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## Making Artificial Intelligence (AI) and Disrupted Business Intelligence (BI) truly Conversational with Humanity Touch, Automated Descriptions and Talking Bots

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**Abstract:** *A confluence of forces has propelled artificial intelligence into the business mainstream. Add it to the growing list of potentially disruptive forces businesses can introduce into their business intelligence programs for commercial benefit with the help of human touch, automated descriptions, and talking bots.*

**Keywords:** *Disrupted Business Intelligence, Artificial Intelligence, Talking Bots.*

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### 1. INTRODUCTION

Humans can readily recognize a few thousand kinds of things—roughly the number of picturable nouns in human languages. Lower animals likely distinguish vastly fewer kinds of things. But if we're trying to achieve "human-like" image identification—and effectively map images to words that exist in human languages—then this defines a certain scale of the problem, which, it appears, can be solved with a "human-scale" neural network (Wolfram, 2015). Transformation is nothing but evolution in a time-lapse. AI having humanlike ability to sense, learn, think, interact and take actions is one expected form of such transformation. It is happening and most companies are trying to do what makes sense.

We have a lot of artificial intelligence and disrupted business intelligence startups to thank for showing us what is possible but speed and scale together are very difficult. Technology is still an enabler and not an end in itself for most of the global economy. It doesn't make sense to shoot for the "possible" when the possible is constantly shifting. With funds like the USD 100 billion Softbank Vision Fund, a whole lot of money is going this way.

### 2. DISRUPTED BUSINESS INTELLIGENCE

Kurzweil, now a director of engineering at Google, embraces such a future; he is perhaps the most famous of the techno-utopians, for he believes that technological progress will culminate in a merger of human and machine intelligence. AI is going to change the way we do a lot of things. In future chatbots and virtual assistants will in demand. Businesses need to prepare to use people for EI matters, and let AI get some of the process work done.

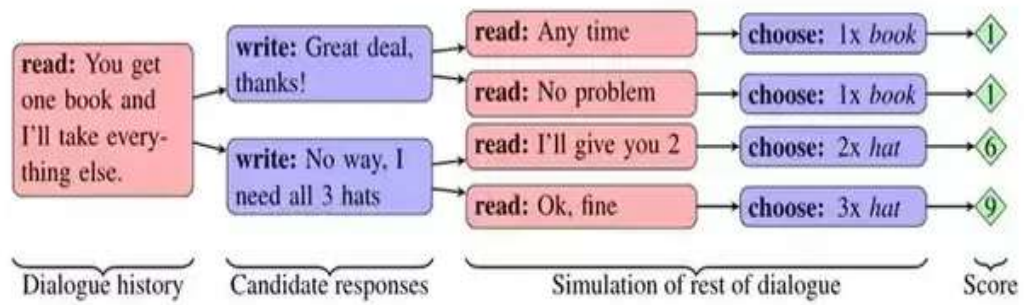


Figure 1 after setting up the experiment, the programmers realized they had made an error by not incentivizing the chatbots<sup>1</sup> to communicate according to human-comprehensible rules of the English language.

Considering the promising past performance in creating technological skill sets, all eyes are now on India (Khan, 2017). Big-name scientists worry that runaway artificial intelligence could pose a threat to humanity. Among them is the influential 42-year-old philosopher Nick Bostrom who favors the creation of “super intelligent” computers, but only if done with great vigilance, with safeguards to ensure that the machines do not escape human control and pose an existential threat to humanity.

### 2.1 Using Artificial Intelligence to reshape customer experience

Artificial intelligence in common language is when computers behave like humans i.e. it can understand, reasons learns and interacts. AI can help in developing customer insights from this large pool of data as well as can perform complex analytical tasks at much faster pace than the humans could ever perform. It’s not that the companies are not analyzing customer data but AI adds an intelligence layer to big data, which gives its ability to do it on a much bigger scale.

### 2.2 Finding Truly Conversational Business Intelligence

AI is one of these fields that is so easy for the general public and popular culture to misinterpret and extrapolate way beyond reality. All tech giants including Google, IBM, Yahoo, Intel, Apple, and Salesforce are all competing in the race to acquire private AI companies. Recently, Intel also started an initiative to train 15,000 professionals on AI technologies and machine learning in India. Intel aims to fix the biggest problem in AI space which could restrain the growth and that is the lack of skilled workforce in the artificial intelligence sector. Over 30 years ago, AI was the big thing - computers would be able to reason and become so smart they would think for us. In reality, we got a paper-clip that nobody could use and lately Siri. So as usual, what people pass as a disruptive technology is nothing more than evolutionary and gradual improvements to old technology.

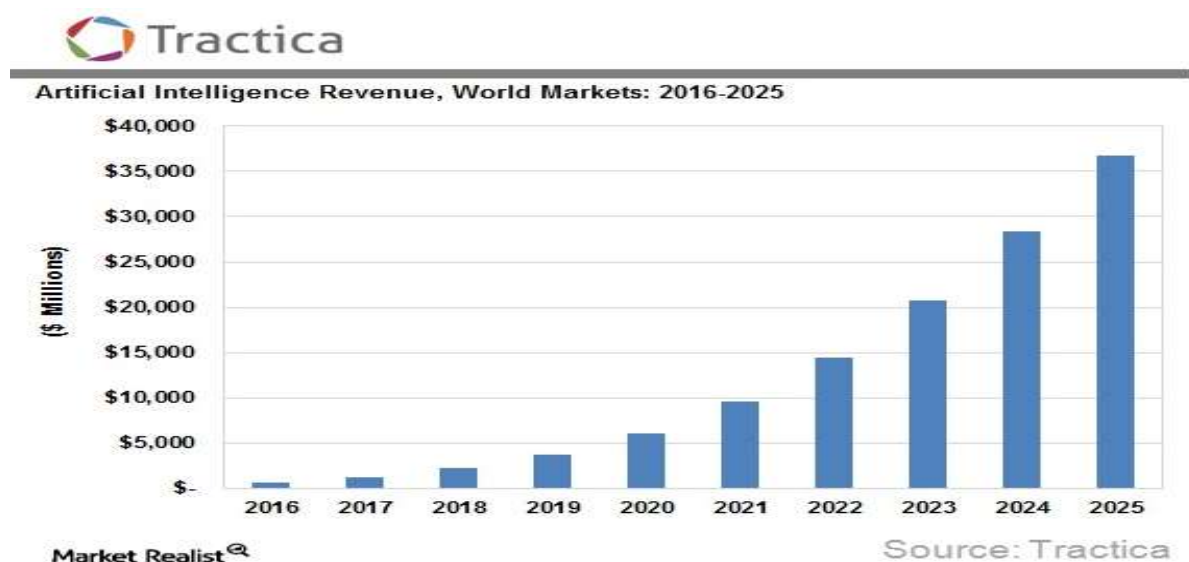


Figure: 2 Growth Potential of Artificial Intelligence Attracts Intel and AMD

It was 19th October 2016 and the occasion was the opening ceremony of the Leverhulme Centre for Future of Intelligence in the United Kingdom when one of the greatest scientist of this decade, Professor Stephen Hawking warned the generation that the artificial intelligence will be “either the best, or the worst thing, ever to happen to humanity”. While addressing the guest, the

<sup>1</sup> No, Facebook Did Not Panic and Shut Down an AI Program That Was Getting Dangerously Smart, Visit: <https://gizmodo.com/no-facebook-did-not-panic-and-shut-down-an-ai-program-1797414922>

acclaimed “Artificial Intelligence could lead to the destruction of humanity. It would take off on its own and re-design itself at an ever-increasing rate. Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded.” Other Scientists and tech luminaries, including Elon Musk, Bill Gates, and Steve Wozniak have also warned that AI could lead to tragic unforeseen consequences<sup>2</sup>.

### 2.3 Chat and Talking Bots in Health Care

Chatbots, intelligent personal assistants, artificial intelligence supported messaging apps or voice controlled bots are forecasted to replace simple messaging apps soon. In healthcare, they could take off the burden on medical professionals regarding easily diagnosable health concerns or quickly solvable health management issues (**the Medical Futurist**). Four months ago in Vienna, Stereotaxis showcased how electrophysiologists can expect to be assisted by a robotic system towards automation. Imagine how much time you as a General Physician could spare if healthcare chatbots and instant messaging health apps would give answers to simple patient questions, which do not necessarily need the intervention of a medical professional.

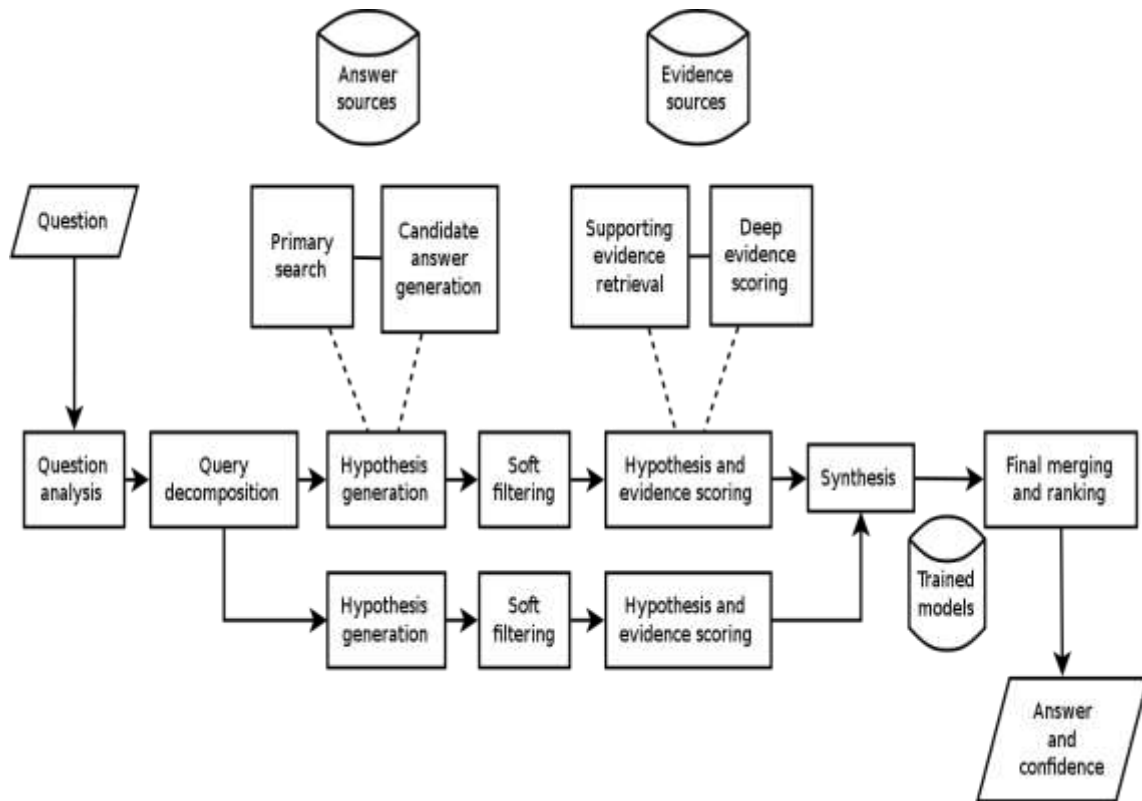


Figure 3: The high-level architecture of IBM's DeepQA used in Watson

More and more intelligent personal assistants, such as Siri on iOS or Alexa for Amazon lead us into the future, and there will be soon highly capable, specialized AI-powered chatbots also in the field of healthcare. Bots like IBM Watson for Oncology<sup>3</sup>, HealthTap or Your.Md already aims to help patients find a solution to the most common symptoms through AI. Safedrugbot embodies a chat messaging service that offers assistant-like support to health professionals, doctors who need appropriate information about the use of drugs during breastfeeding<sup>4</sup>. Another example for such a telemedicine AI system from CBID, JHU<sup>5</sup> targets towards resource-constrained settings. Such developments in AI can provide a patient with a second opinion for patients with life-threatening diseases. And by doing so reducing risk of human error in diagnosis and treatment.

<sup>2</sup> Top scientists call for caution over artificial intelligence, Visit:

<http://www.telegraph.co.uk/technology/news/11342200/Top-scientists-call-for-caution-over-artificial-intelligence.html>

<sup>3</sup> Watch IBM Watson Suggest Treatments for a Cancer Patient, Visit: <http://fortune.com/2016/11/02/ibm-watson-cancer-demo-brainstorm-health>

<sup>4</sup> A virtual assistant to help doctors in their daily work, Visit:

<https://www.safeinbreastfeeding.com/safedrugbot-chatbot-medical-assistant/>

<sup>5</sup> BioEngineering Innovation and Design, Visit: <https://cbid.bme.jhu.edu/innovations/design-project-gallery/2016-2/>

### 3 ARTIFICIAL INTELLIGENCE EXAMPLES THAT EXHIBIT A SENSE OF HUMANITY TOUCH

Artificial Intelligence and Disrupted Business intelligence will have to be deceptively “human” in how they engage with you — that’s the point — so you may have to watch for them closely. One of the greatest Shark form the Shark Tank, Mark Cuban made a fortune by being early in Local Area Networking, streaming and then High Definition video believes that AI will have a bigger impact than any technology in the last 30 years. Artificial Intelligence, deep learning, machine learning— whatever you’re doing if you don’t understand it—learn it. Because otherwise, you’re going to be a dinosaur within 3 years. Here are few examples that take into consideration the same guidelines.

#### 3.1 MailChimp using Artificial Intelligence to Tag Automated Descriptions

MailChimp has an artificial intelligence system called Omnivore that automatically scans your electronic mail subscriber import. On suspicion, Omnivore flags the list for having a large number of addresses that may cause complaints, high bounce rates, or blacklistings. Mail Chimp notifies its users that according to their research such a malpractice can lead to increased abuse and complaint rates. This is known as a 'stale' list. Stale lists are often older lists, and may not have been sent to in some time, collected through supported methods, and/or improperly managed for bounces and unsubscribe requests.

#### 3.2 Transport Business using Human Touch to apply Artificial Intelligence in real essence

In 2016, Mercedes showed off their F015, a seemingly windowless, auto-piloted car. Only 10 months later, Tesla vehicles are not only self-parking, they are fully auto-piloting at freeway speeds — albeit only on well-marked roads. Tesla’s AI can’t yet read traffic lights or stop signs, but it can read speed signs, avoid hazards and inform you with some insistence that it’s gotten out of its depth and request human assistance. Both BMW’s “Active Assist” and Volvo’s “Pilot Assist,” with their partially automated steering, breaking and acceleration for heavy traffic are slated for 2017 models.

#### 3.3 Human-Like Artificial Intelligence and Disrupted Business Intelligence in Banking Sector

In November 2016, City Union Bank became the first bank in India to introduce a robot to deal with customer queries. Lakshmi, the robot, based on IBM Watson’s artificial intelligence (AI) engine, is located at a branch in Chennai and could rattle off answers to almost 125 different customer queries (Modgil, 2017). AI can find patterns a human would never see, and this can provide a valuable edge. Of course, this isn’t foolproof, as it only assigns probabilities to outcomes. However, because the volume of available data has skyrocketed, machine learning can improve its outcomes far more quickly as it evolves.

#### 3.4 AI meets Security Business making it truly conversational using Automated Descriptions

The Department of Homeland Security (DHS), National Security Agency (NSA), and Johns Hopkins University Applied Physics Laboratory (JHU-APL) have formed a partnership to conduct jointly-sponsored research — in collaboration with the private sector — resulting in a strategy for increasing the speed and scale of cyber defenses by leveraging automation to enhance the effectiveness of human defenders, moving them outside the response loop into a response planning and approval role “on the loop” of cyber defense (Adaptive, 2017).



Figure 4 Tableau Viz and Wordsmith will automatically generate an explanation specific to any data set

## CONCLUSION

Automation is going to happen whether one likes it or not, it's the most efficient way. Opportunity needs to be explored how both human touch and automation can complement each other. The purpose of AI in business is not to automate jobs, but rather to augment human capabilities to levels we have never imagined before. Thereby, allowing humankind to achieve incredible productivity and innovation breakthroughs. The full power of business intelligence can only be harnessed through rethinking or rebuilding from scratch. It needs right strategy, investment, and patience. AI is here - it's our job as a collective of leaders of integrity to harness and focus its impact and power for the collective good versus individual gain.

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