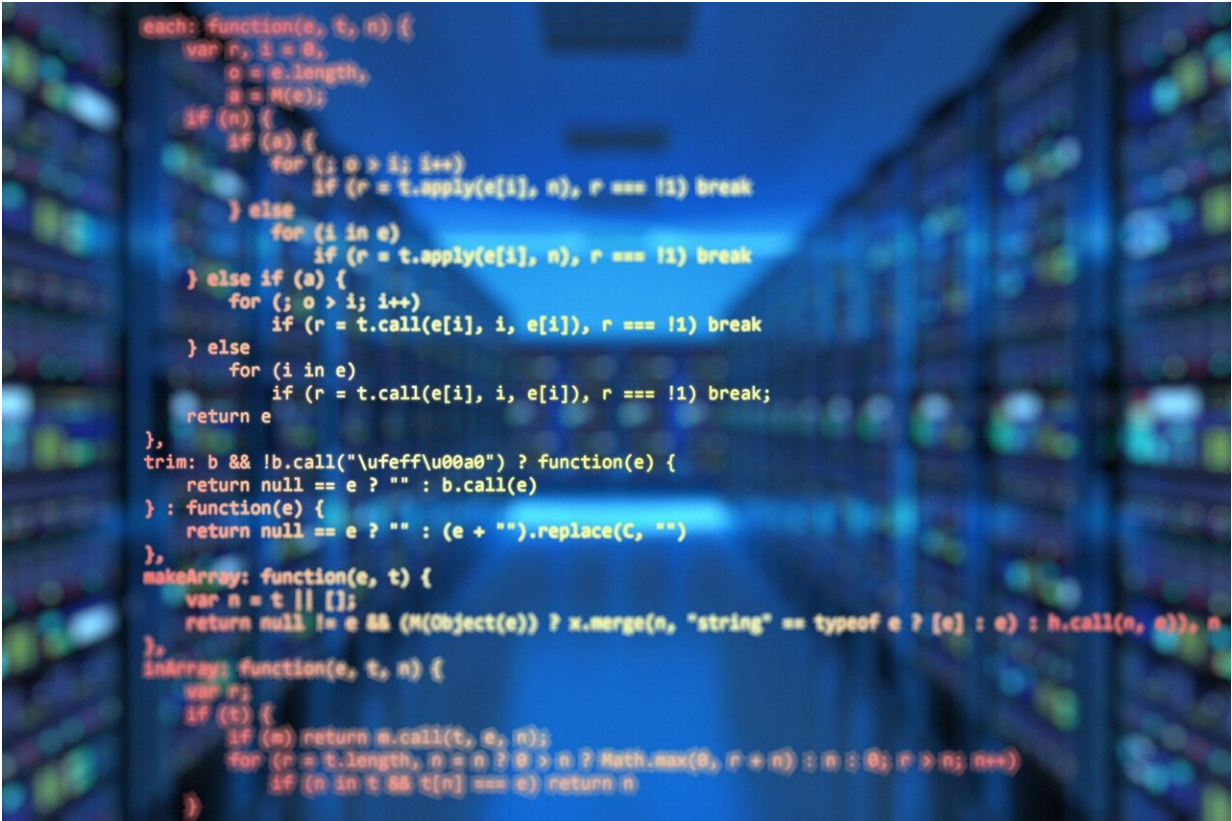# Study details scale of human labor needed to keep 'the cloud' aloft

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Credit: Pixabay/CC0 Public Domain

The representation of cloud technology as an automated realm powered by ethereal data flows fails to do justice to the exhaustive human effort that is required to keep the data centers behind it running.

Technicians, cleaners, facility managers, security guards and service desk operators all play important roles in ensuring that the "on-demand," "real-time" and "instant access" nature of today's online world runs without interruption, 24/7.

This is the argument of a new chapter written by a cultural anthropologist at the University of Exeter who researches the material and environmental dimensions of communications infrastructure.

"Cloudwork: Data Center Labor and the Maintenance of Media Infrastructure," by Dr. Alexander R. E. Taylor, is based upon the researcher's experience of visiting data centers in the UK and interviewing staff about the round-the-clock pressures of maintaining constant connectivity to meet our voracious appetite for online media. It is included in the volume "The Routledge Companion to Media Anthropology."

"We rarely stop to consider the work that goes on behind the screens of all our digital media—until it breaks down," says Dr. Taylor, of the Department of Communications, Drama and Film. "We click 'play' on Netflix or 'post' on Instagram and expect everything to just work and we get very frustrated when it doesn't. This is because we have this perception of the internet as some sort of ethereal 'cyberspace' or 'cloud' that is fully automated, rather than networks of data centers where actual human beings work under a lot of pressure to ensure everything flows smoothly."

Data centers provide cloud computing resources for a broad range of commerce, consumption, distribution and production systems, in sectors such as the financial services, transport, logistics, communications, utilities and media.

Some tech giants such as Google and Meta house their operations in

bespoke facilities, but many national and international organizations—even as large as Twitter and Netflix—lease public cloud infrastructure on a pay-as-you-go-basis from data center providers.

Dr. Taylor visited these facilities as part of his research and was able to gain a unique insight into the working conditions experienced by those who are required to maintain the servers.

He said, "Despite the image of immateriality that the 'cloud' metaphor conjures, I learned that, for those who work in the data center industry that underpins the cloud, this infrastructure is experienced as material, fragile and precarious, and it takes considerable labor to ensure that these services remain constantly online and available."

Dr. Taylor says that this element of maintenance has become a hugely important but overlooked form of media labor—whether they are working to respond to issues or acting to anticipate and prevent them. With servers being upgraded roughly every twelve months, there is a constant focus upon migrating data to ensure business continuity.

Dr. Taylor finds that the data centers are often uncomfortable workplaces, optimized for machines rather than people. There are also recruitment issues in the sector, and when coupled with the often long-hours demanded, the pressure placed upon staff is considerable. Therefore, he says, many centers are investing in AI technology with an eye on moving towards complete automation.

"The big problem is that internet infrastructure is now so complex and interdependent that many of the people maintaining it no longer really understand how it all connects together," adds Dr. Taylor. "And this is why we are now seeing more and more instances of platforms such as Facebook and WhatsApp going down and vast portions of the internet going offline."