Using AI to Automate

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So, I attended a recent session on automation and artificial intelligence (AI) at SIOP this past April. AI is something that I am interested in greatly, besides the fact that the technology is cool, because it appears as though there will be a greater impact on my work in the future. Specifically, I am interested in how AI is being used to augment the decision-making process and when are decisions are being passed off to "machines" from humans. My primary interest is around employment and Big Data derived algorithms, but there is so much more to AI, even in the talent management sphere.

So, let me share my thoughts on what I heard...

First, even in the application of AI to Human Resources, there are many (and ever growing data types), such as process data or video. In my mind, with any data source, the primary concern is the quality (completeness and accuracy) of the data. I believe that data scientists can help with I-O Psychology topics, but I-Os need to be driving the bus on feature (i.e., variable/criteria) selection.

There are some obvious advantages to automation, like it can speed up processes and do things at a much faster pace than humans ever could. There is the ability to consider multiple pieces of features in tandem to arrive at a more informed decision. However, there are some drawbacks...The primary one being a lack of theory. Some AI folks believe that, because their data sets are so vast, that they have captured the universe and no longer need to speculate (i.e., develop theories) about the underlying nature of phenomenon. This is simply

incorrect. For example, the amount of data produced on Twitter each second makes it impossible for a researcher to capture it all, even using the API Twitter provides.

My first stats professor in grad school told my class a tale about researchers who had been hired during WWII to help diagnose why so many planes failed to return from their missions. The researchers looked at the pattern of holes (e.g., pattern matching) in the planes that DID return and from that deduced that areas where there were no holes were the areas that needed to be reinforced with additional metal sheeting. From a statistical point of view what this story demonstrates is the importance of the non-responders. It is worth noting that the researchers suggestions did, in fact, help more airmen return home safely. Again, the moral of the story is: What you don't collect matters and you still need theories and testing to truly understand a phenomenon.

Other disadvantages include the "unknowns of AI". However, I would put this in Donald Rumsfeld's category of "known unknowns". This means that AI programmers are aware that, unless they take care at the outset to think of building an audit trail, deciphering what is happening will be very difficult to suss out. Which is why, I believe, some of these same AI evangelists are quick to dispose of theory. This is my own, personal and humble, opinion; it is not the opinion of another entity and would not necessarily be my opinion in any matter before me, now or in the future. (Sorry for the very necessary disclaimer.)

Continuing this thought, because no thought has been given to the development of the audit trail in most instances, it is not possible for vendors of AI products to provide good/sound/reliable guidance on how to best use their products. This is also true when there might be negative social impacts associated with their machine-learning developed/perpetuated algorithms.

So far, I have talked the AI piece in automating, but with respect to the automation itself, it can remove routine job tasks, much the same way tool and die casting changed manufacturing. Communication tasks and learning tasks can be automatically "pushed" to employees after a predetermined set of conditions has been met. For example, at the end of a call with your bank, when the representative goes to close the computer screen which contain their notes from your call, an AI enabled system could automatically prompt the delivery of a customer feedback survey to your email address on file about the very topic you discussed with the customer service representative.

Getting data can be automated, the creation of data can be automated, the management of data can be automated, the reporting on that data can be automated, and some basic decisions can be automated. While we are all waiting for a truly safe autonomous self-driving car, we realize that humans are still needed.

While I believe that increased automation is the future of work, it is my crystal ball prediction that humans will always still be needed, just on different, higher-order processes.

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