

Microsoft Stresses the Human Aspect at Artificial Intelligence Event

On 12 July, Microsoft held an event in London to celebrate the 20th anniversary of its research centre in Cambridge. The event focussed on the "intersection of artificial intelligence with people and society". Below is our initial analysis.

Insight

- Artificial intelligence has become central to Microsoft's overall strategy over the past 12 months. In September 2016, the company set up a dedicated research group in this area under Harry Shum. Consisting of 7,500 scientists, researchers and engineers from its product teams, the group aims to accelerate the creation of artificial intelligence products and to better promote its efforts against those of Google, IBM and Amazon as well as against the growing influence of Chinese players.
- At Microsoft's Build developer event in May, artificial intelligence took centre stage as the company announced it had more than 500,000 developers using its Cognitive Services, a set of developer tools and APIs in areas such as sentiment detection, vision, speech, knowledge, search and language understanding. In total, it has 29 APIs available to developers building artificial intelligence applications, up from four just two years ago.
- Dr Shum opened the event by highlighting Microsoft's vision, which centred on people and amplifying humans with "intelligent technology that will reason with, understand and interact with people as well as solve some of society's fundamental challenges".
- Microsoft made several announcements backing up this vision. AI for Earth is a programme that hopes to tackle environmental challenges related to water, agriculture, biodiversity and climate change. The company stated it would increase access to its tools, services and support to research bodies and non-governmental organisations. It will also make a \$2 million commitment to the programme in the form of grants during its next fiscal year.
- The firm also announced a new research and incubation hub, called Microsoft Research AI, within its research labs unit. This is a more focused division of about 100 researchers dedicated to solving specific problems associated with the technology. The division aims to unite research in currently disparate areas of artificial intelligence such as deep learning, machine perception and natural language processing.
- Microsoft believes it is the integration of these disciplines that will cause the next technology breakthroughs, such as machine reading for instance. The company announced the release of Seeing AI, an iOS app that uses voice processing and image recognition to help the visually impaired get information by using the camera of a smartphone. It also announced that its Cambridge Research Lab would build on this effort by working with machine-reading expert Max Welling from the University of Amsterdam.
- A significant focus of the event was on ethics and the design of artificial intelligence. These areas have become contentious issues for critics concerned about bias and negative uses of the technology. Microsoft will create an ethics oversight panel called Aether ("artificial intelligence and ethics in engineering and research"), which will act in an advisory capacity across the company. It will produce a design guide for product development based on Microsoft CEO Satya Nadella's 10 principles for artificial intelligence development, which were announced in June 2016. These announcements build on the principles laid down in Microsoft's founding role in the Partnership on AI, a cross-industry initiative with Amazon, Facebook, DeepMind, Google, Apple and IBM looking at ethical uses of artificial intelligence.

- Microsoft also promoted the research it was conducting on user experience design for artificial intelligence. This aims to help engineers build systems that strike the right balance between intelligence and empathy and put human augmentation at the centre of the design process. Although Microsoft has more than 100 million users of its chat bot services such as Zoe in Japan and Xiaoice in China, the company concedes that very little is understood about user experience preferences given the immaturity of the field. Microsoft stated that artificial intelligence design will require significant talent in a number of fields including user experience design, robotics and sociology.
- The event looked at promoting ethical artificial intelligence, highlighting the importance of trust, transparency and accountability in the use of the technology, as well as its societal benefits in healthcare and the environment, for example. These have become focal points in educating the wider public about the technology. Although ethics are not yet a leading indicator with early adopting enterprises when selecting technology suppliers in our opinion, it is essential that Microsoft promotes the technology in this way at this very early stage of development given the real fear, and "the elephant in the room" in most cases, that it will destroy jobs.
- Another important aspect in Microsoft's strategy highlighted at the event is to promote how its artificial intelligence innovations are being infused into its products. Several announcements also centred on this area, including the launch of the Bing Entity Search API, updates to its Project Prague gesture kit and the general availability of Presentation Translator, a PowerPoint add-in that can subtitle presentations in over 60 languages.
- New artificial intelligence features have been arriving into Office 365 applications steadily over the past year. They include Cortana Commitments, Tap, Tell Me and Designer as well as improvements to Editor and Researcher. The challenge has been the lack of awareness of these capabilities, which has slowed adoption. Microsoft is hoping that its research into design will enable it to better understand where and when users want more, or less, artificial intelligence in their daily workflows. Understanding this, in our view, will be fundamental to the success of not only Microsoft's productivity, collaboration and CRM applications, but to the company itself.
- Overall, with several customers on display including Dixons Carphone, Cochrane and Prism Skylabs, the event successfully showcased Microsoft's early leadership in this field. Its support among developers, its data graph assets and its cloud capabilities are major strengths as the battle for supremacy escalates. According to the initial results of our 2017 employee technology survey, Microsoft is perceived to be at the forefront of innovation in artificial intelligence. It also has a large opportunity in the intersection of artificial intelligence and cybersecurity, which it has yet to fully exploit.
- However, the enterprise market for artificial intelligence that will manifest over the next decade will not be winner-takes-all battle. We believe enterprises will pursue flexible architectures for artificial intelligence, using multiple suppliers as they do for cloud services today. They will also follow open approaches and avoid supplier lock-in, instead integrating specialist technology for specific business applications.
- Microsoft's open strategy is aligned to capture this trend, but it will also need bring artificial intelligence out of the developer ivory tower and into the real world. To do this, it must begin to educate businesses on the specific uses that create the most business value and to help with implementing best practices. In the case of deep learning technology, it will also need to address the emerging requirement that systems must be explainable and transparent for users. These are the first steps along a long road of opportunity for the company.