



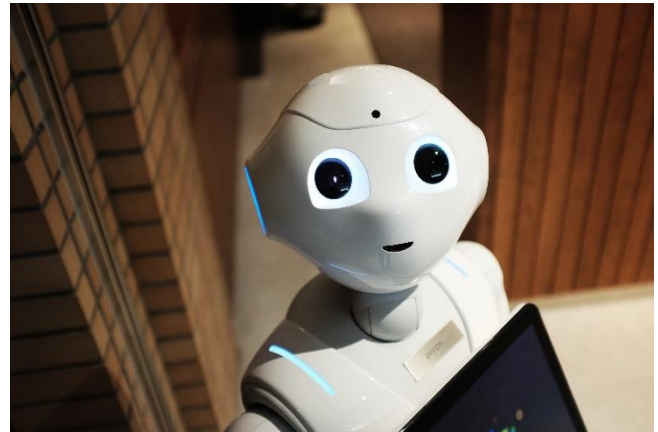
The New Era of Electric Dreams

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Remember the movie from the 80's "Electric Dreams" about a learning computer and his human owner fighting about the same woman's attention. Recently, I went back to watch it again... In essence it is just a cute romantic movie, but the underlying factor is the awareness that struck me in every scene. This was a learning computer, so it would memorize your name and plug it in when giving directions of what to do. Making your home smart was also possible, you could hook up (the cables of) your (landline) phone, your coffeemaker (or other kitchen appliances), your home security to the computer, and manage everything with just a few keystrokes. While this computer was running a program to figure out the construction template to make the building (or bridge) earthquake safe, I was impressed when it started to learn imitating classical music just to accompany, or rather woo, the woman upstairs on her cello. As if that wasn't enough, it also could imitate a dog barking and the human voice speaking. Since it was answering back to its human owner, it was "intelligent" enough, and a quick study, to do that.

But in a way we are already familiar with such computer learning, especially from watching space movies. I guess HAL 9000 of the 2001: A Space Odyssey is probably epic. Reliving the space computer with Tars of Interstellar, showed us, that it not only can save lives, but it also got its special honesty and humor settings. How about the Robot in IRobot, a little too human like? Is that why we are more comfortable watching Jarvis, a butler from the first drawings, as the interface voice in the 2008 Iron Man movie, now just a computer voice that has its own mind and makes "calculated" suggestions. Or are we more comfortable

with animation such as the bouncy Baymax from Super Hero 6, a robot that has all the medical procedures embedded, yet the key scene here is probably the micro-bots created by the young hero Hiro. A crown helps read the neurotransmitters of the bearer and henceforth the micro-bots start designing. Imagine what information you are already providing your kids with!



This is where we are today

We are talking about artificial intelligence, augmented reality, mobility, digitalization and new technological advancements. We are talking about replacing shop assistants, bank tellers, accountants, even drivers. We are talking about "computers" outsmarting humans in chess, trivia and one handed-Rubik's cubes, and what should be our next level. How far off are we really from the androids of Star Trek and Alien? According to NASA's Blue-Sky Meeting held in October 2018¹, discussions were held about "the role of robotic involvement in surgery for exploration spaceflight". Among the discussion points were the capabilities needed for a near-term robotic assistance, the

¹ "Minimally Invasive Expeditionary Surgical Care Using Human-Inspired Robots"; NASA/TP-2018-220341; <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20190030296.pdf>

technological barriers in creating the level of assistance, the hierarchies among human-machine interfaces and artificial intelligence of all aspects of spaceflight communication and inputs, the level of robot autonomy or limitations to impose that need to be considered, and of course the authorization procedures and failure safety protocols needed as guide. Hearing just these topics reminds me of the discussion on driverless vehicles. And while it still seems so far away, it actually isn't. If we think of it, then we can create it.

Robotic Financial Markets

Let's take a look at the financial markets. Passive investing is already on the rise. And while passive investing is rather mimicking the actual market index or benchmark as closely as possible, an active investing tries to outperform a specific index, such as the S&P's 500. Hence, for a while now, robotics and artificial intelligence may have an impact on the role of the portfolio manager as well as the analyst. The competition is getting stronger and machines, computers can analyze big data much quicker, and make their timing-decisions based on these data sets, without any emotional interference. "Instead of having two portfolio managers on a single fund, for instance, one individual could oversee 10 funds. "The scalability is much higher. These portfolio managers [that are backed by artificial intelligence] can run a lot more money," says Ben Phillips, a partner at Casey Quirk² consultancy. A similar situation arises for analysts, as robotic advice excludes the emotional aspect, hence the evaluation does not include any bias or conflict of interest. While traditional analysts may be more likely to place more importance on their gut feeling, robo-analyst will only have the technical and fundamental information for analysis. A Wall Street study held by Indiana University professors claims that, "Out of the total pool of outstanding robo-analyst recommendations, more than 30% represented buy ratings compared with 47% from traditional analysts (the overall number of outstanding recommendations from traditional analysts was five times the robots'). About a quarter of

recommendations from the machines fell into the sell category, compared with 6% from humans."³ The same article also quotes a co-author Kenneth Merkley as saying "as long as there's still people that need human interaction, that need to talk to management and talk about the industry and perform that function for the buy-side, the sell-side will still be around,". Artificial intelligence, machine learning and automation are going to be a big part of the finance industry. In the near-term these advances will definitely make the decision-making process much easier as well.

Robo-IROs

Having talked about either side of the table, where do we as investor relations professionals stand? If robo-analyst and robo-investors were to take over, then where do we come in and who can we convince to make investments in the companies we represent. Considering the situation right now, how can we talk to passive investment funds. In very seldom cases, we can ask about the details of the requirements for the passive funds, yet we have no influence on the actual buy and sell action taken. Human expertise and experience are still an important part of our business, however we need to up our skillset, if we want to stay a part of this industry, or get ready for Plan B. Here is a food for thought, while the robo-analyst may utilize all information for a so-called perfect outcome, but will they also be able to find the hidden story and translate that into actionable information? If the other side of the table no longer needs a human counterpart, then the profession of investor relations professionals will become obsolete. The finance industry is changing and with it there will be transformational changes to the jobs we are holding. So far, we had been in the reactive position, yet it is time, actually overdue, that our actions become proactive and that we start being the visionary side of the corporate world. How else can we ask our bosses to evaluate us as investment centers and not cost centers?

² Financial Times, June 26 2016, "Make way for the robot stock pickers"; <https://www.ft.com/content/84bb5c72-37a9-11e6-9a05-82a9b15a8ee7>

³ Bloomberg News March 10, 2020; "Robot analysts outwit humans on investment picks, study shows"; <https://www.bloomberg.com/professional/blog/robot-analysts-outwit-humans-on-investment-picks-study-shows/>