Vendors—Define Your Usage of #AI

Photo by [Lukas](#) on [Unsplash](#). Used with permission.

By [Richard Hackathorn](#), Feb 9, 2019
https://towardsdatascience.com/vendors-define-your-usage-of-ai-9495b30ebd28

As an industry analyst, I listen to numerous vendor briefings. As is increasingly common in these briefings, vendors use the acronym *AI* frequently and casually to describe various capabilities of their products or services.

In a recent briefing, this practice was particularly obvious with a major vendor. Their phrases were: *AI + BI; with AI ...power to explore their data; with AI ...becomes smarter; AI makes data accessible; AI ... fundamentally changes how analytics are used; driven by AI; infused with AI.* And, all of this within the first 13 slides!

Note: This is a big red flag for me! I completely avoid the acronym AI in my writings, since it often ambiguous and distracts from the intended message.

I asked the question, "**How does your company defined AI?**"

Does this acronym mean… Any analytics beyond descriptive analysis? Analytics that predicted future events? Discovery of causal relationships? Emulation of human thought processes? Analytics that exceed Human-Level Performance of experts? The use of deep neural networks? Automation of business processes? Or, just-yet-another tech generation of analytics?

The vendor's answer was simple… AI means *Augmented Intelligence*, not *Artificial Intelligence*. I was surprised by this answer.

But AI = Artificial Intelligence

The acronym AI means *Artificial Intelligence* to most professionals. Vendors should never use this acronym if they are implying an alternative concept, like Augmented Intelligence.

Further, I wondered why this phrase did not appeared explicitly in their slides, so I pursued the question of defining their AI usage.

> **Take-Away**: Vendors should limit the acronym AI to describing general technology trends and avoid the acronym AI associated with product/service features.

Emphasize Augmenting

I remarked that was a *good* reply since it highlights the key issue of **automation (replacing humans) versus augmentation (enhancing humans)**. Augmented Intelligence implies that the human intelligence is being enhanced, rather than being replaced with something better or cheaper or faster. This is a subtle but critical shift toward acknowledging the value of humans, particularly for their intuition, creativity, experience and judgment.

I then suggested that they should emphasize this point in marketing messages because a precise statement about their augmentation would be a substantive marketing point. In other words, they had missed a huge opportunity with their current audience.

Take-Away: Vendors should always stress augmenting, rather than replacing, human intelligence. Further, show clearly how the unique capabilities of persons are being leveraged and enhanced.

Emphasize Learning

A key aspect of AI systems is its ability to *learn*. That topic was, unfortunately, not part of this vendor's briefing, implying that their 'AI' capabilities were creative static algorithms. Should this even be considered as being 'AI'?

The important point is not that an AI system learns, but that the system is *taught* desirable behaviors via presenting good examples of that behavior. This is a paradigm shift from static logic to learning logic, which improves as more examples are consumed. See this article on New Values [1]

Hence, it is important to know… Who is doing the teaching? And how?

In conventional Machine Learning, this teaching is driven by human curation of example datasets, which are carefully crafted salient features from the raw data. The core of AI systems today—neural networks—are being taught by throwing the raw data, by transferring training from other models, or by competing with other neural networks. The teaching of the learning logic can be performed more efficiently. Hence, the mechanism for teaching this learning AI system is a critical aspect, requiring a clear explanation.

Take-Away: Vendors should define how their AI product learns. How is the teaching (training) of the AI model performed?

Defining The Value

The vendor's reply about Augmented Intelligence implies an obvious next question: How does augmenting human intelligence by a learning AI system result in **value** to the organization?

For decades, the IT industry has been pursuing augmented intelligence, which was labelled "decision support systems" when I became involved in late 1960's. There has been lots of research on this topic, to which this vendor has contributed much. I immediately thought of John Tukey demonstrating PRIM-9 on a Varian 620 in early 1970's. Here is a short blog (and video) about this historic gem! [2]

The challenge is defining how the specific augmentation is valuable to the organization through increased efficiency and/or effectiveness of individuals.

The infamous quote of Peter Drucker is relevant here: "*Efficiency is doing things right; effectiveness is doing the right things.*" [3]

Augmenting human intelligence so that the person can perform specific tasks faster, cheaper and reliably (*doing things right*) is good. However, it is much better if the person could **customize tasks to match the needs of the specific situation** (*doing the right things*). This point is explained as *Intelligent Effectiveness* in this article on New Values. [4]

Take-Away: Vendors should be precise about how human intelligence is being augmented. And, show how this augmentation leads to increased value to the organization, especially as Intelligent Effectiveness.

Casual Use of Term AI is Deceptive

The casual use of the acronym AI is ambiguous at best and often deceptive, especially in marketing messages!

For some audiences, its usage unfortunately conveys a *magical* quality to the product/service, implying… "come buy this, and all your business problems will quickly disappear." That's the subtle but misleading pizzazz behind the acronym AI!

Anyone who understands the current research and practice in deep neural networks realizes that actual AI applications in corporations are limited in scope, difficult to development, troublesome in deployment, and elusive in realizing value …despite the glamorous demos by large tech vendors! There is no magic, only the mystery about how a cluster of a million simple numbers is able to mimic the complexities of reality.

Many experts conclude that AI technology is still in its 'alchemy' stage, as a proto-science like that of chemistry in the middle ages …with more questions than theories about the what-how-why. See this article for details. [1]

I agree that, in the long-term, this technology has huge potential. Meanwhile, early adopters (and their vendors) should expect lots of arrows in their backs!

Take-Away: Vendors should resist hollow marketing hype using AI. Those days have passed. Instead, think deeply and explain clearly the value that your product brings toward augmenting someone's abilities and learning to improve its capabilities.

Deal with the Ethical Issues with AI

That is the positive-side to the casual use of the AI acronym. Ready for the dark side?

To an increasing number, AI (as Artificial Intelligence) implies the automation of business processes resulting in the replacement of humans, along with the nasty implications about job loss, skill extinction, management centralization, wealth concentration, and political control.

Vendors who stake their future on AI should be very cautious and politically savvy about the ethical implications. In the 2019 IIA Predictions & Priorities of Analytics by Tom Davenport and Bill Franks, their first prediction was: ***Increasingly intense focus will be placed on the ethics of analytics*** and urged that their clients ***start formally addressing analytics ethics today***! [5]

Has your company clearly sanctioned and heartily encouraged open and honest discussions, along with policy formation, about the ethical implications of your product/services marketed under the AI banner?

Over the decades, I have surfed many technology waves. For me, the current Deep Neural Network wave is particularly exciting and challenging. However, I must admit that I am increasingly feeling like a scientist developing nuclear energy in the 1940's. There is a great potential for good …and for tragedy!

Forget about the threat of AI robots enslaving the human race. The real threat is that AI systems are being weaponized against others, intentionally and especially naively. Like nuclear energy, this great power must be governed wisely. [6, 7, 8]

Take-Away: Vendor should take the high road by confronting ethical issues openly and honestly. Assist their customers with understanding and managing those ethical issues.

If you are similarly motivated, please collaborate with me. Check out my current work at BizSmartAnalytics. [9] A few claps would be appreciated ;)

References

1. Hackathorn, *How Managers Should Prepare for Deep Learning: New Paradigms*, https://towardsdatascience.com/how-managers-should-prepare-for-deep-learning-new-paradigms-28de63054ea6
2. Hackathorn, *Beginning of Interactive 3D Data Visualization,* https://www.immersiveanalytics.com/2015/11/beginning-of-interactive-3d-data-visualization/
3. Peter Drucker, *Managing for Business Effectiveness*. p. 53–60.
4. Hackathorn, *How Managers Should Prepare for Deep Learning: New Values*, https://towardsdatascience.com/how-managers-should-prepare-for-deep-learning-new-values-f29a98b70bd8
5. Davenport & Franks, *Webinar on 2019 Analytics Predictions & Priorities*, December 6, 2018 by International Institute of Analytics, https://www.iianalytics.com/2019-analytics-predictions-priorities-webinar/
6. Chollet, *What Worries Me About AI,* https://medium.com/@francois.chollet/what-worries-me-about-ai-ed9df072b704
7. *Partnership on AI,* https://www.partnershiponai.org/

8. Knight, *One of the Fathers of AI is Worried About its Future,* https://medium.com/mit-technology-review/one-of-the-fathers-of-ai-is-worried-about-its-future-a7996cddce72

9. Hackathorn, Managerial Challenges with Deep Learning Systems, https://BizSmartAnalytics.com/