
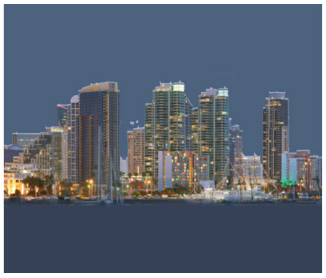

THE BROAD DIMENSION

the newsletter of tbd consultants - Autumn/Winter 2023

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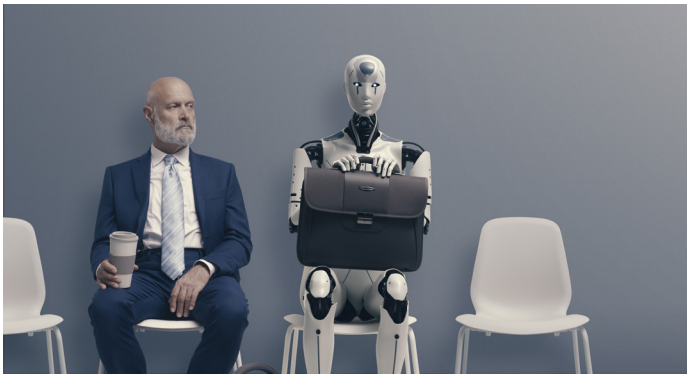
In this Edition:

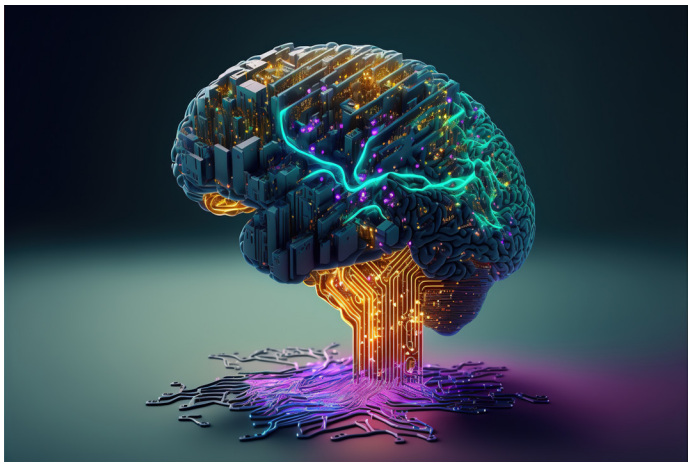
Is AI After Your Job?

AI has become the 70-year-old new-kid-on-the-block recently, as ChatGPT reignited interest in the subject. That led to the news media inundating us with warnings about AI being an existential threat that could wipe us out or that at least is going to take our jobs away. Much of that hype has been coming from industry leaders, although it has been suggested that their real motive for these warnings is to divert attention away from the fact that they are not revealing the source of the data that their systems are using. That data seems to include vast quantities of copyrighted material that the copyright holders are not being compensated for.



These AI systems can be a threat to jobs, and the IT industry is finding that out the hard way, because the recent language-model generative AI systems have proven to be very good at writing computer code. These systems analyze vast quantities of data to establish patterns, and then use those patterns to generate responses to queries. If the original data contains biases, those biases will also be reflected in the AI's responses. The biases could even become enhanced if the source data starts to include more AI-produced reports that already reflect such biases. The AIs are only looking at patterns in the data and are not understanding a single word or giving conscious thought to what is being said.

Could an AI become conscious? Nobody has a clue how we happen to be conscious, but our brains certainly have a big role in it. Brains are physical objects, just as computers are, so it's certainly feasible that a computerized AI system could become conscious someday. But that's not going to happen soon, even if it actually is possible. Computers can process data a lot quicker, and even more accurately than our brains can, but our brains are still vastly more complex than the most super supercomputer.



The above image was generated by AI

Being conscious lets us set goals for ourselves, while computers respond to input from users telling them what to do. If an AI was going to pose any sort of existential threat to us, it would be because some user set it the task of becoming such a threat. AI is a tool that we can use for good or evil, just like most types of tools.

As a tool, AI can increase productivity, and on the construction site that may just mean that contractors will once again have the means at their disposal to carry out the workload available to them. Currently they

are hampered by a lack of trained workers, but with AI-driven robotic systems coming online and more advanced scheduling systems becoming available, that worker shortage will become less of a problem. AI systems can also monitor the site for safety issues and monitor and optimize the supply chain and inventory management. The construction industry is not known for its quick adoption of new technology, so the fact that such systems are already being brought into use on the site is an indication of the severity of the need.

How about at the start of the construction process, in the architect's design office? AI will certainly make it easy to produce optional concept designs that meet the client's needs, but what the AI will be doing is adapting previous designs that had been in its training data. It might also be combining aspects from one previous design with features from another and coming up with something that can count as original. However, true originality can only come from thought, and the AI has no conscious thought. Nevertheless, AIs will be able to produce multiple design concepts almost instantly and get the design process started. Once a concept is chosen, AI-based architectural systems will be able to work up design plans, look at options for space planning, structural and HVAC designs and the like, and it can generally speed the design process. It will also be able to review manually designed work and play a role in quality control, including checking the design against local building codes. This ability to review options can also lead to project cost reductions and give a more sustainable and efficient building for those using it.

That kind of help will, undoubtedly, reduce the need for architectural and engineering design staff, but it certainly won't eliminate them. There is a lot of "prototyping" in construction, and AI may be good at integrating existing

data, but it's not so good when you need to extrapolate from the data to do something new. So, anything it comes up with will need to be reviewed and adapted as appropriate. In some cases, people are finding that it has been so easy for AIs to come up with options that they end up spending more time going through it all than they previously did while doing things manually.

Demonstrating the need for review, ChatGPT was consulted during the production of this article, and it seemed to imagine that architects spend a proportion of their time out on-site doing bricklaying. AI can frequently make more egregious errors than that, including causing a lawyer to quote fake court cases during a trial, so people will need to review the output. But editing can be more fun than doing the actual work. AI and humans will be watching each other, but the humans know where AI's off-switch is.

AI will undoubtedly change almost every field of construction, from design concepts through maintenance of the finished building, changing the way work is carried out and making it more efficient. That may actually help the industry in meeting the needs for additional new and alteration work imposed on us by climate change and business developments. During the life of the building, AI systems can also monitor energy usage, keeping conditions comfortable for users while minimizing the building's carbon footprint.

Rebuilding the Mall

Retail in general was starting to be disrupted by online shopping, and then Covid-19 hit and accelerated the adverse effects on malls. Downtown stores and restaurants often had the option of moving much of their business onto the street, but with malls, and especially indoor malls, that was normally not an available solution. The need for social distancing and a growing fear of being around other people suddenly and drastically cut the number of potential customers. Shuttered storefronts left mall owners wondering how to fill the vacated space. Even the anchor tenants were suffering. As the pandemic faded into history, the easing of restrictions made doing business easier, but shopping patterns and expectations had changed, and they are still evolving.

During the pandemic, Covid-19 testing stations was one valuable use for the available space, and health-related facilities have continued to appear in malls. That includes branch clinics associated with particular healthcare providers, dentists and opticians, and also yoga and meditation centers, massage facilities, and gyms. It could be said that mental health was being addressed by the incorporation of entertainment and recreational facilities into the mall, and those kinds of places can certainly make a visit to the mall more of an immersive experience.

Movie theaters also suffered during the pandemic, but "BarbHeimer" has shown that it is not an entertainment medium to be written off, and there are examples of anchor tenant space being converted into cinema/theater facilities. Such entertainment and alternate uses of mall space bring more potential customers into the mall. In that way, the mall becomes more of a multiuse facility, potentially making it a more attractive location for retail tenants.

In some cases, mall space has been converted into office space, often for startups. In at least a couple of cases, an entire mall was purchased or rented as a new campus for a company. Areas of a mall can also be made into space that people who are working remotely can utilize, and we mean more than simply the seating area outside of Starbucks. Banks have been making a physical appearance in malls, not just as ATMs. All this should bring in potential customers for the coffee shops and bakeries, and possibly for other businesses as well. Spaces for art exhibitions, car showrooms, and the like can be other ways of drawing people in and making the mall more of a community center. Such exhibits, which might be centered around cultural or local festivals, can also utilize vacant units that are awaiting a new tenant. Sometimes, malls and associated parking spaces have been rebuilt as office

or residential space with retail below, but reuse is probably a more ecological method and kinder to the climate and future generations.

Malls might be seen as places for the worship of mammon, but some churches have seen the vacated space as an opportunity to base a congregation there. Normally that has involved taking limited space within the mall, but a complete mall has been adapted by one church to house its facilities and outreach programs. As in the case of office use, the ample parking space available proves to be very useful. Underused parking areas have been utilized for opportunities such as dedicated space for food trucks.

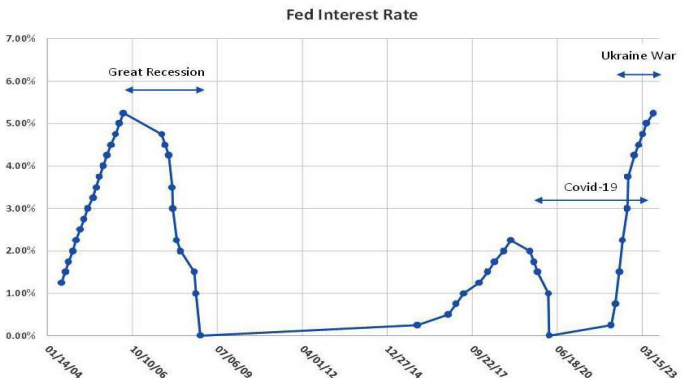
Technology has been driving many of the innovations, with mall owners modernizing their technology for wayfinding, in order to make the experience of visiting the mall better and easier for the customers. The stores have been integrating their online presence and physical locations to make it easier for purchasers to browse the total merchandise list and have places to try things for size before buying, or to be able to exchange them more easily. Online sales have boosted the need for more warehousing facilities, and empty mall space, especially that of former anchor tenants, can prove ideal for that use. Self-storage is a similar usage that empty mall space has successfully met the need for.

We are likely to see more augmented reality options being made available, along with other interactive displays. For instance, you might be able to try out products or change the color of clothing in a virtual environment. And, of course, the marketeers will be finding more ways to gather information about your wants and needs and provide you with special offers available at the store that you are approaching, maybe with a virtual storefront showing the product to you. Smart parking systems can help you locate a parking space when you arrive, and maybe even help you locate your car when you leave.

Malls tend to be well located for public access, and have great potential as centers for the community, while still providing retailers with outlets. Adaptive reuse of the facility has become the name of the game, including options related to education (from small training locations to an academic campus), hospitality, and residential (including multifamily, and senior living). These types of usage are not really a new idea – thinking of malls as social hubs goes back to at least the 1940s, and malls need to continually adapt to the community they serve.

Recession Receding?

In early September, Goldman Sachs reduced their odds for a recession occurring in the near future to 15%, about the same odds that you might expect anytime, and others including Bank of America and the Fed seem to agree with that kind of assessment. Recession has been talked about for a long time, but business has been thriving despite the Fed's interest rate increases. Those increases may have helped bring inflation down somewhat, but oil prices are threatening to put pressure on again, rebounding 20% as Saudi Arabia and Russia cut production and then the flooding in Libya also disrupted exports from there. Fuel increases don't directly affect the Fed's favorite inflation index, but those increases will be weighing on consumer confidence.



The current pause in rate hikes seems to be allowing time for the Fed to see what effects its increases to date are having, because it takes a year or so for rate increases to

Newsletter designed by Katie Levine

work through the economy. We have been going through unique times since the pandemic, and now have a cooling but still strong US economy. The Fed's last increase was in July, rising by 0.25% to a 22-year high, but they held rates steady in September. These high interest rates have companies focusing on profitability rather than growth and have been laying off staff. The question is now less on how many more increases there will be but how long rates will remain this high.

The Eurozone slipped into recession in June but seemed to be pulling up. US GDP has been holding up well, which doesn't look like a recession. Consumer spending has remained robust but is getting more selective, and there are headwinds (e.g., student loan payments resuming). Also, Macy's has been reporting that customers are increasingly failing to make credit card payments, so growth prospects are slowing. But the US economy is proving more resilient than the Fed might have hoped for.

Our sticky inflation has been driven by demand, with consumers making up for lost opportunities during the pandemic, but it is unclear how much longer consumers can continue their buying spree. Core PCE (Personal Consumption Expenditure, which excludes volatile food and energy costs) showed a year-on-year 4.52% in May, 4.09% in June, and 4.24% July, while the Fed's target is 2%. Meanwhile, wages aren't keeping up, and wage negotiations concern the Fed because they can build in inflation. Job growth has been dropping, but not fast enough for the Fed. Actually, the initial count of job growth for August was 187,000 while the average pre-pandemic job growth was 183,000 per month.

One possibility, instead of recession, is known as stagflation. That is when we have a slowing or stagnant economy, but inflation stays high, and it's something central banks can't do much about. Everyone hopes to avoid this, but it remains a possibility, but currently more so for Europe than for the US. What everyone hopes for is a soft landing, which would mean that we get a cooling but still strong economy. That happy outcome is now looking more possible as the economy cools slowly, and inflation hopefully continues to drop lower, but it seems to be in no hurry to come down. Some have suggested that what we have been experiencing is a rolling recession. Manufacturing has been through a recessionary period and other sectors may be following, one-by-one.

Not that there aren't potential dangers out there. Fitch downgraded the US debt rating to AA+ from AAA based on "a steady deterioration in standard of government", citing the debt ceiling issue that came close to shutting down the government, and at the end of September the issue got kicked down the road another 45 days, so we'll be facing it again around the time you get to read this. Corporate bankruptcies have been rising, and regional banks are still showing signs of stress. Disputes with China over the future of superconductors could hit many companies hard, and the Chinese economy is facing tough times that seem likely to spill over into the global economy. And now there's the surprise Israel-Hamas war.

Meanwhile, extreme weather has been starting to affect the economy. We have seen cancelled flights and closed businesses. The lack of rainfall affecting the Panama Canal is adding to supply chain difficulties, and we are seeing less productivity due to excessive heat. However, storms and fires have been leading to more construction work - and that's a good thing, right? Well, living in an area that's been evacuated three times in recent years, I'd be reluctant to say that. And I've learned to expect the unexpected.

Geoff Canham, Editor, TBD San Francisco