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AI CI

The graphic between 'AI' and 'CI' consists of two overlapping circles. The left circle is light blue and the right circle is dark blue. A bright white light source is positioned at the center where the two circles overlap, creating a lens flare effect. Swirling blue energy lines flow through the background of the entire page.

COMPETITIVE ARTIFICIAL INTELLIGENCE

THE CROSSOVER POINT

Introduction

ArchIntel's latest white paper titled, "Competitive Intelligence & Artificial Intelligence: The Crossover Point" represents the next phase of our ongoing efforts to share the perspectives from a handful of the Competitive Intelligence community's leading thinkers.

In this case, the intent is to summarize the observations and insights expressed during ArchIntel Events' recent Artificial Intelligence in Competitive Intelligence Forum on the topic of Artificial Intelligence and its role within, as well as its impact on, the future of Competitive Intelligence.

The forum also featured a panel moderated by August Jackson, senior director of Market and Competitive Intelligence for Deltek. Suki Fuller of the Council of Competitive Intelligence Fellows; Dr. Fred Hoffman, interim chairman and assistant professor of Intelligence Studies at Mercyhurst University; and Arik Johnson, chairman of Aurora Worldwide Development Corporation. Each is an expert, not only on Artificial Intelligence as it applies to Competitive Intelligence, but how it relates to the world at large.

Each panelist provided sharp and differing insights to the conversation; yet their views remained in sync. They are extremely enthusiastic about the future not only of Artificial Intelligence, but its ability to help the Competitive Intelligence field continue to thrive.

At the same time, they're realistic about the current state of AI, and in some cases frustrated with how its present and potential capabilities are being misinterpreted. It's also fair to say that these two fields sharing the word intelligence in their names is no coincidence. In fact, what Artificial Intelligence is made to do also complements what Competitive Intelligence is already doing.

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Executive Summary

It's fair to say our panel readily achieved consensus on a number of observations and their influence on the current and future state of Competitive Intelligence. There may be more misconceptions than accurate impressions of what Artificial Intelligence can't do. This applies to its current capabilities, but also the misconceptions about its future capabilities are also prevalent.

Many developers oversell the benefits of using their current AI based software. Looking forward, many Consumer Intelligence professionals themselves may greatly misunderstood their vulnerability to being replaced by Artificial Intelligence. When in fact, there are numerous human-only skills that AI can never replace, including the ability to work with unstructured or incomplete data.

Artificial Intelligence supports the process of accumulating data, perspectives, and ideas and then winnowing them down – a process characterized as “intellectual survival of the fittest” in ArchIntel's recent white paper, “The State of Competitive Intelligence Today.”

From scraping the internet for data to helping reveal unseen human biases, AI can support every step within this process. As enthusiastic as our panel was about AI's benefits, the concerns about potential issues were more intense, or at least worthy of further discussion.

The potential to inadvertently compromise ethical standards, a topic area of supreme importance to the Competitive Intelligence field in any context, was a particular concern. Artificial Intelligence tasked with scraping the internet for relevant data is not necessarily taught to avoid firewall breaches or other data that a human analyst would instantly recognize as off-limits.

There was also an undercurrent of the ethical concerns in the discussion of something as simple as translating content from one language to another. A human translator can recognize and would allow for differences in the subtext that two cultures may “hear” in a given text, yet an Artificial Intelligence is likely to provide a translation rife with the biases of its creator.

In the eyes of our panelists, an ethical translation must allow for these differences of subtext and nuance. In the end, effective translation requires eliminating implicit human biases, and thus the call is mounted once again for greater diversity as a means to “a higher-resolution view of reality,” as Arik Johnson stated.

However, our panel was bullish on the current and future stature of Competitive Intelligence. Potential clients facing challenges often turn to CI for support. The current high rate of innovation – including Artificial Intelligence – means that Competitive Intelligence has seldom been better equipped to provide that support.

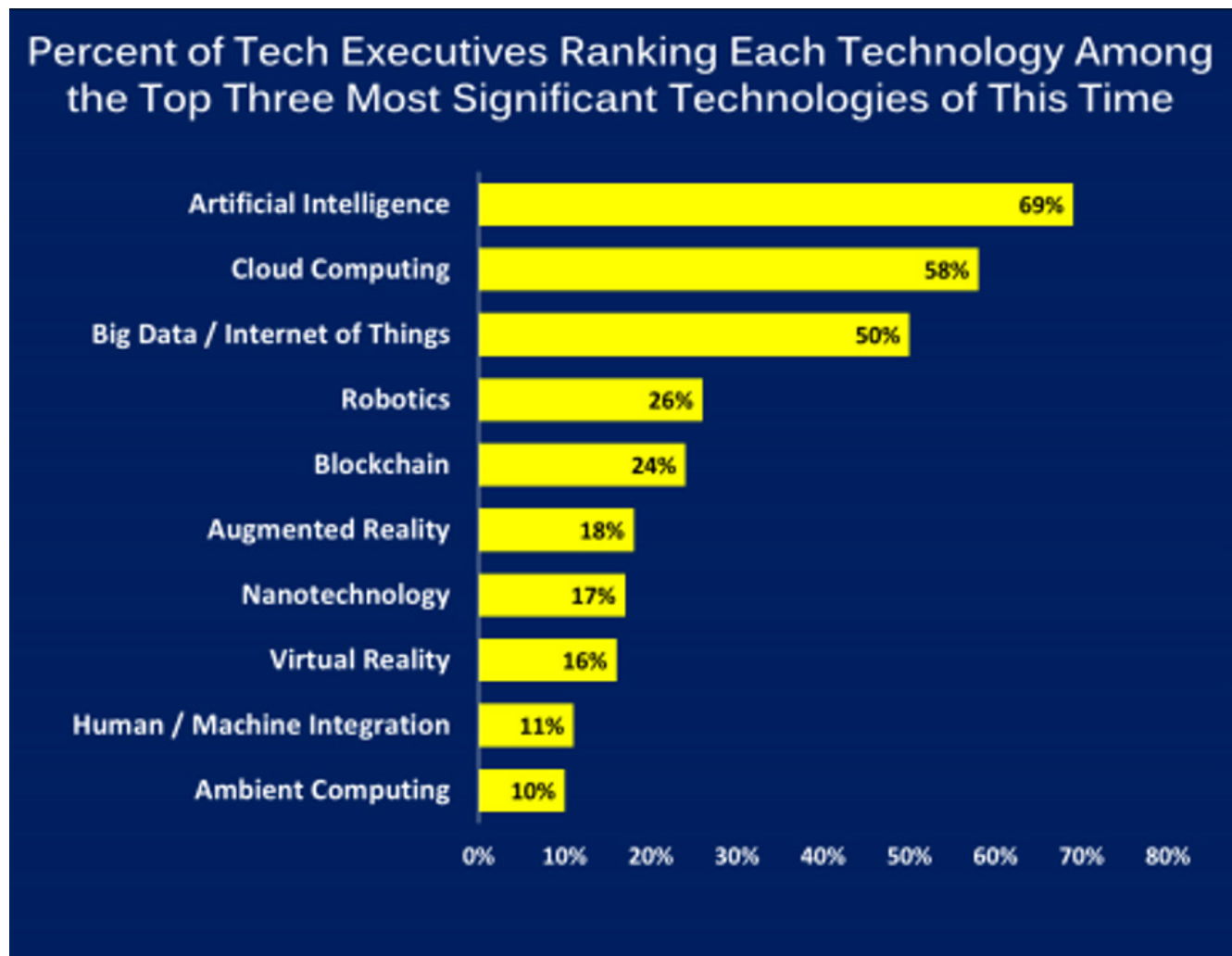
THE CURRENT SITUATION



The Current Situation:

AI Has Executives' Attention

Tech executives cite Artificial Intelligence more often than any other technology as one of the most significant technologies emerging today.



The Current Situation:

Attitudes About AI

Our panelists cited various ways in which Common misunderstandings about what Artificial Intelligence can do, can't do, and must do better prevail among Competitive Intelligence professionals and those who develop CI-based software.

There was a consensus that one of the prevailing misconceptions among CI professionals is that Artificial Intelligence is currently in a more advanced state of development than it really is.

Actually, we're really just at the beginning of the development process despite the fact that many seem to think that "AI has arrived." There's also a disconnect between what current AI products offer and what Competitive Intelligence professionals need.

"If you look at where we are on the hype curve, I think we in the public have a general misunderstanding of what AI really is"

- Dr. Fred Hoffmann

"We're really just at the start of this. Before the Model T made the automobile a sort of universal technology that everyone owned or aspired to own, you had a whole lot of experiments happening before that. I think there will be a lot of consolidations before AI becomes that utility"

- Arik Johnson

If we leverage those things it does remarkably well... that's a home [But] people don't know what AI really does.

-Suki Fuller



There's a feeling that many developers have oversold the capabilities of their AI-based software, and that they have not addressed those shortcomings.

Instead, they attempt to persuade CI professionals that they're the ones who need to do things differently. In addition, many current products sold as Artificial Intelligence-based are still better described as utilizing machine learning, which is not yet as sophisticated as AI.

With that said, our panelists were very enthusiastic about specific AI-based products because they're created and sold by developers who "get it."

Suki Fuller briefly discussed software that does threat detection. "I think that's an area of cybersecurity, but also Competitive Intelligence that comes together and is looking at human interaction. Another company is looking at basically anything that's human error."

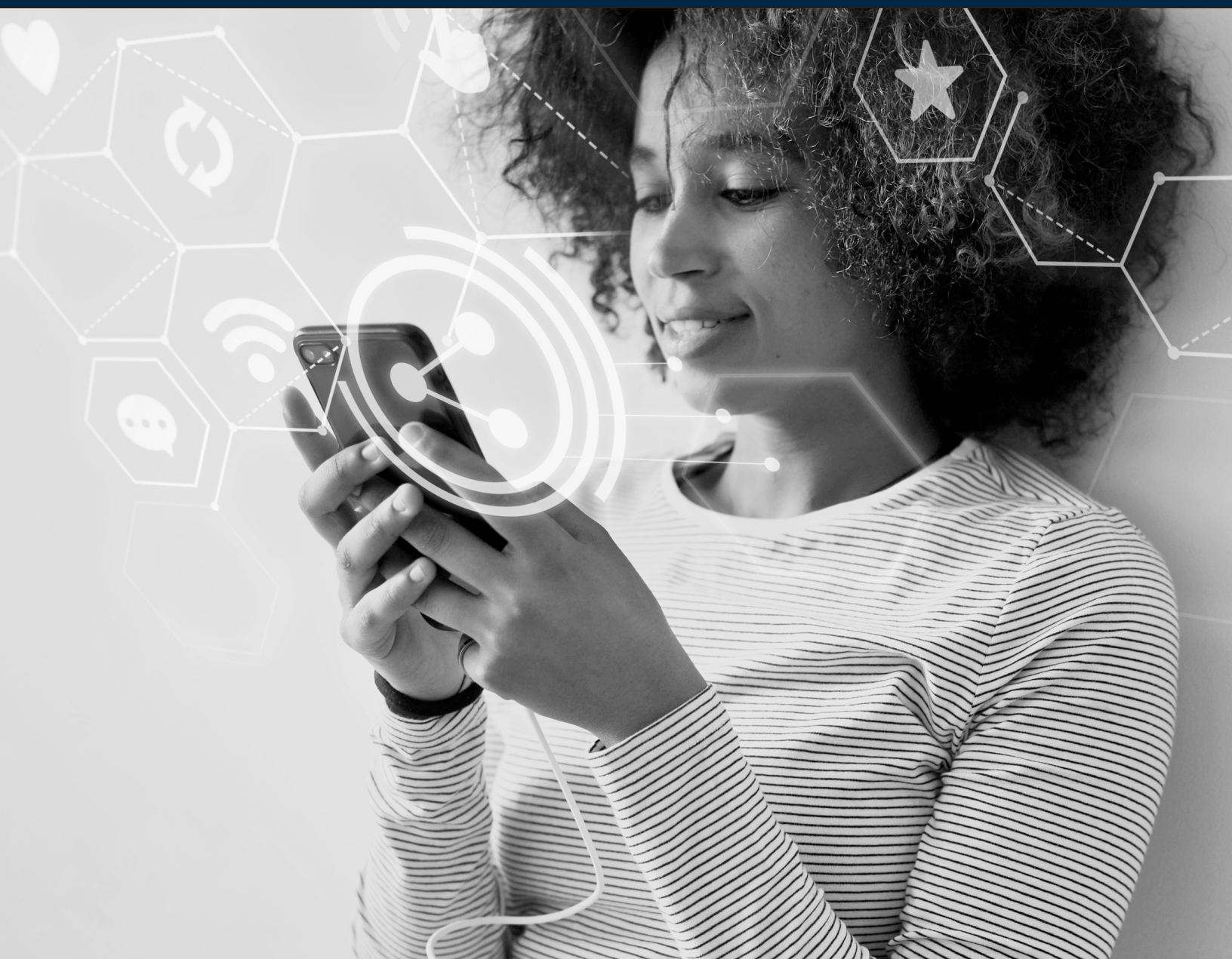
Most AI-based products that are pitched to use really don't deliver on that promise today. And we hear a lot of excuses about why this is out fault. "Your data inputs are too dirty. Your data 's too redundant. Your data is too unstructured." There's a real skills mismatch between what I'll call the squishy way that CI professionals do our work... and the outputs of AI-based tools that really don't connect to any real-world way the CI professional works today.

-August Jackson

The differentiation comes in between machine learning, which is just automating these repeatable tasks, and this broader AI that's able to cut across [tasks]. You don't want your GPS to play chess... This is what we want to migrate toward.

-Dr. Fred Hoffman

WHAT AI CAN'T DO, CAN DO, AND MUST DO BETTER



What Artificial Intelligence Can't Do

We'll discuss what AI can't do before going into detail on what it can do and what it must do better, for a simple reason: it needs to be stated that Artificial Intelligence can't replace a human analyst. This appears to be a prevailing concern among many Competitive Intelligence professionals, but our panelists had compelling reasons to dismiss the possibility.

These reasons all fall under the heading of what's sometimes known as "right-brain skills." August Jackson provided a list of five values no AI will ever be able to duplicate: ingenuity, ethics, empathy, transparency, and an awareness of human psychology.

In particular, no Artificial Intelligence can match the human talent of processing messy, disorganized, or incomplete data – the wellsprings of what August Jackson earlier referred to as "the squishy way that CI professionals do our work."

This includes being able to anticipate potential outcomes in situations with no real historical precedent, and no relevant data that an AI could process, such as the repercussions of the COVID-19 pandemic as it was viewed earlier in the year.

"There's also a certain undercurrent of fear, that AI might displace a lot of the work we do, or displace us entirely... I've encountered some vendors that are bold enough to claim that they can replace the intelligence analyst. And I don't believe that at all... It really is up to us as a professional community to set the agenda for how AI will enable competitive Intelligence, not replace us"

-August Jackson

"The one thing I don't believe AI will ever replace... is the creativity that really embodies what analysis is. Analysis is a form of art... and that exemplifies what human intelligence analysts will be doing, at least for the quarter century or so ahead – being the most creative imaginative people in the room"

-Arik Johnson

Suki Fuller also pointed out that the shortfall in our abilities to predict the spread of the virus was “a reflection of our society, because people are transient. They’re traveling at a [greater] rate. The speed with which this got from one side of the world to the next, there’s no way you could model that, because the people that were 10 carriers were actually not carriers according to normal models.

Before it was the people that were in emerging countries that were carriers, now this was everybody – so historically you couldn’t equate for that.” Where an AI-driven approach is hamstrung by dependence on established patterns, Competitive Intelligence professionals can develop more qualitatively-driven scenarios when unprecedented events occur.

“It’s really not predictive until you add in the human element. The computer can [only] tell you what happened in the past. I hate the phrase “predictive analytics”

-Suki Fuller

“There are core questions that no AI will ever be able to ask and answer – particularly thing like “So what?” and “What if?”

-August Jackson

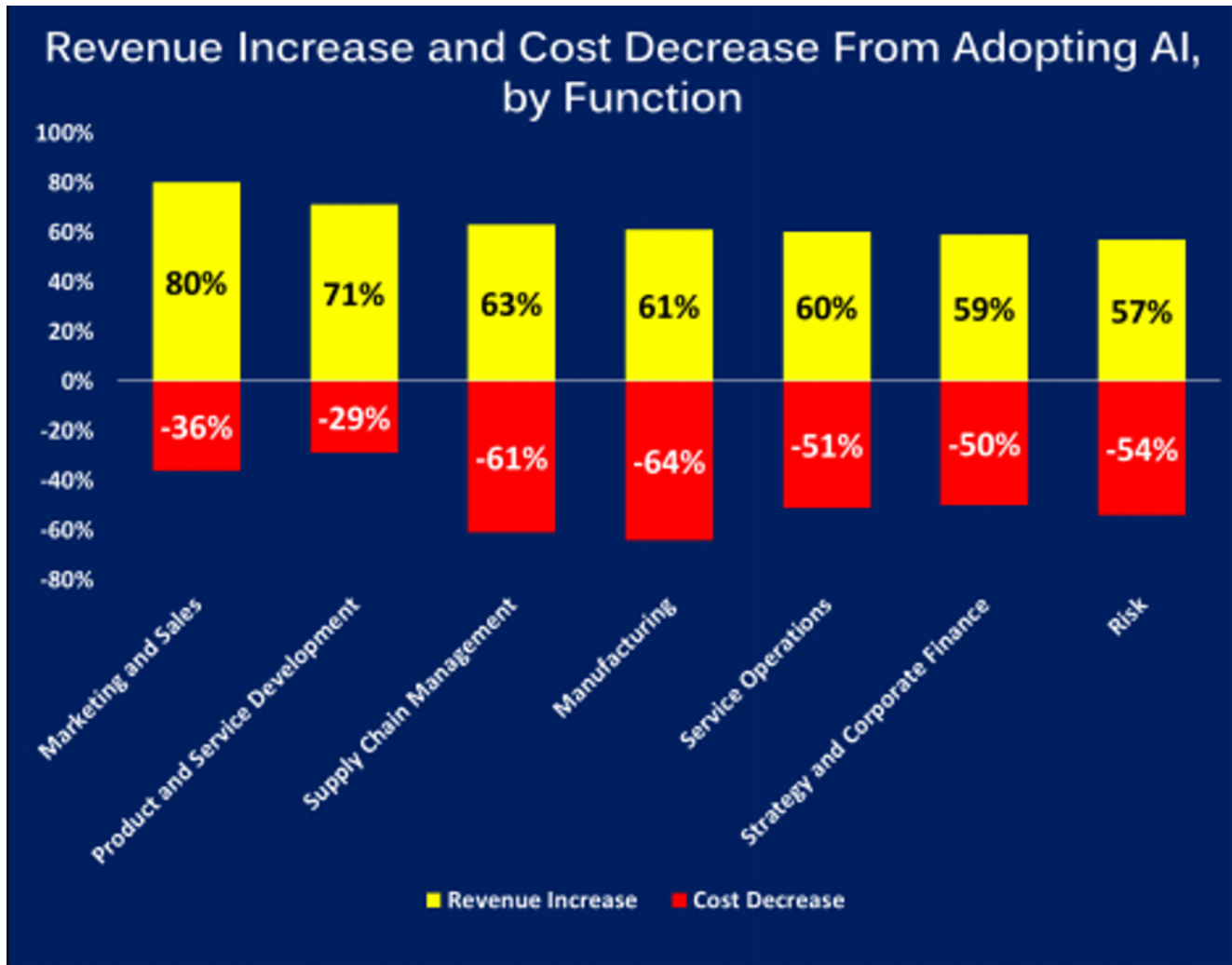




What Artificial Intelligence can do:

Improve the Bottom Line

At its most basic (i.e., in accounting terms), Artificial Intelligence has already made a significant impact. Marketing and sales have seen the largest benefits of increasing revenue, while Manufacturing and Supply Chain Management have leveraged AI for the largest cost decreases.



Frameworks for Discussing What AI Can Do

In addition, our panelists elaborated about the ways in which Artificial Intelligence can support CI. These can be framed by a process we described in our first white paper on The State of Competitive Intelligence as “intellectual survival of the fittest.”

It’s a process that starts by compiling as many perspectives and ideas as possible and subjecting each to debate in order to winnow them down to the “last, best idea standing.” The two complementary skills involved are, initially, open-mindedness, followed by skepticism.

This perspective on the philosophy and process is seemingly congruent with that proposed by Arik Johnson. He aptly described the outcome of this process as “a higher-resolution view of reality.” And in fact, this trio of conceptual steps – discovery, optimality, and simulation – served to frame the entire discussion of AI and its role in Competitive Intelligence very well.

“The three primary use cases are discovery, optimality, and simulation. As long as Competitive Intelligence analysis can think in terms of those buckets, I think we can create a new value chain around what AI and CI can be”

- Arik Johnson

“I see AI and its application in three different stages. One is to expand the funnel of choices that are available to choice-makers... The second stage then is really verifying, doing due diligence around the choices and optimizing the choices... and in order to do that stage three is simulating the outcome of those choices. We’ve done that for a long, long time”

- Arik Johnson

“Artificial Intelligence and machine learning tools that are developed for the Competitive Intelligence community will deliver real value... They’ll enable us to truly find the needles in the haystack and connect the dots; they’ll help us bridge the qualitative and quantitative gaps in our analysis; and they’ll help us bridge the gaps in primary and secondary research”

- August Jackson

What Artificial Intelligence can do:

Support Discovery

As August Jackson stated earlier in the event, “AI will help us truly find the needles in the haystack.” Among the other ways it will do this, the efforts to mine Big Data will become increasingly efficient as AI’s reach continues to grow.

It’s not surprising that our panelists spent relatively little time discussing those aspects of Artificial Intelligence that are supporting discovery. AI’s abilities to translate foreign text or automate data scraping are reasonably familiar to most audience members. These roles for AI were discussed in the context of ethical issues or things AI must do better. These concerns will be addressed in separate sections later in this paper.

There are things it cannot do, but there are things it does remarkably well, and if we leverage those things it does remarkably well – maybe natural language processing, pulling data from openly available media sources, those kind of things – that’s a home run.

-Dr. Fred Hoffman



What Artificial Intelligence can do:

Support Optimality

Our panelists have seen great potential for Artificial Intelligence in terms of what we'll call its objectivity. When framed in terms of the process of winnowing ideas, AI can play an important role at the beginning of the process by serving as an effective counter-balance to human biases.

By reviewing and analyzing the biases and psychologies of individual humans in a systematic fashion. It can also help provide insight into which of the various ideas on the table need to be modified or discarded because of human error. And yet, Artificial Intelligence still has its own biases.



"Competitive intelligence is more important now than ever before. You have to prioritize investing in and bidding on the opportunities when you have the best chance to win and need to eliminate the outliers where you will not be competitive."

- Ronald "Fog" Hahn

"Especially today with firms trying to do more with less, competitive intelligence has a big role in helping them figure out which resources to allocate to which projects."

- Joel Koerber

We aim to provide actionable intelligence. And by that, I mean providing enough insight for the team to say, "I need to change my strategy because of what we believe the competitor is going to do" or "I'm on the right track to be successful."

- Jennifer Marrior

What Artificial Intelligence can do:

Support Simulation

Another strength of AI lies in its ability to help us connect the dots. While pattern recognition at its highest level will remain a uniquely human skill for the foreseeable future, AI can and does find correlations buried deeply in data sets.

(Of course, those correlations must be further analyzed for potential causality by human beings!) But Arik Johnson discussed AI's role in the development of ontologies – the conceptualization of a subject's properties and the relations between them. This helps to elevate our abilities to simulate, including our ability to simulate human bias and human error.



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- Jennifer Marrior

What Artificial Intelligence must do better:

Build In Ethical Considerations

If there's one question that produced the most trepidation among our panelists, it's regarding the potential for ethical violations when Artificial Intelligence is turned loose in search of data. AI has little or no ability, at least at the present, to recognize a firewall breach and halt its probing at the opening.

As we all know and our previous report underscored, there is nothing that matters more to a Competitive Intelligence professional than maintaining ethical purity, both in fact and reputation. Is it possible to build that same high regard for ethics into Artificial Intelligence? Possibly, yet someone must stand up and provide a real solution to the issues of a potentially devastating ethical mistake by even one AI foray into data scraping.

There are additional concerns about ambiguity in terms of the ethics surrounding AI. This is particularly problematic in a field whose practitioners refuse to venture anywhere near the gray area. Yet there are significant questions about which jurisdictions and which norms apply when AI extends its data-seeking reach internationally.

"Bad" Activities by Bots Are on The Rise. Bots now account for just over half of all internet traffic. Even more significantly, roughly 60 percent of those are considered "bad" bots. But it should also be pointed out that bots are designated "good or bad" in regards to their intended use. Thus, when our panelists discussed inadvertent unethical behavior such as a data-scraping bots passing through a breach in a firewall, this would still be classified as a "good" bot. Thus, activity with negative repercussions would account for even more than the 28.9% indicated in this chart.

What Artificial Intelligence must do better:

Wring Out Bias

As Suki Fuller described, AI is helping to make people aware of their own biases, and at least to a limited extent, confront them. However, AI itself can and often does have built-in biases of its own.

The question was brought into focus when the panel discussed translation. Arik Johnson related an anecdote about attending a conference in China and comparing notes on the translation he received with a Chinese-speaker seated next to him. The messages were in some cases quite different.

Similarly, Suki Fuller pointed out that, “When you’re looking at an English newspaper, a German newspaper and a newspaper in Mandarin, it can be the same paragraph but when you read them, there’s entirely different things. In German, it’s usually the literal translation of the word. In English, there’s some kind of subtext, a nuance.” These differences aren’t just willful distortions for political reasons, although that can play a role. These are a direct result of different cultures imbuing words with different subtexts, and most people aren’t even aware of the subtexts through which they “hear” meaning.

Any AI that translates from one language to another will have baggage relating to the cultural interpretations they’ve been influenced by. The first step in overcoming the detrimental effects of biases, whether overtly human biases or human biases made to manifest in Artificial Intelligence, is to be more aware of them through greater exposure to diverse perspectives. 20 As with all uses for Artificial Intelligence, an accurate and unbiased translation will always require human inputs.

This is true despite the rapid gains in the quality of translations provided by AI. The graph below shows one expert’s interpretation of how the improvements in quality accelerated when Artificial Intelligence (in the form of Neural Networks) was introduced. (It’s worth noting that Google Translate moved to use neural networks in 2016.) Even still, neural network-based translators will never fully replace human translators in the eyes of the experts.

A Last Note on the Future of Competitive Intelligence

Is Competitive Intelligence on the Brink of a Golden Age?

Our panelists were enthusiastic about the current stature of Competitive Intelligence in the larger business world and the world more generally – each seemingly more so than the next. Innovation, of which Artificial Intelligence is just one facet, is accelerating.

But much of the elevation of CI's importance, as perceived by those outside the field, has to do with the situations the latter group finds themselves in. Potential clients, internal and external, are stressed by COVID-19 and its potential ripple effects, including the economic ripple effects. In times like these, they often turn to Competitive Intelligence for insights, strategic direction and general support. Competitive Intelligence is better equipped to provide those benefits than ever before in recent history.



BIOGRAPHIES



August Jackson

Senior Director of Market and Competitive Intelligence for Deltek



As the Senior Director of Market and Competitive Intelligence for Deltek, August Jackson has worked as a competitive intelligence and strategy professional with a speciality in information technology and data for more than 23 years. Jackson is recognized as an expert in applying emerging technologies to market and competitive intelligence challenges.

He works to guide Deltek's strategic decisions such as product development, market entry, mergers, and acquisitions. Jackson has a proven track record of applying competitive and strategic analysis to anticipate competitive dynamics and long-term innovation and disruption. He is also a member of the Council of Competitive Intelligence Fellows and was the former chair of the Strategic and Competitive Intelligence Professionals (SCIP).

Suki Fuller

Fellow for The Council of Competitive Intelligence Fellows

Suki Fuller is a fellow of The Council of Competitive Intelligence Fellows. She has over 19 years of experience as an intelligence advisor across several different sectors, including security living, chemical engineering, academia, national security, law enforcement as well as private corporations.

Fuller has a long history of working across globe (MENA, EU, China, UK and US), and served as a board member for Tech London Advocates and Global Tech Advocates. She was recognized earlier in her career for early adoption of agile competitive and emergent strategies for intelligence analysis. In addition, she has earned the Mercyhurst University Distinguished Alumni Award, Computer Weekly Most Influential Women in UK Tech Top 50 list twice and various other awards in the competitive intelligence sector.



Arik Johnson

Chairman of Aurora Worldwide Development Corp.



For the past fifteen years, Arik Johnson is the founder and has served as chairman of Aurora Worldwide Development Corp. (Aurora WDC) since 1995. In addition, Johnson has also served as a managing director with the Centers for Open Reconnaissance (COR.vc) to work on problem sets presented outside of traditional competitive intelligence doctrine since 2009.

Johnson has extensive experience and oversight of artificial intelligence and machine learning's future in the government contracting, federal and intelligence sectors. He's also served for Strategic and Competitive Intelligence Professionals (SCIP), the Council of CI Fellows, Europe's Institute for CI, various collaborations in Greater China, and many other of Aurora's own initiatives in volunteer and other roles over his extensive career in competitive intelligence.

Fred Hoffman

Interim Chairman, Assistant Professor of Intelligence Studies for Mercyhurst University

Fred Hoffman served as a human intelligence practitioner for over 30 years before transitioning into the competitive intelligence sector seven years ago. His wide range of experience includes expertise in intelligence and national security, information warfare and operations, intellectual property protection, cybersecurity as well as national and organizational culture.

Hoffman currently serves as interim chairman and assistant professor of Intelligence Studies for Mercyhurst University in Erie, Pennsylvania. Prior to joining the institution, he taught as an associate professor of Military Science at The Johns Hopkins University, where he taught courses on national security and the intelligence community.





Jim Garrettson

Jim Garrettson is a Washington D.C. based entrepreneur whose ventures include various membership based organizations, media properties and our open source research tool, ArchIntel. ArchIntel was founded in 2015, as a tool to maximize a company's competitive edge with customized daily reports.

Jim's primary focus has always been to weave together a fabric of like minded individuals who support the mission of the government contracting community. After the dot com crash of the 2000's Jim left the telecom industry and in 2002 founded his first of many networking organizations, that, like ArchIntel, exist to create an environment where executives of consequence can network with one another, all while learning how they can better support the mission. Jim Garrettson currently resides in the DC-Metro area where he continues to build the most prestigious networks in GovCon.

