Response to NIST Call for Comments on
Four Principles of Explainable Artificial Intelligence
October 15, 2020

I.   Introduction

Workday is pleased to submit comments on the National Institute of Standards and Technology (NIST) principles for explainable artificial intelligence (AI).

Workday is a leading provider of enterprise cloud applications for finance and human resources, helping customers adapt and thrive in a changing world. Workday applications for financial management, human resources, planning, spend management, and analytics have been adopted by thousands of organizations around the world and across industries—from medium-sized businesses to more than 60 percent of the *Fortune 50*. Headquartered in Pleasanton, California, Workday has more than 12,300 employees worldwide and 21 offices across Europe.

Within its applications, Workday incorporates machine learning technologies that enable its customers to make more informed decisions and accelerate operations, as well as assist workers with data-driven predictions that lead to better outcomes. Workday believes these technologies have the potential to impact enterprises in the near term by making operations more efficient. In the longer term, enterprises will be able to reorganize operations around [machine learning's (ML) unique possibilities](). Promoting the thoughtful and responsible adoption of machine learning is a fundamental component of Workday's [public policy agenda]().

We have contributed actively and constructively to NIST's AI workstreams and previously provided comments on the NIST AI Roadmap.

II.   General Comments

A. The four principles and definitions are appropriately broad.

As with privacy controls, different sectors, applications, and stakeholders will necessarily have different methods of explaining outputs. Helpfully, NIST has illustrated that there are many types of explanations and their use is determined by the situation. This would support organizations across sectors to tailor and operationalize approaches to explainability according to their specific business needs and risks.

B. The baseline for AI explainability should be examined against the ability to examine human explainability.

Workday supports the concept that expectations for the explainability of AI be viewed within the context of the explainability of human decision-making. NIST highlights that "human-produced explanations for their own judgments, decisions, and conclusions are largely unreliable." ML tools represent an opportunity to help business, governments, and consumers leverage data to *enhance* human decision-making. While AI explainability is a foundational concept to ensure trust in AI systems, these benefits could be unnecessarily curtailed if AI explainability requirements lack the context of what is achievable with respect to the explainability of human-administered decision making.

C. More research is needed to create "true" explainability.

In the near-term, establishing broad principles is a productive step for advancing the conversation related to AI explainability. However, for the benefit of consumers, implementers, and developers, additional investments are needed in order to expand our explainability capabilities from an engineering, computer science, and psychology perspective.

D. The principles fit with existing frameworks, and put NIST on a clear path forward on an ethical AI framework process.

We agree that, according to NIST, its "cybersecurity and privacy activities strengthen the security of the digital environment. NIST's sustained outreach efforts support the effective application of standards and best practices enabling the adoption of practical cybersecurity and privacy." Workday wholeheartedly supports these activities and believes that these explainable AI principles fit within NIST's goals to strengthen the digital environment through the effective application of best practices.

III.   Specific Comments

A. P. 1, l .126. User Trust

The user sits at the core of the need to determine how best to implement explainable AI. Absent some explanation, users would rightly question whether or not they can trust the system. Workday has recognized this from the beginning. To address this, Workday brings customer collaboration into the AI design, development, and deployment process. Workday engages our customer advisory councils, drawn from a broad cross-section of our customer base, during our product development lifecycle to gain feedback around our development themes related to AI and ML. And through our early adopter programme, we work closely with a handful of customers who act as design partners to test out new ML models and features through our innovation services.This enables us to understand and address customers' ideas and concerns around AI and ML early on as we co-develop trusted people-centric ML solutions.

B. P.1, l. 127 Balancing Concerns with Benefits

While largely outside the scope of the discussion of explainability principles, Workday appreciates NIST highlighting that conversations related to the path forward for AI should include a fulsome discussion of the potential benefits the technology can offer. As a society, we have only started to scratch the surface when it comes to understanding the full potential of AI and ML. Among other things, ML can now recognize and respond to human speech, identify complex images, steer cars and trucks, assist with medical diagnoses and surgical procedures, and translate languages. It offers the unique capability of determining critical patterns within large data sets and provides predictions that assist in decision-making. These benefits are particularly poignant given the widespread impacts of the COVID-19 pandemic on the workforce. Leveraging AI and ML offers the potential to help mitigate workforce impacts and provide workers and employers with the tools they need to navigate the rapid changes in work. We encourage NIST to continue to be mindful of the importance of including the potential benefits offered by AI and ML in on-going work related to AI trustworthiness.

C. P. 2, l. 157 Business to Business applications & p.4, Section 3. Types of Explanations

It is important to remember that not all users who interact with an AI system will have a direct relationship with the developer. Workday is a business-facing organization. The tools we provide our enterprise customers are designed to facilitate human decision-making. If a Workday enterprise customer uses a Workday-developed AI application to enable its employees to make a decision, the enterprise determines how and why the AI system is used, whereas the company developing and providing the AI tool is a service provider. This distinction may impact the type of explanation chosen. NIST details these in Section 3. Types of Explanations; however we would recommend NIST further delineate how explanations may vary for developers of an application versus enterprises that deploy an application.

D. P. 2, l. 181 Meaningfulness as a Principle

The ethical use of data for ML requires meaningful explanation and transparency. Because ML algorithms can be complex, Workday believes we have a responsibility to explain what data is being used, how it is being used, and for what purpose it is being used. Companies should provide meaningful explanations to customers how the ML technologies work and the benefits they offer, and describe the data needed to power any ML solutions. Through meaningfulness, companies can demonstrate accountability in their ML solutions to customers.

V. Conclusion

Thank you for the opportunity to provide comments on the Four Principles of Explainable Artificial Intelligence. As we have raised previously, we fully support NIST's plan for prioritizing federal agency engagement in the development of standards for (AI). We congratulate NIST on the tremendous work put into AI standards thus far, including continued stakeholder involvement. We look forward to continuing to assist NIST in developing a workable framework fostering a collaborative approach to establishing best practices and eventually standards for trustworthy AI that will meet with widespread adoption. We stand ready to provide further information and to answer any additional questions. Please do not hesitate to reach out to Chandler C. Morse at chandler.morse@workday.com for further assistance.