language API, twilio, amazon alexa, amazon Translate, amazon Polly, amazon Transcribe, amazon Comprehend, Azure Cognitive Services, Wellness Unit, semanticmachines, Eigen, SoundHound Inc., PRIMER, SMARTLING, Unbabel, MonkeyLearn, Gridspace, voicera, cogito, PolyAI, Amenity Analytics, cortical.io

YTICS

sprinklr

WEB / MOBILE / COMMERCE ANALYTICS

Google Analytics, mixpanel, SIGOPT, Airtable, RESCI, granify, Amplitude

APPLICATIONS – ENTERPRISE

SALES

einstein, GONG, CHORUS, conversica, aviso, people.ai, Clearbit, tact.ai, fuse|machines

MARKETING - B2B

App Annie, Lattice, 6sense, Reflektion, tubular, NGAGIO

MARKETING - B2C

TEALIUM, ACTIONIQ, Segment, Simon, attentive, Active Campaign, SendGrid, CONTENTSQUARE, zeta, mparticle, Amperity, bloomreach, Bluecore, INVOCA, braze, PERSADO

CUSTOMER EXPERIENCE / SERVICE

qualtrics, SurveyMonkey, UserTesting, CLARABRIDGE, MEDALLIA, zendesk, Kustomer, freshdesk, Gainsight, pendo, HEAP, Amplitude, Watson Assistant, Dialogflow, LIVEPERSON, INTERCOM, Drift, ASAPP, ada, afiniti, netomi, Eureka, talla, frame.ai

HUMAN CAPITAL

HireVue, pymetrics, textio, mya, Allyo, Wade&Wendy, Eightfold

LEGAL

RAVEL, Seal, DISCO, ContractPodAi, kira, ROSS

PARTNERSHIPS

Crossbeam, DATA REPUBLIC, INFOSUM

REGTECH & COMPLIANCE

BigID, text IQ, TESSIAN, Comply Advantage, OneTrust, ETHYCA, SECURITI.ai

FINANCE

Anaplan, zuora, SAP S/4 HANA, TRADESHIFT, SCALEFACTOR, botkeeper, pilot, DIGITS, appzen

AUTOMATION & RPA

UiPath, Hyperscience, ZINIER, blueprism, Automation Anywhere, VIDADO, WorkFusion, workato, Catalytic, KRYON, ARTWORKS, ALKYMI, Fortress IQ, Ohighradius, Electric, INSTABASE, Moveworks, celonis

SECURITY

TANIUM, BlackBerry Spark, zscaler, StackPath, Illumio, FORTER, feedzai, DATAVISOR, pindrop, siftscience, riskrecon, ANOMALI, Recorded Future, SHIELD AI, sparkcognition, cybereason, DARKTRACE, VECTRA, SOCURE, exabeam, Sentinel One, BLUEHEXAGON, AXONIUS, GitGuardian, Armorblox, CybelAngel, PRIVITAR, netskope, riskified

APPLICATIONS – INDUSTRY

ADVERTISING

AppNexus, MediaMath, criteo, IAS Integral Ad Science, ORACLE MOAT, datorama, albert, gumgum, Appier, theTradeDesk, TAPAD

EDUCATION

Liulishou, KNEWTON, declara, KORBIT

REAL ESTATE

REDFIN, VTS, Opendoor, Orchard, reonomy, SKYLINE, SPACEMAKER, GEOPHY

GOV'T & INTELLIGENCE

Palantir, OPENGOV, Dataminr, MARK43, ANDURIL, FiscalNote, Quid, PRIMER

COMMERCE

FAIRE, STITCH FIX, HowGood, STANDARD

FINANCE - INVESTING

Symphony AYASDI, KENSHO, ADDEPAR, NUMERAI

FINANCE - LENDING

affirm, Monedo, TALA, ZEST AI, upgrade, LEARNBANC, aura, Upstart, 100Credit, Active.AI

INSURANCE

ROOT, Metromile, Lemonade, GUIDEWIRE, Shift Technology, ARTURO, CAPE ANALYTICS, TRACTABLE, EvolutionIQ, ZELROS, zesty.ai

HEALTHCARE

flatiron, ZYMERGEN, METABIOTA, babylon, 3DMed, PathAI, TEMPUS, patientslikeme, AiCure, Livongo, TUPLE, Olive, imagen, PAIGE, health, innovaccer, lumiata, spring health, THE HUMAN DIAGNOSIS PROJECT, Viz.ai, enlitic, ezra, Caption Health, IMAGEN, zebra

LIFE SCIENCES

Xtalpi, color, BenevolentAI, DNAnexus, verily, Z, genuity, inato, freenome, Atomwise, Pharma, SOPHIA, OWKIN, insitro, Exscientia, RECURSION, ConcertAI, healx, Verana Health

TRANSPORTATION

UBER, TESLA, WAYMO, ZOOX, cruise, nuro, APTIV, CAMBRIDGE MOBILE TELEMATICS, Aurora, nauto, AIMOTIVE, ARGO, PILOT.AI, NIO, OPTIMUS, G7, blaze, GHOST, PERCEPTIVE AUTOMATA

AGRICULTURE

FARMERS BUSINESS NETWORK, Granular, JOHN DEERE, BLUERIVER, TARANIS, prospera, semios

INDUSTRIAL

AVEVA, SIEMENS, Uptake, KONUX, SCORTEX, TACHYUS, ALICE, BUILT ROBOTICS, BEYOND LIMITS

OTHER

stem, Amper, ByteDance, STATESPACE, VERDIGRIS, Second Spectrum, duetto, Lightricks

OURCE

AI / MACHINE LEARNING / DEEP LEARNING

TensorFlow, Keras, torch, MLlib, Caffe, Microsoft Cognitive Toolkit, DMTK, OpenAI, theano, PaddlePaddle, Apache SINGA, DIMSUM, FeatureFu, VELES, mxnet, neon, Chainer, Michelangelo, ONNX, Weka, DSSTNE, DL4J, MAHOUT, Aerosolve, mlr, OpenML, mindsdb, PyTorch, Toshi

SEARCH

elasticsearch, Solr, Lucene, Sphinx, Sonic, Toshi Search

LOGGING & MONITORING

elasticsearch, kibana, SENTRY, logstash, Prometheus, fluentbit, fluentd, Grafana, VECTOR, OpenTelemetry

VISUALIZATION

D3, Superset, matplotlib, Metabase, redash, seaborn, TensorBoard, bokeh

COLLABORATION

Beaker, jupyter, ANACONDA

SECURITY

Apache Ranger, KNOX, Sentry, accumulo, snyk

DATA RESOURCES

LOCATION INTELLIGENCE

FOURSQUARE, mapbox, sense360, pitney bowes, PlaceIQ, esri, CARTO, Radar, Mapillary, cuebiq, OpenStreetMap

OTHER

DATA.GOV, DEFENSE INNOVATION UNIT, IMAGENET, Labelbox, Berkeley DeepDrive, COCO, APOLLOSCAPE, CRUX

DATA SERVICES

QUANTUMBLACK A MCKINSEY COMPANY, Mu Sigma, Booz | Allen | Hamilton, kaggle, ElectrifAi, fractal, EXL, DataKind, innoplexus

INCUBATORS & SCHOOLS

PLURALSIGHT, GENERAL ASSEMBLY, DataCamp, DataElite, galvanize, METIS, INSIGHT, The Data Incubator

RESEARCH

OpenAI, facebook research, MILA, MIRI, VECTOR INSTITUTE, CSAIL, DFKI, AI2 ALLEN INSTITUTE for ARTIFICIAL INTELLIGENCE

stmarkcap) mattturck.com/data2020

FIRSTMARK EARLY STAGE VENTURE CAPITAL

A "New Lens" ESG Scorecard

Country

Type to search in list

- ☑ (All) 2 values
- ☑ UNITED STATES O...
- ☑ CANADA

Sector

Type to search in list

- ☑ (All) 1 values
- ☑ Cons Disc

Industry Group

Type to search in list

- ☐ (All) 5 values
- ☑ Consumer Durables ...
- ☐ Food & Staples Reta...
- ☐ Food Beverage & To...
- ☐ Retailing
- ☐ Technology Hardwar...

Industry

Type to search in list

- ☑ (All) 3 values
- ☑ Household Durables
- ☑ Leisure Products
- ☑ Textiles Apparel & Luxury

	Average	Median
Environment Pillar Score	3.11	3.00
Social Pillar Score	5.24	5.40
Governance Pillar Score	6.18	6.10
ESG Score	5.11	5.20

ESG Score is the sum of Score*Weight across all three pillars. It is then adjusted for industry and then converted to a letter rating

Ticker	Weighted-Average Key Issue Scor...	Final Industry-Adjusted Compan...	ESG Rating (ESG)	Environmental Pillar Score (ESG)	Social Pillar Score (ESG)	Governance Pillar Score (ESG)	Environment Pillar Score Quartile (ESG)	Social Pillar Score Quartile (ESG)	Governance Pillar Score Quartile (ESG)	Supply Chain Labor Standards Score Quartile (ESG)
ABC	5.30	6.80	A	2.80	5.70	7.30	4	1	1	1
DEF	4.10	3.20	BB	3.90	4.00	4.70	3	3	4	3
HIJ	5.20	7.10	A	2.60	5.80	7.00	4	1	1	3
KLM	5.20	6.80	A	3.00	5.40	7.40	4	1	1	1
NOP	5.20	6.40	A	0.30	5.60	6.90	4	2	1	1
QRS	4.70	4.10	BB	0.00	5.80	5.30	4	2	2	1
TUV	5.50	6.90	A	4.60	4.00	7.60	3	4	1	3
WXY	5.70	8.50	AA	3.50	5.00	7.50	4	2	1	1
ZAB	5.30	6.80	A	4.70	5.00	6.90	2	1	1	1
CDE	4.70	5.40	BBB	4.50	4.40	5.40	3	3	2	1
FHI	5.10	5.00	BBB	5.10	4.60	6.00	2	4	1	1
JKL	5.50	7.30	AA	2.40	5.90	6.20	3	1	1	1
MNO	5.60	8.20	AA	5.50	5.70	5.30	2	1	3	1
PQR	4.20	1.80	B	1.90	4.70	4.50	3	4	4	3
STU										
VWX										
YZA										

Source: Anduril Partners, EDS, MSCI

These input names may change based on the business model, but for financial services groups, this drives top and bottom line changes to forward estimates, and areas we believe to be operational key performance indicators to the asset related business model.

This is then reviewed based on portfolio risk parameters that may be as simple as a gut feel (how most of business is actually done) or as complex as mathematical factor models. These steps culminate in a buy or sell decision, and then the forward performance of the asset begins to show actual outcomes.

If our effort has been recorded, now the magic begins – we can check our initial assumptions against actuals and run feedback statistics, error rates, and increasingly complex machine learning on this real-time and growing resource of training data and intellectual property. This allows data and institutional learning to become a tangible asset!

Peeling Back the Veil

In a moment of stark honesty, most organizations will admit they have never actually drawn out their decision process, and the few that have will tell us with some flowchart they have a process. However, if the inputs are not touching software and creating a time series of quantified changes, the effort is incredibly prone to narrative shift, hindsight bias, and lack of objectivity. Consequently, the ability for feedback loops or incremental learning will be severely compromised.

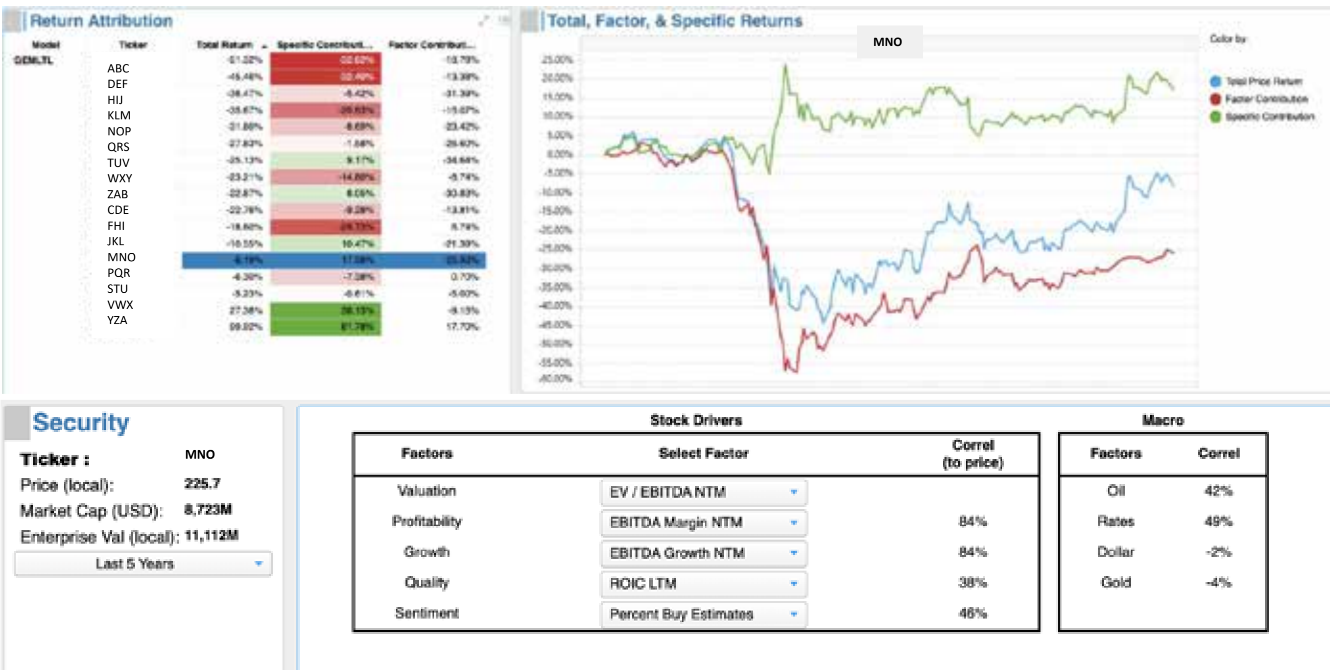
It has been said, if software is eating the world, models will run the world. For those humble, confident, and willing to be held accountable, the tailwinds of technology can harness this tremendous potential in transparency, scale, and continued improvement on behalf of your stakeholders.

Turning Questions into Predictions

One of the largest shifts we are likely to see in team discussions during the next five years is toward analytics and data-influenced decisions. To do this, we must take our qualitative, thematic questions and turn them into key performance indicators – hypotheses which can be quantified, tested, and predicted. This process entails integrating the personal experiences of business users and operators and attaching their primary metrics to data consistently available.

For the financial industry, analysts might answer questions about a company's equity value by inferring revenue growth based on KPIs such as new customer growth, average spend per transaction, share of industry sales, and cohorts changing

Factor and Fundamental KPI Example



Source: Anduril Partners, EDS, MSCI

purchasing locations between physical and virtual storefronts. These may be seen within transaction records, email receipts, web traffic, or natural language processing queries of customer social media comments.

These discussions are often the same across corporate, private equity, and public equity uses, making a focus on defining, tracking, and predicting KPIs an increasingly universal language. Corporate intelligence and investor relations groups are likely to be a vital bridge between planning for resource allocation and explaining these key components to stakeholders. Do you have the process to "Observe, Orient, Decide, and Act" with this secular wave?

ESG as a Use Case Example

Environmental, social, and governance (ESG) and sustainable investment is a rising focus across the asset management and capital allocation communities, but what does that really mean? We are early in this journey of quantifying many qualitative efforts, and this is an example of a where a realistic framework might coalesce.

Standard-setting bodies such as MSCI are issuing ranking systems such as risk factors or bond ratings in specific categories. They are increasingly joined by broker dealers and boutique research companies to create a more consistent and transparent framework for these metrics.

How do shareholders and corporates aggregate all these views and see relative peer group rankings? There will be an increasing number of ways to address this, but the diagram, "A 'New Lens' ESG Scorecard," on page 26 shows an aggregation platform with a single dashboard that allows for granularity in setting the exact criteria each organization wants to use for individual scores for each category of ESG. It then rolls those inputs into a total firm ranked score. This methodology provides consistent, scalable, real time, and transparent process to stakeholders.

Corporations and large foundation allocators can also use this with ownership data to see what the ESG scores are for each aggregated investment fund and see which institutions are really putting their money where their claimed priorities are.

What is Driving the Stock?

Here we are going to tackle one of the holy grail interest points across communities – why a stock is trading where it is!

We are familiar with valuation factors such as EBITDA, Return on Invested Capital, and how important positive Wall Street "buy" rankings might be.

For those unfamiliar with risk model factors from Barra

What to Do With All the KPIs

Source: Anduril Partners, EDS

or Axioma, these are basically mathematically calculated relationships to certain thematic styles such as growth, value, leverage, size and others.

One of the easiest ways to understand this is to think of it like nutrition labels. The impact of a food (or asset) really depends on the build of macro nutrients. Using factor analysis, we can decompose what is driving asset pricing similar to how we can deconstruct a soup into nutrition macros such as protein, carbohydrates, and fats.

In the chart, "Factor and Fundamental KPI Example," on page 27 a company is compared to a group of its peers. While the stock was down 8.19 percent in this example, style factors negatively impacted its peer group by 25.93 percent, and the company actually recovered 17 percent due to company-specific tailwinds. Fundamentally, we can see that EBITDA margins and growth have an 84 percent correlation to stock price, demonstrating explicitly what shareholders care about most, with powerful ramifications for capital allocation decisions.

Think of how powerful this is to know when meeting with management or shareholders and this can be explicitly and empirically answered, along with exact correlation of whether the stock has been most influenced by top[-line growth or margin expansion. This adds tremendous granularity when coupled with equity owner investment discipline criteria or management capital allocation planning for M&A, buyback, or dividend policy.

Water, Water Everywhere, Yet...

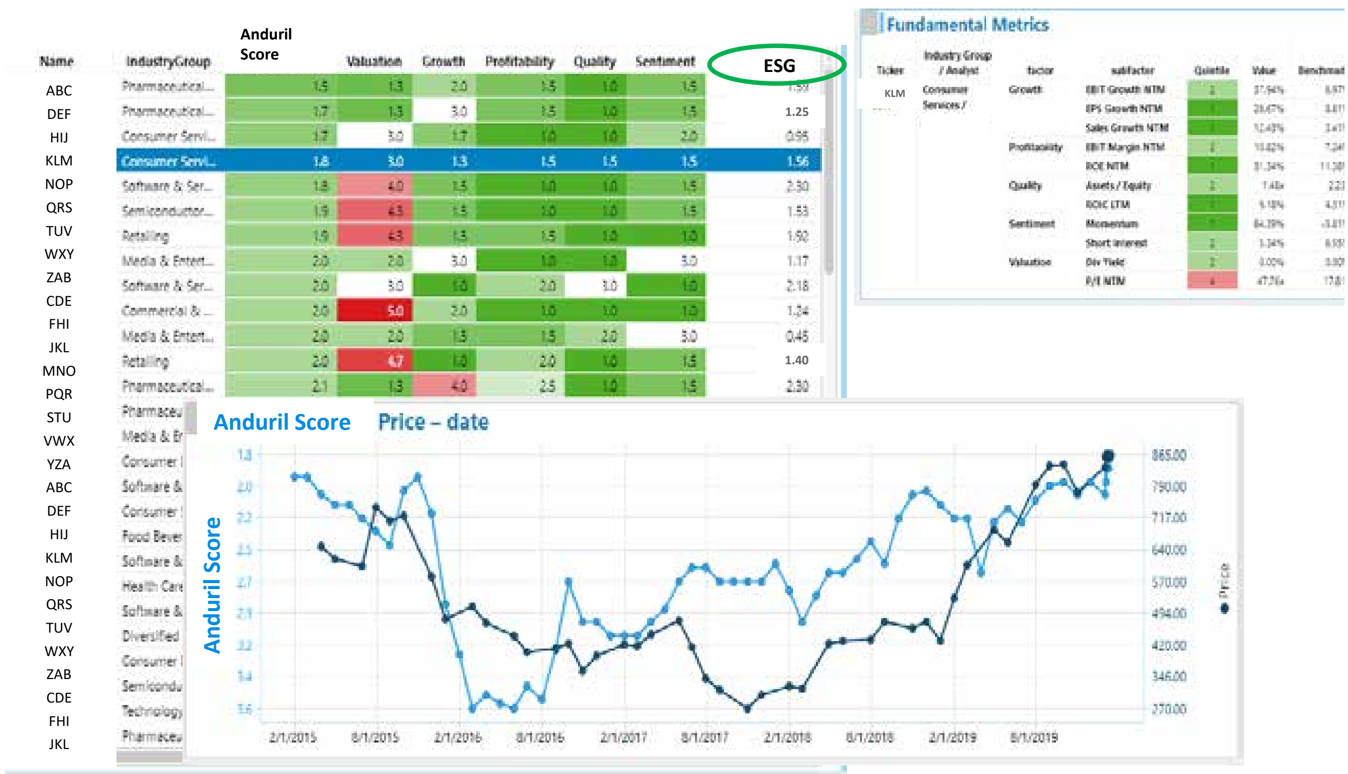
We have discussed use cases in several components in a decision workflow, but there are many, and everyone weights them differently for different durations. How do we blend all these inputs of different types into a system with feedback loops?

Using financial services as an example in the diagram, "What to Do With All the KPIs," this "Tower of Babel" of decision inputs will not scale using Excel and Powerpoint. The difficulty is that data comes from different sources, speaking languages including near-term and long-term fundamental business model KPIs, technology requirements, math and data science integrity, historical and peer valuation, and risk factor influences.

There are several critical challenges here:

1. These inputs are like trying to compare apples, oranges, and pears.

Single Pane of Glass



Source: Anduril Partners, EDS

2. Per our example on the horse races, academic research shows after a certain level of inputs, analysts flatline their predictive ability (overwhelmed).
3. There are almost no transparent or consistent feedback loops without a software system for tracking and monitoring. We love to talk about ML/AI opportunities, but those don't exist until one has the data in a system with feedback loops.

Bringing it Home

For those interested in taking tangible steps to begin this journey, there are growing options to leverage technology and qualitative seasoned business acumen within process-driven software. This software integrates corporate intelligence and financial workflow decisions with inputs from fundamental business model views, statistical probabilities, real time nowcast data, internal analysis, and risk management into proprietary internal expected outcomes.

While this can be developed from scratch internally, increasingly these capabilities have already been developed from vertically focused vendors. In the view developed for the asset management diagram, "Single Pane of Glass," this allows nearly real-time integration of both existing and emerging priorities like ESG scores right into category rankings from classic financial workflow like demand-prediction, valuation, relative growth, profitability, quality and sentiment. This example rolls up into proprietary rules-based rankings scalable across all global assets in a consistent way.

Upgrade Your Roadmap

In conclusion, this should be a great conversation starter for asset managers, investor relations professionals, and corporate management teams — how are you ranking and prioritizing your core key performance indicators and decision processes? If this is only being done through lip service, there are bold new tools available for your transition to a process-driven approach. IR

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Disruptive Technologies and Investor Communications

Three academic researchers who spoke at the NIRI "Big I" report on how AI algorithms analyze data, write articles, and parse the words and phrases spoken by corporate executives.

BY ALEXANDRA WALSH

The academic community has started to research how the latest disruptive technologies, such as data analytics and artificial intelligence, are reshaping how investors analyze financial communications.

During a session at the recent virtual NIRI "Big I" (Investor & Issuer Invitational Forum), three academic researchers summarized this intriguing body of work and provided relevant takeaways to help investor relations professionals engage with investors.

The researchers have all studied financial accounting from a behavioral perspective and particularly how biases affect disclosure decisions and investor judgments with respect to those disclosures.

Robo-disclosures

Brian White, CPA, PhD, Associate Professor of Accounting at the University of Texas at Austin researches big data, machine learning and the use of algorithms in the context of financial disclosures.

According to White, the role of automation in the processing of corporate disclosures is increasing, and tasks once performed exclusively by humans are increasingly executed by algorithms.

Robo-journalism

White points to a 2018 study by researchers at Stanford University and the University of Washington that looked at the effect on capital markets caused the Associated Press (AP) decision to introduce robo-journalism to its financial reporting.

In 2014, the AP started using algorithms to write articles about firms' earnings announcements. The algorithms identify certain preselected items such as earnings per share from earnings releases and then use a process called natural language generation to write articles. These articles contain only basic facts from earnings releases without added interpretation or spin.

"The main effect of the robo-journalism articles was to vastly expand media coverage of firms that previously received little press attention," White says. "In fact, the AP went from covering a very small percentage of these earnings announcements prior to introduction of robo-journalism to covering about 80 percent in just over a year."

White shares that the expanded coverage resulted in an increase in trading volume and liquidity, creating a deeper market for these newly covered firms. The study's authors also concluded that this increased activity was primarily generated by retail investors.

The study was some of the first evidence that algorithm-generated media coverage can have capital market effects. White adds the study points out that the robo-journalism algorithms are simplistic and inexpensive, and as automated journalism becomes more sophisticated, it has the potential to radically change the way public companies are covered in the financial press.

Robo-analysts

White notes robo-analysts are another example of automating the role of information intermediaries. He points to a working paper produced at Indiana University that studied robo-analyst stock recommendations. The robo-analysts are first trained on large human-verified data sets using machine learning. Then they conduct large-scale data collection by monitoring the SEC and other data sources for new financial filings and other news. The data is identified, tagged and parsed to build a detailed forecasting model and produce a recommendation.

Compared to human analysts, firms promoting the use of these robo analysts claim they offer several benefits, White says. Robo-analysts do not suffer from the cognitive constraints and biases that limit the ability of human analysts to effectively process large amounts of information. On the other hand, they have significant limitations with information that is subjective or does not follow a well-defined pattern.

"In addition, they don't have access to management," White says. "They can't pick up the phone and call their friendly IR professional the way human analysts can."

White finds the results of the Indiana University paper interesting because they show robo-analysts produce a more balanced mix of buy, hold and sell recommendations and are less positively biased than human analysts, who tend to be overly optimistic in their forecast and recommendations.

Robo-analysts also revise recommendations more frequently than their human counterparts, which again is consistent with the ability to process new information and revise models quickly. When the researchers construct portfolios based on robotic analyst buy recommendations, they outperform those of human analysts.

An interesting point, White notes, is researchers also found investors less likely to trade on robo-analyst recommendations. But overall, the study concluded automation has the potential to replace humans in at least part of the research process, and generate valuable recommendations for investors and potentially at a lower cost than traditional human analysts.

Robo-advisors

As with financial analysts, some wealth management firms have automated at least part of their investment recommendations, and White points to a study from the Universities of Washington, Illinois, and Indiana that examines how individual investors react to those efforts.

"The research finds humanizing robo-advisors makes investors less likely to rely on their advice, which is surprising, because humanizing technology generally makes people more receptive to it because it makes the technology seem more friendly and approachable," White says. "However, this technology is also associated with other human characteristics, like fallibility. Providing a financial recommendation is viewed as a complex task, and as it turns out, fallibility is what investors focus on when the technology attempts to carry out the complex task of making a financial recommendation."

White highlights this study because it points out the importance of context. "You can't just borrow research from other domains and assume it will apply to the investment domain."

Auto-Summaries

The final study White references is one he conducted with colleagues from Tilburg University in the Netherlands.

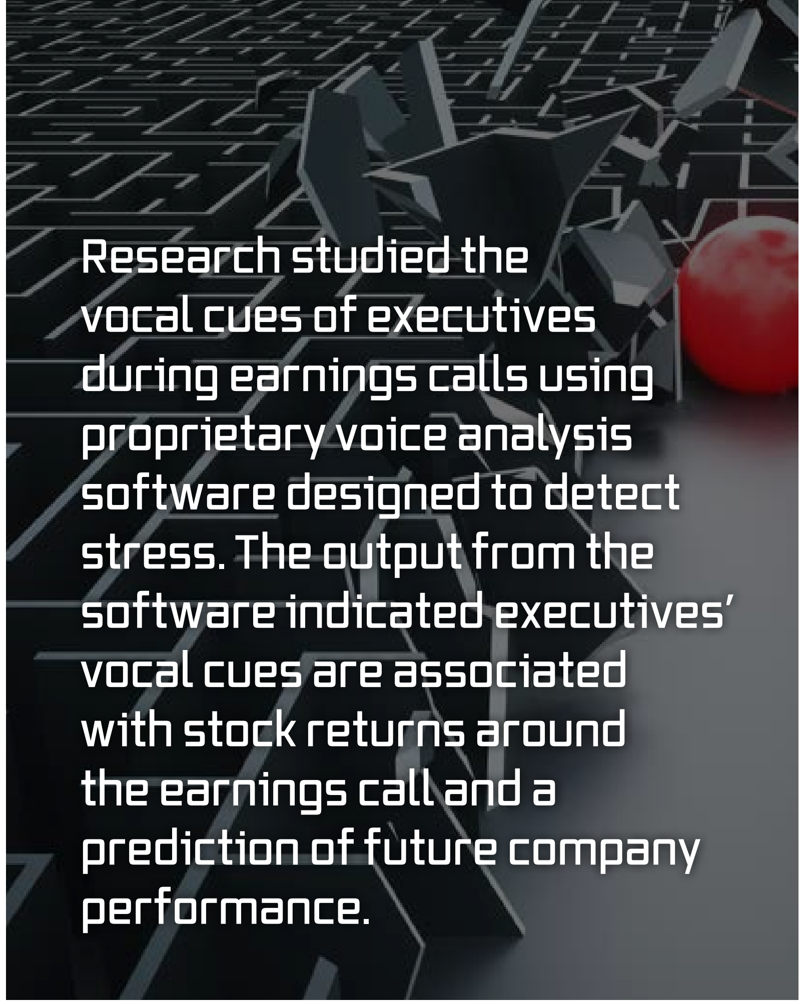
"Perhaps unsurprisingly in the face of increasing disclosures and concerns that investors are suffering from information overload, a lot of firms have started providing summaries of their disclosures," White observes. "In fact, we found that over 80 percent of S&P 500 firms provided summaries of their Q4 earnings releases in 2015, and 72 percent provided summaries of their management discussions and analysis in their 10Ks, and that got us thinking."

White and his colleagues wondered if the firms providing summaries were spinning the information in their disclosures in ways favorable to the firm. They also asked if it would be possible to use widely available summarization algorithms to produce summaries that capture the important information in disclosures, but with less bias.

"The answer to these two questions was 'yes,'" White explains. "Focusing on summaries of earnings releases, we found that firm-provided summaries were more positive in tone than the underlying earnings release they summarized. We also found we could easily produce automatic summaries of earnings releases using widely available summarization tools that capture the important information in earnings releases just as well as firm-provided summaries, but with less bias."

Takeaway for IR

Company communications receive more coverage because of robo-journalism, but that coverage consists primarily of facts without a lot of



Research studied the vocal cues of executives during earnings calls using proprietary voice analysis software designed to detect stress. The output from the software indicated executives' vocal cues are associated with stock returns around the earnings call and a prediction of future company performance.

the interpretation an IRO might want to provide.

Recommendations from robo-analysts and robo-financial advisors do not deal very well with the kind of nuanced or subjective information that IR professionals provide.

Widely available algorithm-based summarization tools make it easy for investors to create their own summaries of corporate disclosures, which may be less positive than the kind of summaries the firm might provide.

"The major takeaway for IR professionals from academic research on automation is you may not be able to control the narrative as much as you might like," White concludes.

A download of the voice of NIRI CEO Gary LaBranche from one of his presentations was loaded it into Praat, a free open-source software, and in 30 seconds was able to determine his vocal cues.

Voice Control

"Technology has allowed investors to move from just analyzing numbers in a disclosure to quantifying the language, and investors are now taking it a step further and analyzing managers' vocal characteristics in earnings calls, roadshow presentations and even in private phone calls with management," notes Blake Steenhoven, CPA, PhD Candidate, Cornell University.

Steenhoven says analyzing vocal cues is relatively new and complex. The most common acoustic analysis tool is a spectrogram, a visual representation of a soundwave, that is packed with information about a speaker's vocal pitch, intonation, volume, speech rate, pauses, breathiness, and hoarseness.

Steenhoven notes it is not important for IR professionals to become expert in acoustics analysis, but it can be helpful to be aware of the vocal cues investors come to expect. In addition, it is very easy to extract vocal cues, but Steenhoven notes that just because something can be measured, doesn't necessarily make it useful. Vocal cues, like any other data, need to be evaluated, combined, and adjusted.

Some of the methods by which vocal cues are analyzed include:

Subjective Ratings

Subjective ratings come from real people listening to the data, Steenhoven explains, and is a good method for picking up traits that are very nuanced, hard to quantify, and difficult to train an algorithm to recognize. It is also an expensive method of analysis as it requires experts or a large number of non-experienced individuals. As with anything that uses people, it is subject to human error and can also be fallible, as the analysis is subjective.

Proprietary Tools

Proprietary tools that analyze acoustic signals are user friendly, expensive, and opaque. "Companies are not eager to reveal what's under the hood and how their tool functions, so it's hard to know whether it really works," Steenhoven says.

Raw Characteristics

Measuring the raw characteristics of vocal cues is a well-established methodology that provides objective and consistent measures that will be reproducible over time. It is also inexpensive thanks to free open-source software.

Steenhoven points out the downside of raw characteristics is a person still decides what to do with them and how to combine and incorporate them into the judgment, so there is still an element of subjectivity built in.

Steenhoven says each method of vocal cue analysis has strengths and weaknesses, but there is academic research that shows each of them can be useful to investors.

Real Consequences

In the research study, "Perceptions and Price: Evidence from CEO Presentations at IPO Roadshows," conducted by Elizabeth Blankespoor, Bradley Hendricks and Gregory Miller, 900 workers from Amazon Mechanical Turk rated content-filtered video clips from IPO roadshows. (Amazon Mechanical Turk is a crowdsourcing website for businesses to hire remotely located "crowdworkers" to perform discrete on-demand tasks that computers are currently unable to do.) Steenhoven notes the clips remove everything except the CEO's non-verbal behaviors.

"The workers are not trained in analyzing vocal cues or nonverbal behaviors but their rating of the CEO's competence and trustworthiness, based solely on the CEOs nonverbal behaviors, are associated with the company's valuation at every stage of the IPO," explains Steenhoven. "This shows the importance of nonverbal behavior in these types of communications with investors and it's also an example of how subjective ratings can be useful to investors."

Vocal Cues are Value-Relevant

Steenhoven offers an example of how proprietary tools can be useful to investors in the study, "The Power of Voice: Managerial Affective States and Future Firm Performance," by William Mayew and Mohan Venkatachalam.

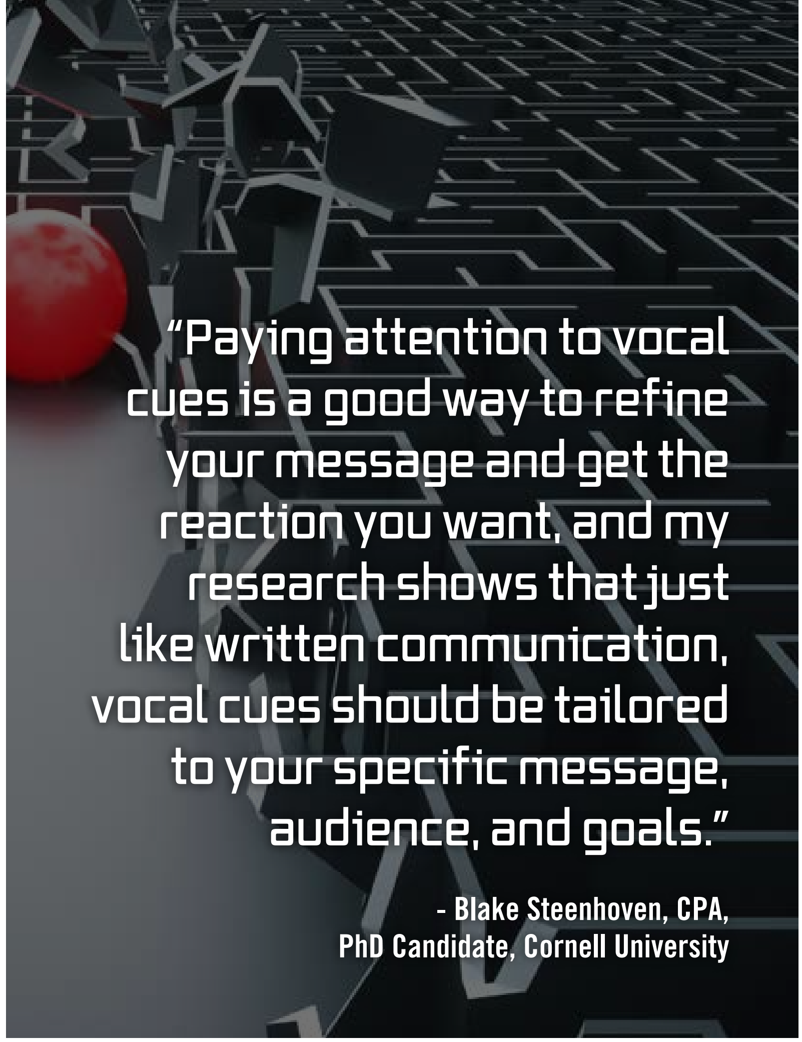
The research studied the vocal cues of executives during earnings calls using proprietary voice analysis software designed to detect stress. The output from the software indicated executives' vocal cues are associated with stock returns around the earnings call and a prediction of future company performance.

"Again, the study shows these vocal cues have value-relevant information for investors that is useful for their decision-making and makes it plausible that investors might want to rely on some of these proprietary tools," Steenhoven notes.

Pitch Leads to Outcomes

Steenhoven points to several vocal pitch studies that establish that an executive's voice pitch is associated with real outcomes. A 2013 study, "Voice pitch and the labor market success of male chief executive officers," by Bill Mayew, Chris Parsons, and Mohan Venkatachalam, looks at career outcomes for male CEOs and finds CEOs with deeper voices manage larger firms, receive higher compensation, and enjoy longer tenure at their company.

A 2020 study, "Individual analysts' stock recommendations, earnings forecasts, and the informativeness of conference call question and answer sessions," by Bill Mayew, Mani Sethuraman, and Mohan Venkatachalam 2020, looks at changes in voice pitch during the Q&A portion of the earnings call and finds stock prices tend to increase in conversations where managers lower their pitch.



Takeaway for IR

"There's a big assumption with a lot of these tools that speakers can't control what they're doing with their voice or aren't in control of their speech signal, but we know that's not entirely accurate," says Steenhoven. "Among other things, people can manipulate their voices, and do, to clarify content, signal attitudes and stances, project traits like confidence, sincerity, and dominance, and influence others.

He suggests if an IR professional is trying to highlight a strong outlook to persuade a prospective investor to invest in their company, they might be more effective using higher pitch, more intonation, higher volume, and faster delivery. Conversely, if an IRO is trying to reassure a current investor that weak performance is transitory, they might be more effective with a lower, more measured pitch and intonation.

"Paying attention to vocal cues is a good way to refine your message and get the reaction you want, and my research shows that just like written communication, vocal cues should be tailored to your specific message, audience, and goals," Steenhoven recommends.

Words Matter

The research conducted by Kristi Rennekamp, CFA, PhD, Associate Professor of Accounting at Cornell University, focused on the linguistic characteristics of written disclosures.

"It's pretty straightforward to understand why textual analysis is becoming so popular with investors," Rennekamp reasons. "With all the different sources of available information and computer power that is constantly improving large-scale textual analysis, it gives investors a way to extract additional information from disclosures. Investors increasingly recognize that how something is said can be informative above and beyond the objective content of what is said."

Rennekamp notes there is significant variation in the sophistication of large-scale textual analysis tools.

Simple Word Counts

In the simplest method, disclosures are run through a computer program that counts words in the text depending on what it is looking for. Words are compared to a pre-defined dictionary, such as optimistic words, to gain insight into future performance. Simple word counts are easy to execute but are not good at capturing context.

N-grams

These measure instances of word combinations (e.g., pairs of words as bigrams, trios of words as trigrams, and so on), and potentially do a better job of capturing context compared to simple word counts.

Probabilistic Methods

The most sophisticated method, this tool analyzes large groups of documents to teach a model and build probabilistic models of what certain words or phrases are likely to mean in combination. It then compares new documents to the model to make inferences. It is relatively good at capturing context but requires training.

The goal of textual analysis is to quantify linguistic characteristics that might be important. Rennekamp explains some of the linguistic characteristics that influence users.

Readability

"The most commonly measured linguistic characteristic in research on firm disclosures is readability," Rennekamp says. "Disclosures written in plain English are associated with stronger reactions from investors (especially less-sophisticated investors), increased trading volume, and less analyst forecast errors and disagreement among analysts."

Tone

The tone of language in disclosures has received a lot of attention in academic research as well, Rennekamp notes. It is often measured by simple word count to try to determine whether the overall tone of the disclosure is pessimistic or optimistic and what that might mean for the company.

"On average, investors react more positively to an optimistic tone," Rennekamp explains. "Firms seem to get into trouble when they use tone that is more optimistic than warranted. It can lead to increased litigation risk and scrutiny from auditors and is usually associated with analysts' forecasts that are less accurate – it is important that the tone of the disclosure maps to the actual circumstances of the firm."

Vividness

Research finds that in some circumstances, investors are more influenced by language that is vivid because the information shared is harder to ignore.

Concreteness

Similar to vividness, concreteness draws readers into the information because detailed language is easier to visualize. Researchers have found concrete language tends to make investors more comfortable in evaluating a firm because they can imagine the actions a firm is taking, and that can translate to more willingness to invest in the firm.

Takeaway for IR

"My first suggestion is basic – be aware of the linguistic characteristics that users might be measuring so you know what they might be looking for and what might affect their reactions to your firm's disclosures," Rennekamp advises.

Second, she notes that academic research suggests IR professionals want to focus on creating disclosures that are readable, understandable, and tell investors a story that helps them envision the actions the firm is taking.

"My last advice is don't overthink things," adds Rennekamp. "The last thing you want is to focus so narrowly on language choices that the message starts to sound odd and unnatural – that could definitely lead to some unexpected and unwelcome reactions from investors." IR

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ARTIFICIAL INTELLIGENCE

Attracting Passive Dollars by Leveraging AI

Algorithms that classify companies according to industry sectors and parse descriptive terms can drive passive investments. Learn how to improve your company's position.

BY GREGG LAMPF, IRC

We all have read articles and have attended webinars and seminars (well, before COVID-19) that have discussed the increasing amount of passive ownership and the emergence of artificial intelligence (AI) and machine learning.

In early 2018 Vanguard founder Jack Bogle predicted that 90 percent of equity markets trading would be driven by passive investment funds and exchange-traded funds (ETFs). Today research robots interpret earnings announcements and conference calls while trading robots call clients and place orders and execute trades.

Further, payments and reporting are performed by machines, storing information in data lakes, drawing conclusions and executing tasks. Put succinctly, the IR profession should embrace the rise of the machines, learn how they can enhance their roles and the value they add, and start now to prepare for the arrival of AI into the IR world.

While we are often told there are things we should do to adapt to these trends – such as properly informing passive investors about our companies' corporate governance and ESG efforts – an implication is that they could represent some limitations on the influence and role of IROs.

Of course, we should acknowledge changes and shape our approaches appropriately. Each challenge is an opportunity, and it is incumbent upon us to always look for ways to empower the IR function as changes come along.

There is a growing intersection between passive ownership and AI, and that presents opportunity. Certain quant shops have been using algorithms for decades to seek alpha. Passive investors in recent years have done well as their diversification strategies have yielded steadier performance than active investors.

A passive and algorithm-driven investor base is here to stay. Increasingly, passive investors are looking for the next stage in how to extend outperformance. This is leading some to AI and machine learning as these technologies have matured during the past few years.

Gaining Visibility

I recently connected with a leader in the passive investor space whose organization is "using publicly available documents to ascertain new technology use and new business initiatives to fit to investment themes."

While the technology he references is specific to my industry, the overarching concept is that these institutions are leveraging AI and machine learning to ensure they gain visibility into and properly consider thematic investment opportunities for thematic investment vehicles.

Their differentiation from vehicles that have done this so far is to have a more granular approach that default largely to the Global Industry Classification Standard (GICS) classifications, which assigns each company to a sub-industry according to its principal business activity. Since the GICS is strictly hierarchical, a company can only belong to one grouping at each of the four levels, which can limit what an investor considers if done "traditionally." Conversely, this organization is attempting to detect companies from public documents that are in more than one theme or sector.

My interest has been to understand how we as IROs can uncover new opportunities and make adjustments about how we describe our businesses in ways that recognize these approaches. The objective is to be selected as new additions to appropriate indexes and ETFs for which we might not otherwise be considered or earn additional weighting where one's company may already have a presence.

Language and Differentiation

A challenge some of us may have derives from the understandable mission by executives and marketing organizations to differentiate the company. Of course, differentiation is of great importance. At the same time, as it pertains to the objective of gaining exposure to additional investment vehicles, we need to be mindful of the accepted nomenclature that defines and describes our respective industries and market segments.

As a leader in our space, my company is in a good position to differentiate and in fact drive some of that nomenclature over time. However, even as a leader there is only so much one company can do, particularly at the outset of a trend.

While certainly not ignoring industry terminology, at times we also describe parts of our business, technologies, and customer segments in unique ways. In fact, in many cases this language has been adopted by the industry. However, investment vehicles arguably lag in looking for the newest language to identify investment opportunities. As such it can be important to maintain a "more standardized" way to describe the business while seeking new ground to differentiate. This is the opportunity the IRO can work toward.

It is unlikely that any organization using AI or machine learning will reveal much that can provide a roadmap for an IRO since their approaches – or algorithms - are their differentiations. Understandably, this was the case with my effort. However, as I interviewed the people responsible for how these technologies are deployed, I developed my own roadmap.

One Company's Effort

At Ciena, like many other investor relation teams, we collaborate with several subject matter experts who can assist. I engaged members of my company ranging from marketing to technologists to industry analyst relations. I also dug deeper into GICS and other classification tools to ensure we were using language that is widely accepted.

Our peers who work with industry analysts were first on the list. Covering our competitors, suppliers, and customers, they would be aware of all terminology being used to describe our space. Industry analysts also speak to the investment community. The result was well over 100 terms that provided us visibility into how people think about and assess my company. To be sure, we already use most of these terms in our disclosures. At the same time, some reminded us of "drift" that occurred as Ciena was declaring its unique opportunities.

We also reached out to subject matter experts such as engineers and salespeople. Arguably, the industry analysts' language spans a wide range of language. The engineers and salespeople represent both ends of the spectrum that allowed us to capture those in the investment community who are either more technically oriented as well as generalists. In fact, the latter was particularly important as Ciena participates in 5G, where an increasing number of investors are interested in participating.

We reviewed GICS to ensure we were consistent with what remains among the most common tools by which investors of all types consider. We even found a few updates that reflected the emerging areas that Ciena was addressing.

Pulling together these various datapoints, we reviewed our Form 10-K. One example that informed an update was in connection with our GICS classification. Ciena is correctly identified as a company in the 45201020 (Communications Equipment) sub-industry under the Information Technology sector.

However, many of our customers, particularly our fastest-growing customers, are classified in the 45102030 (Internet Services & Infrastructure) sub-industry. Recall that one company cannot be in two classifications. The awareness of this other classification is important as this customer set is a primary investment thesis for specialists and generalists alike.

Fortunately, these are "related classifications" under Information Technology, but we needed to incorporate this classification's language (title and definition) into our filing to help ensure our company would be identified by AI that may be looking for 5G companies, data center interconnect companies, and so on.

As an aside, many people now speak to the latter area as "Webscale." In fact, Ciena contributed to coining this term. However, it may not be known by generalists and using this term to the exclusion of the GICS terminology introduces uncertainty as to whether an investment vehicle using this automated approach will identify Ciena as a potential investment in its portfolio. Therefore, we inserted both sets of terminology (Webscale and GICS) where appropriate. Similarly, we found a few terms from the industry analyst list that informed updates.

In the end the investment professional with whom we worked believes our initiative is a good first step as we enter this new AI world. To be sure, a business must perform well to be considered for an investment vehicle. No amount of linguistic changes will compensate for challenges.

However, even where a company may be experiencing challenges this could attract value investors and/or introduce the company to potential investors when business improves. As the investment professional put it, "I see no downside to clear communications and sharing more about what businesses you are in and how you are earning revenue."

Actively Embracing Emerging Trends

It is difficult to know whether this initiative will show immediate results. Regardless, I am convinced that incorporating this mindset into how IR approaches company disclosures can only be a positive over time.

In our case it was suggested that we monitor ETF.com and search our ticker with the ETF Stock Finder. As many of us know, this reveals which ETFs are holding your company. We will track this over time to see how that changes. It may not be possible to pinpoint how this initiative contributes to that change, but this professional seems to think it could play some constructive role.

The point of this example is that as IROs we are often at the forefront of dynamic changes. It is expected that we not only become aware and effect these changes but also advise our leadership and execute a plan of action to embrace the opportunities that these changes can represent; all at the same time contributing to your own expertise.

Good luck! IR

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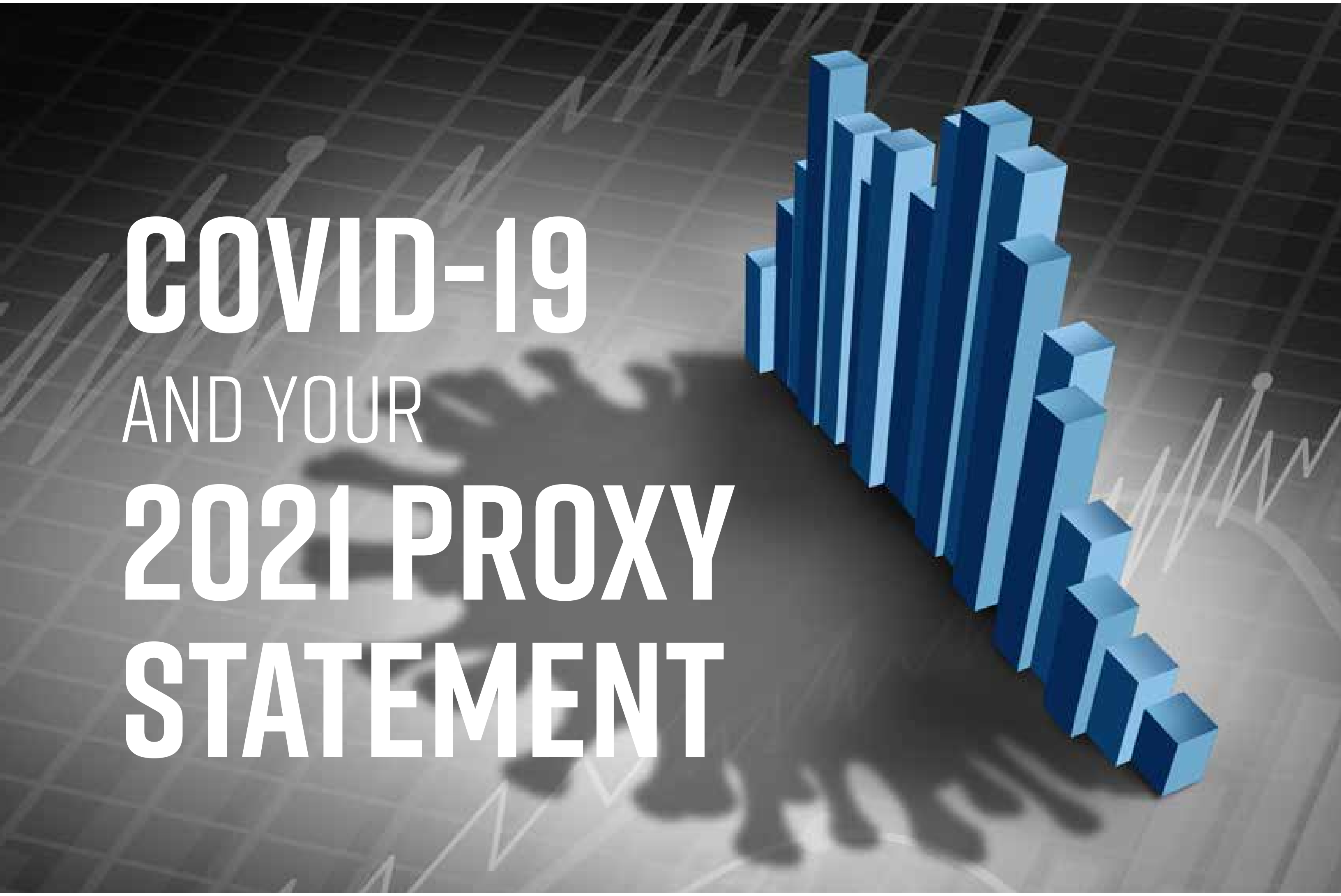

COVID-19 AND YOUR 2021 PROXY STATEMENT

Uncertainty continues in the market as COVID-19 is projected to extend well into next year. Advance planning can help your company navigate proxy disclosures during these challenging times.

BY LOIS YUROW

Companies that filed their proxy statements in early 2020 might not have mentioned COVID-19 at all. Mid-year filers likely discussed the pandemic once or twice, but – due to time constraints and general uncertainty – without much detail.

Next year will be different. Investors, the U.S. Securities and Exchange Commission (SEC), and proxy advisors will expect public companies to discuss COVID-19 in their 2021 proxies in at least three contexts: the meeting format, governance, and compensation. This article summarizes the issues you should consider addressing.

Meeting Format

We all hope the virus will diminish by early 2021. Nevertheless, you should anticipate a virtual annual meeting, or at best a hybrid of in-person and virtual options.

Companies that switched from physical to virtual meetings in early spring were largely forgiven for any snafus their shareholders encountered when they tried to participate. In 2021, with several months to prepare and retain needed technology or expertise, you will be expected to get it right. A critical part of getting it right will be explaining your plan in the proxy statement.

SEC guidance calls for companies to provide "clear directions as to the logistical details of [a] 'virtual' or 'hybrid' meeting." Glass Lewis will look for "robust disclosure . . . concerning shareholder participation." What does this mean? At a minimum, you should explain:

- Whether company leaders will be on video or audio only.
- When (date and time) and where (a specific weblink or phone number) people can access the meeting.
- Any requirements to gain access, such as a control number, and how to obtain those requirements.
- How shareholders can vote during the meeting.
- How to submit questions, how you intend to answer them, and whether all questions will be answered.
- How to get technical assistance.
- Whether a replay of the meeting or answers to submitted questions will be available when the meeting ends, and if so, where.

A reference guide from Proxy Analytics and Soundboard Governance raises some other logistical considerations. Finally, ISS encourages companies holding virtual-only meetings "to disclose clearly the reason" for that meeting format, and to commit to offering an in-person meeting option as soon as practicable.

Two companies that did a laudable job with virtual meeting disclosure are Rite Aid and Ralph Lauren. Since Glass Lewis explicitly reverted to its standard policy for virtual meetings that occur after June 30, 2020 (rather than the more lenient approach they took for the first few months of the year), proxies filed for early 2020 meetings may not be good disclosure models.

Governance Issues

There are many COVID-related governance topics your 2021 proxy should cover.

Risk oversight. You should explain whether all COVID-related risk management concerns have been delegated to a single board committee (either pre-existing or newly formed), or whether each committee is responsible for a discrete set of issues. Depending on your business, probable COVID-related risks include (in no particular order):

- Securing the supply chain.
- Ensuring business continuity when travel, personal meetings, and full offices (and factories, laboratories, and stores) are impractical.
- Monitoring and complying with inconsistent operating regulations across several jurisdictions.
- Safeguarding confidential information and avoiding cybersecurity nightmares when employees are working remotely and company computers and other technology assets are widely dispersed.
- Protecting the health and safety of employees, customers, and suppliers in company facilities.
- Ensuring financial stability and continued access to capital.
- Maintaining a flow of timely and accurate information between the company and investors, employees, suppliers, and other stakeholders.

Leadership. This may be the year to expand discussion of the skills and experience represented on your board. Are there particular directors whose backgrounds make them well suited to navigating the company through a pandemic? Conversely, has the board identified some expertise that it lacks, and started searching for potential directors to fill those gaps? If so, how will they conduct interviews?

Next, investors may be comforted to know the company has an emergency succession plan—not just for the CEO but also for other key officers. If true, your disclosure should say that your plan anticipates that several of your senior executives could become incapacitated by the coronavirus (or otherwise) at the same time – meaning they cannot fill in for each other. It's also not a bad idea to disclose a plan for the possibility that the board chair or lead director falls ill. A recent survey indicates that most companies (85 percent) have emergency succession plans for at least the CEO, but fewer (56 percent) have such plans at the board level.

Finally, is the board meeting more frequently or for longer periods of time? If so, has the added time commitment prompted the company to increase the size of the board, adjust director compensation, or reduce the number of other boards a director can join?

Human capital management. Calls for more, better, and consistent disclosure about human capital management were brewing before we ever heard of COVID-19. Proponents of this disclosure argue that investors need more information about issues such as training, turnover, diversity, productivity, and compensation incentives. The pandemic has made these concerns more pressing, and added more topics to the list. Where applicable, 2021 proxy statements should address:

- Employee physical and mental health and morale.
- Whether employees were able to continue working remotely, and how the company ensured everyone received the necessary supervision and support.
- How any layoffs and furloughs were handled, especially with respect to insurance and severance pay.
- What steps were (or are being) taken to make workplaces safe for employees to return.
- Whether accommodations will be made for employees who cannot (or prefer not to) return full-time to a company facility.
- Whether adjustments were made to compensation—both for employees who could not perform their jobs and for employees deemed essential, who possibly worked extra hours and assumed substantial risk.

ESG. Many companies have stepped up the "social" part of ESG in response to the pandemic. Goods and services have been donated to assist health care professionals. Pharmaceutical companies have devoted extensive resources to developing COVID tests, vaccines, and treatments. Clothing manufacturers are producing personal protective equipment, alcohol distillers are bottling hand sanitizer, and food service companies are providing meals and groceries to those in need. If your company shifted business operations to support efforts to mitigate the virus or to help those affected by the economic downturn, the proxy statement should say so – especially if that shift enabled you to avoid layoffs. Similarly, if your company (or the company's charitable arm) targeted monetary donations for these purposes, disclose that.

Contact information. Your proxy tells shareholders, whistleblowers, and other interested parties how they can contact directors. If you typically provide only a physical mailing address, the 2021 proxy should include one or more email addresses as well. Between reductions in office staff and interrupted postal service, written correspondence may be unacceptably delayed.

Executive and Director Compensation

Each of the typical compensation elements presents a different disclosure issue.

Base salaries and annual retainers. Directors and executives at many companies voluntarily (or not) took pay cuts or declined salaries and retainers altogether in 2020. Your 2021 proxy should say how long any reductions lasted, whether pay cuts are still in effect, and whether the company intends to make affected leaders whole when the pandemic is behind us.

Annual bonuses. Certain sectors of the economy are booming right now. Companies that provide virtual anything (conferencing, fitness, entertainment), delivery anything (food, household staples), or cleaning products are likely to meet or exceed whatever 2020 performance goals were set in pre-pandemic days. Boards at these companies will need to decide whether to pay executives the (generous) annual bonuses they are entitled to, and how to set performance goals for an uncertain 2021. The CD&A should explain those decisions.

Conversely, many companies will not only fail to meet 2020 performance goals, but also have laid off employees and seen their stock prices tumble. These boards will need to decide whether executives who scrambled to meet unprecedented challenges deserve bonuses that aren't justified based on the company's performance against pre-pandemic goals. The SEC, ISS, and Glass Lewis all have guidance about the disclosure required when boards exercise discretion to alter incentive compensation. Here it is in a nutshell: explain exactly what you did and why you did it.

Long-term equity. Shareholders are likely to be wary of changes that make long-term equity arrangements more forgiving. By their nature, long-term plans anticipate a mix of good and bad years. You will need a persuasive explanation for any action that, for example, shortens an ongoing performance period to exclude results from beyond March 2020, or changes the performance metrics or goals for in-flight awards. Companies that accept potentially bad 2020 results but shift 2021 grants to time-vested restricted stock, or performance shares tied to relative performance rather than absolute goals, may find their disclosure easier to craft.

The Rest of the Proxy

COVID-19 will lurk over your entire proxy next year. In addition to the topics discussed above, a CEO or chair letter that doesn't mention the pandemic will ring hollow. Still, be sure you don't neglect the other critical disclosures – on matters such as business strategy and shareholder engagement – that will show investors you intend to be here for the long haul.

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PROFESSIONAL DEVELOPMENT

Strategies to Reach a CFO Position

Adopting a strategic mindset and taking on the tough assignments to build diverse functional experience are among the ways to land a CFO position.

BY AL RICKARD, CAE

What does it take for IR professionals to rise to chief financial officer (CFO) positions?

CFOs and executive recruiters say success can emerge from several paths, all of which require gaining a broad range of experience and making the most of a strategic mindset.

"Ask for the tough assignments and be the 'go-to' person for those challenges," says Lee Ahlstrom, IRC, who began his career as an engineer and went on to become SVP & CFO at RigNet, Inc.

"Be willing to step out of IR and do something else. Spend time in the field. Know the business at an operational level, not just a financial or theoretical level. Deliver value every day."

Lorin Crenshaw, CFO at Orion Engineered Carbons, advises, "Understanding IR and how to manage that constituency is a critical skill set. However, for IROs who aspire to become CFOs, there is a point of diminishing returns in that role.

"Once you have a few years of experience, if you want to ultimately become CFO, you must leave IR and ideally transition into a business finance or financial planning and analysis role. This allows you to understand firsthand the commercial aspects of how to create value, the tradeoffs commercial leaders face, strategic planning, building a budget, managing contingencies, risks and opportunities, etc."

Executive recruiters have seen changes in CFO qualifications evolving for more than a decade.

"During the past 13 years the CFO role has changed from being a back-office operation to that of a business partner," observes Barry Toren, Senior Client Partner, North America Leader, Financial Officer Practice at Korn Ferry.

"CFOs used to be CPAs and public accounting people. Today, having CFOs more embedded in the business has opened up other areas and qualifications. Having different functional experience will add diversity of thought for a CFO."

Smooch Reynolds, Managing Partner, IRO & CCO Practice Group at ZRG Partners, says, "I see companies hiring CFOs who have been general managers of operating groups or companies. They understand the business and how to plan strategically."

Each CFO takes a unique path, but successfully handling diverse high-level management roles is a common denominator.

Engineering a Rise to CFO

"As an engineer I developed a pretty good understanding of day-to-day operations," Ahlstrom explains. "I also spent some time at McKinsey & Company where I gained experience in strategy and finance. Then I went back into industry and worked in planning before being asked to take on an IR role. I worked on several mergers and acquisitions, so was able to add that to the resume. In other words, I became a good utility player – not necessarily an expert at anything, but a well-rounded executive with good business judgement and perspective.

"For me, building relationships for more than 10 years on the equity and debt sides was key, not for the knowledge of the markets, but for the credibility I established. Being someone investors can trust to shoot straight is one less thing to worry about when you step into the role.

"Right before I became CFO, we were in the midst of restructuring and I was the SVP of Investor Relations and Strategic Planning. We had presented two reorganization plans which were contested by one of the creditors and unfortunately, we lost those fights in court. The Board decided to change leadership and asked me to step in as CFO to put a plan together to get us out of bankruptcy."

Leveraging Street Experience

"I started my career as a buy-side equity research analyst for five years with Smith Barney Asset Management's Large Cap Value mutual fund, which provided in depth, practitioner level perspective on how institutional portfolio managers and analysts evaluate securities, think, and make decisions," Crenshaw says. "It also allowed me to observe numerous management teams and develop a point of view on how management teams build credibility with investors or not.

"I then spent five years as a commercial lender providing debt financing to mid-market companies, which helped me understand how debt investors think and how to evaluate leverage, balance sheet matters and cash flow. Between the two roles I then understood both equity and debt stakeholders.

"Not wanting to just 'chase deals' for the rest of my career, I reached out to Ed Liebert, Treasurer at Rohm & Haas, and advised him that I desired to move 'to the other side of the table' – shifting from being a lender to being a corporate finance practitioner on a path to Treasurer and then CFO. He needed an International Treasury Manager, so I joined the company, which was later acquired by Dow. It gave me an entrée into corporate finance, international treasury, subsidiary financing strategies, and foreign exchange risk management.

"Rather than wait for the Dow/Rohm & Haas deal to close, I joined Albemarle, where I advanced from Assistant Treasurer to Director, Investor Relations; to VP, Treasurer & Investor Relations; to CFO of the Lithium Division."

Internal Succession

Both Crenshaw and Ahlstrom rose through the ranks at their companies to their CFO positions, reflecting what is increasingly a preferred pathway for CEOs looking to groom top executives from within.

While diverse management experience is important, investor relations can be a critical piece.

"Experience working directly with capital markets gives an IRO an advantage to become CFO and even CEO," Reynolds believes. "Some CEOs told me they were forced to be IROs and they did it kicking and screaming, but later they said the 4-5 years they spent doing it was the best training they could have had."

"We will see more CFOs promoted internally," predicts Peter McDermott, Senior Client Partner, Global Corporate Affairs and Investor Relations at Korn Ferry. "It is a more intentional process to bring in people and prepare them to be the CFO.

"There is a reason that many organizations use the IR function as long-term developmental rotations for succession planning. As we are seeing this pattern, IR could be a promising pipeline to add much-needed ethnic, gender, and LGBTQ diversity to the C-suite."

"Companies now appreciate how hard it is to recruit great talent," Jenna Fisher of Russell Reynolds told *The Wall Street Journal* in an article earlier this year. She reports that three-quarters of the Fortune 500 CFO searches she works on have at least one internal candidate, while three years ago it was less than half.

"If a company has done a good job creating a 'corporate athlete' with the requisite range of experience, drive, and strategic skills, then someone can step into a CFO position," Reynolds believes. "It is always better to promote from within if you have the right people. Boards and CEOs have become sharper in their critical thinking about who gets these jobs. They have raised the bar and are increasingly looking to create pathways to provide the training needed."

Expanded Responsibilities

"The rewards of being a CFO are great," Ahlstrom declares. "The ability to shape the present and future of a company and make decisions with broad-reaching implications enables you to have great impact. But the pressure is enormous. Finding effective ways to cope with the stress of managing through industry downturns, pandemics, restructurings, etc. is critical for your professional and personal health.

"Another challenge for me was transitioning from having a small local team of 1-3 people to managing an organization of more than 70 people around the world. I also have human resources reporting to me, so I handle personnel issues across the company and probably spend 50 percent of my time on HR matters. Don't underestimate the amount of time it takes to manage and develop people and to set good policy. These are critical to building a sustainable workplace."

Toren adds, "CFOs are really important in a crisis. They must have the ability to understand finance, tell the company story, and have intellectual curiosity about what analysts are looking for. Board exposure is also important – CFOs need a direct line of sight into how the Board thinks."

Rolling With the Punches

"Against the backdrop of COVID-19, the biggest challenges I face relate to uncertainty," Crenshaw observes. "In the current environment we must embrace uncertainty, accept that it is here to stay, and place it front and center in the business planning process.

"In the aftermath of COVID-19 we must break the classic business planning cycle – getting away from developing a singular budget with a narrow range of outcomes around a central tendency. Instead, it is now essential to develop multiple scenarios reflecting a greater breadth of potential outcomes than usual, with signposts that indicate which one is unfolding and contingency plans to be prepared for whatever transpires."

Ahlstrom observes, "I've always worked in and around cyclical industries. It is great on the upswing and miserable in a downturn. Think

"There are a lot of advantages for someone to use IR as a transition to another role within the company," Toren believes. "It is a tremendous gateway for someone who has analytical skills. The IR profession is a potential pipeline for diversifying the C-suite."

- Barry Toren, Senior Client Partner, North America Leader, Financial Officer Practice, Korn Ferry

cycles are getting shorter and peaks/valleys are higher/lower, so it is more important than ever to be flexible. You must roll with the punches and capitalize on the opportunities."

Advice for IROs

"There are a lot of advantages for someone to use IR as a transition to another role within the company," Toren believes. "It is a tremendous gateway for someone who has analytical skills. The IR profession is a potential pipeline for diversifying the C-suite. We don't see as much diversity in finance as there is in other areas of most companies."

"Understanding market dynamics – equity and debt – is an important skillset," Crenshaw suggests. "It gives IROs an advantage on the equity side. However, you can be an IRO and never need to understand the nuances of how to design a capital structure, raise debt capital, assess the adequacy of foreign exchange risk management, etc. Therefore, it's good to spend time in treasury if possible, not just IR."

Ahlstrom recommends, "Take risks with your career – you can always go back to what you were doing before. And be curious – one of the best things about the IR role is that it's an open door to just about any topic in any part of your business. Don't let that go to waste.

"Don't get stuck at headquarters or going back and forth to see investors or bankers in New York (when we can travel again!). Get out of the office and go see the people who make the business run, from your technicians to your customers. Build those relationships the same way you built your IR relationships. I have long believed that the higher you get in an organization, the less ability you have to see what's happening down in that organization, so it takes a concerted effort to gain those valuable insights so you can make better decisions."

McDermott notes, "Every investor relations leader has different DNA in their background, and we find that those who have grown into a strategic role and earned a 'seat at the table' are best positioned to become a CFO."

Reynolds says, "I advise company executives to look forward to the next chapter of their business and lean into those needs. They must take a critical look at the talent in their pipeline to see if those candidates support where the company is headed. That is a really important component of the decision to promote internally or hire from the outside. CFO candidates need to adopt this same mindset to ensure that their skillset and strategic approach matches what the company needs."

"Find a good mentor or mentors (use different people for different skills)," Ahlstrom advises. "Don't expect others to manage your career or know what you want–you have to do that for yourself. Beyond that, getting involved with the work of your treasurer and spending time with your bank group, debt holders, and ratings agencies can give you a leg up."

Ahlstrom closes with a thoughtful cautionary note: "Be careful what you wish for – you might get it. Know your own strengths and weaknesses and really think about whether this is a job you want." IR

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Artificial Intelligence and the New Frontier of Investor Analytics

What does investor relations look like in 2020 and beyond? A NIRI Chicago chapter event found that it's more about the data, but human analysis is still needed.

BY AL RICKARD, CAE

Artificial intelligence (AI) is now used to help manage an estimated $10+ billion in assets – and that staggering amount is expected to grow by more than 30 percent during the next five years. Passive, quantitative, and fundamental analysis increasingly incorporates alternative data sources, predictive analytics and machine learning to spot trends and improve modeling rigor and reliability.

With this emerging trend as a backdrop, the NIRI Chicago chapter held a webinar in June 2020 to explore AI from the perspective of the buy side, an analytics provider, and an IRO.

Moderated by Shep Dunlap, Vice President, Investor Relations, Mondelez International, Inc., the event featured Chris Ackerson, Director of Product Search and Artificial Intelligence, AlphaSense; Andrey Galiuk, Vice President, Corporate Development and Investor Relations, Dover Corporation; and Amy Moore, Content Analyst, Millennium Management. Some of their comments and insights are highlighted below.

Insights From Andrey Galiuk

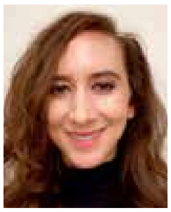
The demand for and scope of information and intelligence we provide to our operating units and management has increased over time and notably increased recently. Uncertainty in the markets increased and managers look for data and insights that helps them make sense of what's happening and adapt optimally. This really fosters a data-driven culture that seeks evidence and a variety of data sources in making decisions.

Our company adopted data-driven approaches for market intelligence and peer benchmarking. We set up monitoring tools for a sizeable set of major competitors, customers, and peers and monitor their publicly available communications. But this process still needs an overlay of human judgment – the data is still disparate and imperfect and requires detailed analysis to "make sense" of it.

Get to know a variety of the new AI tools. Some will prove to be "shiny objects" that will fade and others will stick and prove

to be valuable. They can position IROs to be more valuable partners to corporate leaders contributing insights and actionable intelligence for critical decision-making.

Insights From Amy Moore



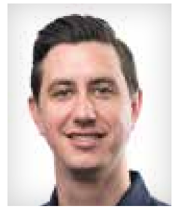
Everything is changing rapidly. People are asking different questions. Fundamental analysis in the past may have been more limited to specifics regarding a company or a brand. But, more recently in light of COVID, investors are also zooming out more and asking different questions, many of which have a more of a macro view.

My focus is on alternative data. When assessing a company, I analogize the traditional market data to taking a person's vital signs. Alternative data tries to find data outside those core assessments—other metrics that can also inform on the overall health or performance.

Quantitative investors are first to the alternative data party – they cover more companies and are able to incorporate any number of datasets that improve their model. Fundamental investors are more selective about additional data because they need a person to analyze the data. In addition, fundamental investors are also incorporating sell-side research, expert networks, and earnings calls.

There is a tremendous boom in data providers. New ones are coming out every day. But it's not the quantity that matters – it's the quality and relevancy. The boom can lead to more noise to sift through. Like any investment, investment in data needs to drive a consistent return. And, that return is all dependent on application of the data; multiple investors may look at the same dataset and draw different conclusions because they have a different thesis or due to the way they combine that dataset with other data or research.

Insights From Chris Ackerson



AI is both overhyped and underhyped. It is overhyped in the sense that it is not going to replace human judgment and decision making. There will be complex decisions, but AI will be involved in every stage of the decision-making process and it will speed up the process of combing through data. Data that might have taken a team two weeks to collect and analyze is now available with the snap of a finger.

Unstructured data is always orders of magnitude larger than structured datasets. Typically, unstructured data has been "dark data" that is too much to analyze. My team is working on algorithms to organize and structure this data based on companies, sectors, KPIs, and topics.

Managing risk is a need across the board and you want to focus on this. With AI, models can capture negative language from peers, competitors, or customers and alert you so you can react proactively.

IR teams want to understand how their message is interpreted by the market. Messages can explode in sell-side reports and other places. IROs can leverage AI to understand how their message is being interpreted by key stakeholders in the market and reduce misinterpretation and misconception. Soon, sentiment analysis will be as prevalent as spell check. It will become table stakes. IR

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Closing the Lid on 2020

Gary A. LaBranche, FASAE, CAE
President and CEO
National Investor Relations Institute

How does one wrap up 2020? It isn't a year for ribbons and bows, or paper that sparkles. But it is a year that we will never forget, a time that redefined life in so many ways. Perhaps a simple cardboard box would be best -- a sturdy one to keep on the back shelf. Maybe we'll open it from time to time, when we need a reminder of resilience, strength, adaptability, and perseverance.

Our box will contain sorrow for those who were lost or suffered from COVID-19. But it will also enclose our appreciation for the caregivers, first responders, and front-line workers who, against terrifying odds, were there for us, our loved ones, and our communities.

Fears and uncertainly will be stuffed inside, for they were hallmarks of 2020. But so, too, were courage and support for one another. We rose to the challenge and that is something to cherish and remember.

Nestled there we will find the reminders of the outrage and shock that engulfed our cities and our hearts. They will be joined by reminders that we have far to go on our journey for equality, equity, and justice. Still, 2020 will remind us that though the journey may be long, it is not daunting if we agree on the destination and decide to make the journey together.

Plans made and discarded will surely be included, as will dreams, forestalled but not forgotten. But creativity and reinvention, imagination, and re-creation allowed us to stretch and discover new ideas and innovations. Not all dreams and plans can be reincarnated, but new ones will reenergize us and propel us forward.

Unused concert tickets and party invitations will be folded in there, though we dare not include the labels from all the boxes and food containers shipped to our door. These will be left out to make room for the receipts for exercise equipment, recipes bravely attempted, and invoices for streaming services. These will help us recall the new interests and diversions that helped us make it through.

Memories will take up much of the space in our box. Good ones will outshine the bad ones. The faces and the names of our friends, colleagues and family will shine the brightest. Grief and gratefulness will reside there, alongside grit and grace. We must hold onto all these memories because they are authentic and valid. And they are badges we earned in 2020.

My box will not be wide enough to encompass my abiding appreciation for the hard work of hundreds of members who gave so much to make NIRI possible in an impossible year. And the depth of my box will not be deep enough to hold the enormity of respect I have for my NIRI staff colleagues, who gave more of themselves than any box can hold. I wish the pain and turmoil of 2020 never happened, but I am grateful that you were with me when they did.

The plain, simple 2020 box will enclose our sadness for what was lost. But it is good that it is made of sturdy stuff, lest it burst with gratitude for what was gained. It may take some time before we will want or need to open it, but when we do, we will be surprised with the abundance of the gifts that have resided up on our shelf the whole time.

Reach up now, gently, and place that 2020 box up on the shelf. Then open a new box, empty except for hope, dreams, and promise. Let's fill that void so that next year we will want to beribbon it and wrap it in the shiniest of paper.