Crowdscanning: The future of open innovation and artificial intelligence

2/8/2017

Imagine a future where the CEO of a manufacturing firm turns to his Chief Innovation Officer and asks: *"Bob, how can we innovate on our product and save 10 per cent of production cost to stay competitive against low-cost firms?"* So far this seems to be a normal conversation that occurs daily across organisations around the world. Except that 'Bob' is really an AI computer program on the CEO's iPhone.

A study from Oxford University says that A.I. will replace up to 45 per cent of jobs within 20 years. There is a lot of talk about how such intelligent systems and chatbots will eliminate low level jobs, customer service and repetitive tasks. Let's review, as examples, some actual practices where Artificial Intelligence (AI) is already changing the way jobs are performed.

Customer service

Smart *chatbots* are already being used to interact with customers online. They not only repeat pre-defined answers but can actually 'think' and help customers order menus at Taco Bell or get tickets from Ticketmaster.

Recruiting and HR

Many of the current functions of a recruiter consist of standard tasks that a smart machine can do as well as a human. Traditionally, recruiters receive the needed requirements for a job, search candidates, screen best fits, check availabilities and then present best candidates back to hiring manager. These five fundamental tasks will be taken over by the 'AI Recruiter' in the next few years. Some initial new technologies and startups like Zyncd, Wade&Wendy and Mya are first generation A.I. recruiting tools that will shake up this market.

But will A.I. reach the top echelon of innovation jobs too?

While the world seems to agree that repetitive tasks will be outsourced to machines, there is a wrong belief that advisory roles and creative jobs will be safe from A.I. While there is surely a lot of truth to that, there is also a lot of arrogance in such thinking and underestimating the creative power of A.I.

We have seen *IBM Watson* going into helping and potentially replacing white-collar jobs in financial advisory and health care diagnosis. Ok, but what about innovation? We have been trained about the power of open innovation for enterprises and how accessing creative minds inside and outside the firm is bringing in the 'unusual suspects' of disruptive ideas. For a decade the world has been obsessed with how to open up to these creative minds inside a firm and outside to bring in new ideas.

A.I. will inverse open innovation in many ways.

Many famous OI platforms have struggled in recent years: Quirky filed for Chapter 11 protection over a year ago, while Topcoder and a few others have been sold or are in process of being acquired because their business model has been failing. In Quirky's case the main problem was that the ideas from the crowd just weren't innovative enough and the assessment of the ideas was done by users who had no idea about the market or how to develop and commercialise a new product.

The main problem of the Quirky community wasn't the shortage or the quality of their new ideas. The problem was twofold: first, the ideas just weren't radically novel breakthroughs but rather small add-on observed by members of the public. A good example is the Quirky flexible 'Powerstrip' which is a traditional power strip that is put together with flexible pieces so that it can bend around furniture. Surely a good idea, but not something that will turn into a $100 million-plus business by itself. Its second problem is that the community wasn't led by a crowd with product development experience or at least an industry experience. As a result Quirky developed a far-flung portfolio of products in 26 different categories, managed and developed by a crowd of innovators with too general skills and broad knowledge.

From crowd-suggested to crowd-scanned

Open innovation takes on a new meaning as AI will analyse what's out in the open digital world (Internet). Combining internal data and open data will lead to finding the best ideas suggested by the algorithm. **From crowd-suggested to crowd-scanned**, as companies will still be picking up the brains and the intelligence of the outside world and crowd but in a more informed and effective way, avoiding so the issue of Quirky and other similar platforms.

AI will be meshed into the open innovation strategy of big firms to innovate better, which brings us back to the afore mentioned scenario where the CEO is asking his virtual CIO Bob about how to innovate better at his firm. Let's explore that case and how that will work when *AI meets OI.*

Bob, the AI program, will first access all the internal data of the firm to understand where the problems lie. Now it can scan for innovations on the web and look at startups and inventors — who all have a large **digital footprint** — patent databases and scientific publications for information on solutions for its problems.

For instance, a typical start-up leaves a digital footprint on many public sources on the Internet:

- Startups are very vocal about their ideas on blogs and social media revealing case studies, customers and milestones
- Their founding history, address, directors and revenues can be accessed from national registries (Companies House for the UK)
- Their investment and funding history can be seen from press releases and the Crunchbase webpage
- Innovations can be searched on the patent databases of USPTO and the European Patent Offices
- Their technology ideas can also be tracked with sources, from speeches at events, and the team's personal

footprints and skills.

Artificial intelligence can compute millions of correlations taken from all these dispersed signals on the web that would take humans years to make. While humans might not even see how a non-industry startup filed a patent for an innovation that might be relevant for them, an AI program can correlate all public information about this startup and understand that it sits on a perfect solution for your problem.

The OI process of the future, supported byAI follows a four-step process:

1. Identify the problem statement

Key to this new OI-AI model is that while the CEO understands the results of his problems, i.e. declining revenues, the AI will assist in finding out the root causes for it. In our ten years of open innovation experiences, we often saw that wrong understanding was the key problem in a company's innovation strategy.

For instance, accessing all the chatbot data that the customer service AI has gathered in chats with customers, finding out that 15 per cent of customers report problems right after receiving the product in the mail, pointing to a problem with how product is shipped.

2. Translate into a search algorithm

Having understood the problem where innovation needs to focus, the AI bot will now search for packaging solutions across industries, understanding which novel ideas receive great online feedback and are used by competitors.

3. Look at matches and refine

The results of this search will surely not be perfect the first time as the AI will need to learn from the firm's preferences and implied knowledge that it cannot access with data. Therefore, OI practitioner's job will be to teach the system so that it becomes smarter over time and creates the right matches.

There are already several companies offering such search tools, like Ideapoke.com, which is a B2B platform that helps businesses find technology solutions by looking at public sources, the web and strategic partners.

4. Contact innovators and integrate

The final step after having identified a few good matches is to make contact with these firms and evaluate how to cooperate or integrate the innovation in the client's process. This step is very human-centric and we predict this area is where the main value of OI practitioners will lie in the future.

Impact on enterprises to run open innovation

In many industries and sectors, AI will take over repetitive and data-heavy tasks in the future. For open innovation this means that the scanning, searching and matching part of the work can be replaced by robots. However, the second part of OI is to work with the matched outside innovators on how to integrate ideas into large enterprises, which will require human-to-human interactions, discussions and negotiations. Just finding the right idea is half the battle and OI practitioners will focus more on the integration part as a result of it, leaving the hunting and matching to the machines.

♣♣♣

Notes:

- *The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.*

Alessandro Di Fiore is the Founder and CEO of the European Centre for Strategic Innovation (ECSI) and ECSI Consulting, based in London. He is a consultant, author and media commentator on strategy and innovation. Alessandro has worked in management consulting for more than two decades. Along the way he has advised more than 25 Fortune 500 companies throughout the world on strategy and organisational change. He started his career as a product manager at Colgate-Palmolive. He went on to work at Gemini Consulting, a large international consulting group, where he was responsible for Life Sciences in continental Europe, Managing Director for Italy and global head of its Market Focused Strategy Center of Excellence. In 2000 Alessandro founded his first European boutique strategy firm, Venture Consulting. The firm was sold in 2008 to Tefen, an international management consulting company floated on the Tel Aviv stock exchange. Alessandro went on to found ECSI in 2010 with the aim of creating a truly unique global consulting firm. Email: adifiore@ecsi-consulting.com Twitter: @alexdifiore

Simon Schneider is Director at ECSI Consulting, London. Simon started his career as consultant at IBM in New York working on cyber-security and biometrics projects that opened up his perspective on how emerging technologies can disrupt old industries and create new markets. He invented a security patent that is licensed to IBM which helped him understand how the traditional 'closed' innovation process works in large enterprises. During his MBA at London Business School he co-founded a crowdsourcing platform business that used open innovation competitions to solve R&D challenges for enterprises, and was later acquired by InnoCentive in the US. Simon became the CEO of Zyncd a German based A.I. startup. In January 2017 I joined ECSI Consulting in London with the ambition and responsibility to accelerate the open innovation practice of the company. He serves on the boards of directors for the crowd-funding company CrowdHut and the foreign-language teaching startup Language on Stage in the UK. Follow him on Twitter: @simon_crowd