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Unemployment Insurance (UI) Modernization

Opening Up to AI as Your Assistant in UI

For decades, questions have been raised regarding the responsiveness of state unemployment insurance (UI) agencies, especially during recessions. Despite the proffered reasons[1], the adequacy of UI service delivery has led to predictable public frustration with the UI program. In fact, before the pandemic, the National Association of State Workforce Agencies (NASWA) warned,

Investment in UI administration is at a 30-year low, and serious disruption in the delivery of UI benefits is at risk in the next economic downturn[2]." Further, that NASWA survey revealed that, **95 percent** of states indicated that UI staff "turnover is an issue for their operations," and **70 percent** indicated they were unable to hire the UI staff they need, and to retain UI staff to meet their needs.

In the pandemic's wake, even more UI leadership and staff retired or quit working for state agencies. Indeed, anecdotal evidence indicates that more than half of UI leaders have been in their positions for less than 4 years. Similarly, many of the UI staff members who make the decisions on whether to approve a jobless worker's UI application are relatively new to their positions.

States have tried different ways to improve responsiveness such as using temporary UI workers to address increased workload, modernizing UI technology platforms and websites, and introducing chat bots and robotic process automation. These measures have helped but struggles with service delivery persist and were more pronounced during the pandemic.

For the UI program to properly serve its purposes to stabilize the economy and maintain purchasing power of jobless workers, especially during recessions, applications for UI benefits must be determined quickly and accurately. There are not enough human helpers and decision makers to meet the service delivery expectations facing the UI program.

Deployed effectively and ethically, new developments in Artificial Intelligence (AI) offer great potential to improve the effectiveness of the UI Program.

The Potential of Artificial Intelligence

Artificial Intelligence (AI), the capability of a computer program, using math and logic, to simulate human cognitive functions, has proliferated in recent months. Some of the largest technology firms in the world, such as Nvidia, OpenAI, Google, and IBM, are using AI to enhance their product and service offerings and promoting the use of their own AI engines. AI is being applied to support functions such as data gathering and sorting, learning from new inputs, problem solving, and making recommendations and/or decisions.

There is, however, healthy skepticism and concern about the use of AI in society, commerce, and government. Some leading AI researchers have raised alarms about how AI will be deployed, and its effects on society. In the workforce space, early attempts to automate staff decision making around adjudication led to harsh media attention, increased costs, and even litigation. As a result, it is crucial for states to be ethical, thoughtful, careful, and to recognize the limits of AI's applicability to decisions around the determination of benefits.

Nonetheless, AI offers great promise in improving operational efficiency and customer service for claimants and employers. AI can be used to help answer questions from jobless workers and employers. AI can also be used to review documents for authenticity and trustworthiness. AI can help speed up the learning curve and improve the adjudication throughput of UI adjudicators and UI hearing officers.

Artificial Intelligence as Assistants

While some envision a future where we cede decisions to AI engines, we know that, like humans, AI engines are not perfect. A better approach is to think of ways that AI can serve us as **Assistants, not Decision Makers.**

Think of deploying AI like onboarding a new team member. We know generally what makes for effective teams: openness, rapport, the ability to have honest discussions, and a willingness to accept feedback to improve performance. Implementing AI with this framework may help the team view AI as a trusted copilot rather than a brilliant but uncaring critic. When AI engines are transparent and dependable, they can become a natural part of the workstream.

One of the biggest clouds hanging over AI today is its black-box problem. Because of how certain algorithms train, it can be very difficult, if not impossible, to understand how they arrive at a recommendation. Asking workers to do something simply because the great and powerful algorithm behind the curtain says to may lead to low levels of buy-in. In contrast, AI that is transparent in showing its work and delivering consistent results in support of its human team members helps build trust.

A smart approach to bringing in new AI tools is to position them as assistants, not competitors.

By way of example, AI has been successfully used as an assistant in the medical profession to help physicians with diagnoses. Machine vision AI models can construct proposed diagnoses and justify their decisions to physicians. One such technique involves overlaying a heatmap onto the medical image, which shows that the machine vision model is indeed looking at the relevant parts of the image when coming to its conclusions.

Similarly, another technique uses case-based learning methods that allow for the identification of cases and associated diagnoses most like the case needing to be explained. By using these methods, physicians ensure that the machine is arriving at the same conclusion(s) a human physician would while also showing the patient that the machine is doing so based on the same reasons as a human physician[3].

In these circumstances, human physicians are using AI as an assistant to help with diagnosing patient conditions and/or validating the diagnosis.

AI Assistants in Unemployment Insurance

Taking a similar approach in the administration and delivery of unemployment insurance, we envision a future where AI plays a role in:

Improving customer communication

Enhancing integrity, accuracy, and efficiency of operations

Improving the efficiency and accuracy of eligibility determinations

AI Assistance in UI Communications

In the UI program, when a recession or downturn takes hold, newly unemployed workers, many of whom have never interacted with the UI program or haven't done so for years, immediately want to talk to a UI representative or advisor because they want to know what to do. That jobless worker, who is often despondent, wants answers and direction. Unfortunately, the UI program does not have enough funding to pay for a large staff of UI workers to be at-the-ready when a recession hits. This presents an opportunity to introduce AI as an Assistant in UI:

- AI as an "Accessibility" Assistant – Use AI to provide "Read this to me" and "Write what I say" buttons on screens/pages to improve accessibility.
- AI as a "Translator" Assistant – Deploy AI to draft UI communications in different languages, according to agency needs, which would then be reviewed and edited by humans to ensure the translations are accurate.
- AI Assistants to "Help Me with My Claim" or "Claim Status Questions" – Create an interactive claim status AI assistant that can converse over the phone. It should be able to guide the claimant and transfer to a human operator in cases of escalation or lack of available data.
- AI Assistant "Reminders" – Delayed fact-finding causes inaccurate and late claim determinations. AI assistants can be deployed to conduct outbound telephone dialing, SMS messaging, and/or emailing campaigns to remind parties who are approaching fact-finding due dates.
- AI as a Data Collection Assistant – Create an AI assistant to interact with employers and their representatives to collect required information on the business type, NAICS codes, and more to help with status determinations.

AI Assistants to Enhance Integrity, Accuracy, and Efficiency

A significant amount of work goes into the accurate and timely collection and validation of information from claimants and employers.

- Smart AI Assistants for "Continued Claim Filing" – Create an interactive continued or weekly claim taking AI assistant that can converse over the phone and has enough built-in irregularities, randomizations, and/or affirmation/challenge prompts, i.e., "nudging," to effectively gather needed information as a human agent would. The intent would be for the AI Assistant to mimic "challenges" that a human would present so that claimants don't inadvertently repeat answers out of habit that may no longer be accurate.
- AI as a Data Extraction Tool – Deploy Intelligent Optical Character Recognition (IOCR) AI to extract important information from documents or free text and enter it where needed. AI assistance in weekly claim filing and certification by extracting wages and earnings from varied documents like pay stubs and tax returns would improve efficiency by reducing data entry errors and the number of calls to the contact center.
- AI to Verify Identity & Authenticity – Utilize AI assistants with interpretive capabilities to conduct ID Verification using the same fact-finding documents, workflows, screens, etc. that are currently being done by staff. Importantly, preserve escalation pathways for human verification when determinations may be averse to the claimant.
- AI as a UI Cross-Match Assistant – AI can be used to identify, prioritize, and present cross-match hits to UI investigators to maximize the yield on staff time and to help expedite work.

AI as an Assistant in UI Decision Making

The UI program has a need for experienced, expert UI decision makers who know when enough information has been collected to make a decision, and who can then make the right decision quickly and efficiently. UI agency adjudicators have a wide range of experience, however, and staff turnover poses challenges in building the expertise needed to be effective adjudicators.

Using AI as an Assistant helper in UI decision making **does not mean AI will supplant human decision makers nor does it mean humans should delegate decision making.**

Much as physicians are using AI as an assistant described above, adjudicators and hearing officers can use AI assistants to help with decision making. AI can help by ingesting and combing through historic UI decisions, laws, and policies, such as the US DOL ETA Handbooks, performance standards, data, and patterns more quickly than humans can. AI can "learn" how UI decision makers have made timely and accurate decisions by sifting through prior adjudication determinations and rationales.

Similarly, UI adjudication backlogs often lead to backlogs and delays in UI appeals and hearings as well. AI assistants can be trained to review documentation submitted, listen to the hearing, and provide a summary that includes essential areas such as, findings of fact, citations to applicable sections of law and policy, and a conclusion.

AI Assistants can also produce helpful hints and prior decisions based on rationales and patterns of facts that are tied to law/policy as articulated by the UI decision maker. Again, the AI assistant can search much faster and quickly present a summary to the UI decision maker.

As the pool of experienced UI adjudicators continues to shrink, agencies may use AI assistants to support experienced UI expert trainers lessen the learning curve when training new UI workers in basic issue adjudication. Here, expert UI trainers oversee the AI assistant co-trainer and UI trainees who are presented with fact-based scenarios. As the trainee works through scenarios, the AI assistant co-trainer scours reams of data, and, when prompted, shows its work by highlighting key facts, law and policy rationales, and provides a summary and recommended determination. The trainee can also query the UI assistant co-trainer with additional questions rather than waiting until the UI expert trainer is available.

By using the AI assistant as a co-trainer, UI staff, experienced and novice alike, become comfortable working with an AI assistant to research UI issues, law, and policy and provide a summary and recommended determination. Importantly, novice UI staff also gain confidence in their own UI decision making because, at all times, they are the ones actually making the decisions with guidance and support from more experienced colleagues.

A high-level, conceptual model of AI as an assistant in UI adjudication is illustrated below. Importantly, the validate and re-validate step is crucial to building trust through transparency in the model.
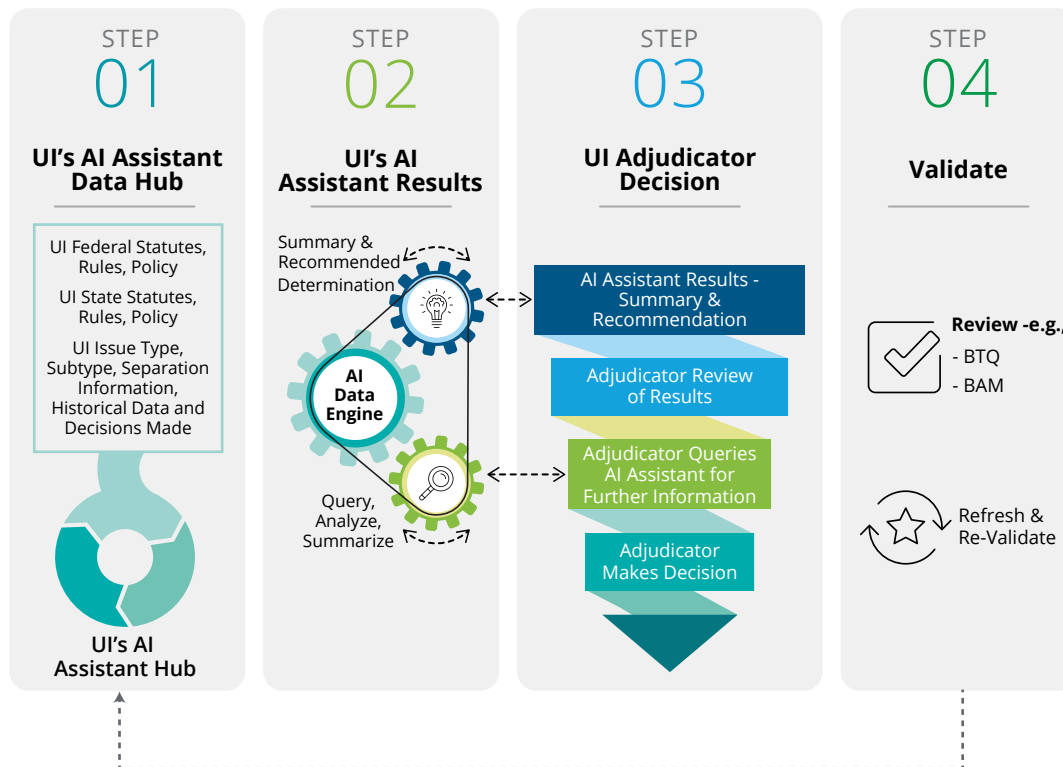

Figure 1. AI as an Assistant in UI Adjudication.

AI as an assistant in the legal profession, indeed, is already being used in this way. According to a recent article[4], "any legal work that depends on collating and analyzing historical data such as past judicial decisions, including legal opinions, or evaluating likely litigation outcomes, will become the dominion of AI. No human lawyer stands a chance against the formidable processing power of technology when it comes to sifting through voluminous data[5]."

Getting Started

AI's capabilities to assist people in navigating the UI program are plentiful, but they must be approached with a thoughtful mindset. We used that approach nearly a decade ago when we innovated with the New Mexico Department of Workforce Solutions to introduce the concept of "behavioral nudging" to prevent UI overpayments. In our *Deloitte Review – Nudging New Mexico: Kindling honesty among unemployment claimants*[6], we suggested UI agencies consider key dimensions in driving innovation. They also apply in the adoption of AI in UI.

Grab the low-hanging fruit

Begin with applying AI to simple, low-risk business scenarios, such as some of the communications use cases cited above. These scenarios do not involve crucial decisions on benefit eligibility, but instead improve the experience for the claimant and lead to better information.

When moving to AI assisting with determinations, focus on issues, decisions, and patterns that are easy and indisputable. When an employer response agrees that the jobless worker was, indeed, laid off due to a lack of work, the decision almost certainly is to approve the application for UI benefits. Many UI claims fall in this broad category.

Therefore, it may make sense to begin the work of building an AI model using a simple scenario like this, its historic data, plethora of use cases, and validate through experienced UI adjudicator review, or perhaps even Benefit Accuracy Measurement (BAM), and Benefit Timeliness and Quality (BTQ) results.

Reassess the system

We are dealing with humans, so make sure the technology is built for them. Look to design transparent and intuitive processes and technology. By creating and continuously reassessing technology with full transparency, trust can be built and nurtured in emerging technology including AI, and its recommendations or results.

Ground your deployment of AI within an Ethical Framework

Just as is being done in the legal and medical fields, for a safety net program like UI, it is crucially important to work with AI and new technologies using an ethical framework based in transparency and continual validation. In law, medicine, and the UI program, people who are entwined in litigation, ill, or suffering from a job loss should not also suffer from insufficiently developed AI's unintended consequences.

Accordingly, AI as an assistant in UI must be thoroughly scrutinized, vetted, and continuously updated and (re)validated[7]. Deloitte has developed an AI Trustworthy and Ethical Framework that includes many layers of thoughtful and continued validation as set forth in the graphic below. This Framework can be used to evaluate any deployment of new technology such as AI.
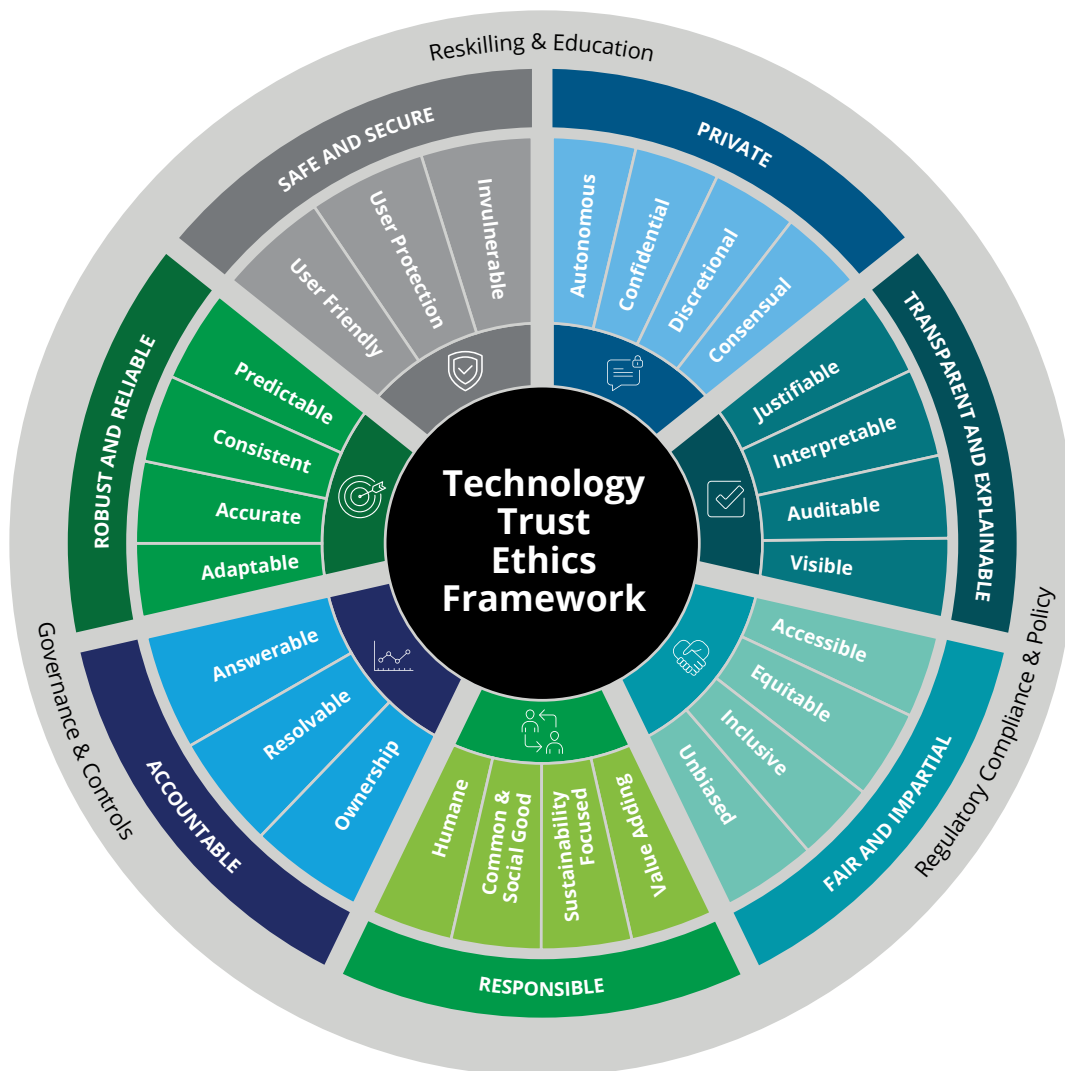

Figure 2. Deloitte's AI Trustworthy and Ethical Framework.

Adopt an Innovation Mindset and Lead by Example

A leading and innovative organizational mindset is crucial to the prospect of introducing AI as an assistant in UI. UI technological modernization, generally, is transformative, so introducing AI as an assistant in UI requires genuine organizational readiness to try new things and make those new things better. By comparison, over a century ago, brave folks began to trade in their horses and horse-drawn carriages for a "vehicle powered by a gas engine" or automobile. This action alone took an open mindset and desire to learn and grow. Over time, of course, the automobile has evolved to become safer and easier to operate and, today, it would be hard to imagine life without it.

Similarly, states that have embarked on UI technology modernization have also transformed their organizations and service delivery. The lack of enough experienced and skilled UI staff to operate and use that modernized UI technology has created a demand for new and different ways to help deliver the UI program. AI as your Assistant in UI offers genuine promise in the journey of UI modernization.

A Call to Action

Artificial Intelligence is here and it's everywhere. It will transform the way we live and work.

Officials and stakeholders responsible for the UI program need to consider smart and strategic investments in emerging technology like AI because of shrinking expertise and resources across the UI safety net, which has been relied on to stabilize the U.S. economy during recessions and downturns for over 85 years. Devote human resources, invest wisely, and develop a roadmap within an ethical framework for using emerging technology with your expert workforce, *now*, so that the UI program responds quickly, accurately, and *as expected* well into the 21st century.

Get in touch

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1 *See,* Commission on Unemployment Compensation, Final Report, July 1980, at 126-130 and 1989 U.S. General Accounting Office Report referenced in Report.

2 "Unemployment Insurance Administrative Funding," (June 2017), NASWA, Jim Van Erden PhD, Julie Squire, Hillary Hewko, pp. 2-3.

3 *Machine Vision, Medical AI, and Malpractice - Harvard Journal of Law & Technology - Machine Vision, Medical AI, and Malpractice* Zach Harned, Matthew P. Lungren & Pranav Rajpurkar, March 15, 2019

4 *A Primer on Using Artificial Intelligence in the Legal Profession*, (January 03, 2018), Harvard Journal of Law & Technology, Lauri Donahue at http://jolt.law.harvard.edu/digest/a-primer-on-using-artificial-intelligence-in-the-legal-profession

5 For example, when lawyers using AI-powered software for document review flag certain documents as relevant, the AI learns what type of documents it's supposed to be looking for. Hence, it can more accurately identify other relevant documents. This is called "predictive coding." Predictive coding offers many advantages over old-school manual document review. Among other things, it:

  • Leverages small samples to find similar documents

  • Reduces the volume of irrelevant documents attorneys must wade through

  • Produces results that can be validated statistically

  • Is at least modestly more accurate than human review

  • Is much faster than human review

Notably, predictive coding has been widely accepted as a document review method by U.S. courts since the 2012 decision in *Da Silva Moore v. Publicus Groupe*. Further, because AI can quickly access more of the relevant data, it can be better than lawyers at predicting the outcomes of legal disputes and proceedings, and thus, at helping clients make decisions. For example, a London law firm used data on the outcomes of 600 cases over 12 months to create a model for the viability of personal injury cases. Indeed, trained on 200 years of Supreme Court records, an AI is already better than many human experts at predicting SCOTUS decisions. The legal profession has recognized that the rules and an ethical framework must not only govern lawyers but also how lawyers interact with technology when representing people. Specifically, at least 27 states have adopted some form of the American Bar Association's Model Rule of Professional Conduct. In Ethics, AI, and the Future of the Legal Profession - The ABA Model Rules of Professional Conduct ("Model Rules") require that lawyers be competent--and that they keep up with new technology. As Comment 8 states: "To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology. . ."

6 *Nudging New Mexico: Kindling honesty among unemployment claimants*, (Deloitte Review 2016), Joy Forehand and Michael Greene, *see*, https://www.youtube.com/watch?v=Rili-UySfgE.

7 We are keenly aware and committed to ensure AI works for humans, especially those suffering a job loss, because as a recent article in *The Atlantic* warned, "If the AI's goal is even slightly off-kilter from ours, it could be a rampaging force that would be very hard to constrain. We know this from history: Industrial capitalism is itself an optimization function, and although it has lifted the human standard of living by orders of magnitude, left to its own devices, it would also have clear-cut America's redwoods and de-whaled the world's oceans. It almost did." *See*, The Atlantic, *Inside the Revolution at Open AI*, (Sept. 2023), Ross Andersen, p. 34.

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