

T3 INNOVATION NETWORK

Work Group 1 Report

Stakeholder Use Cases for
Achieving Breakthrough Innovations

MAY 2018



U.S. CHAMBER OF COMMERCE FOUNDATION
Center for Education and Workforce

INTRODUCTION

The T3 Innovation Network organized Work Group 1 to identify the most important stakeholder use cases for achieving breakthrough innovations through the application and convergence of Web 3.0 technologies. The work group was asked to identify the following:

- Highest-impact stakeholder use cases where Web 3.0 technology convergence could improve interoperability and achieve breakthrough innovations in:
 - Employer signaling of hiring requirements, including competencies and credentials
 - Talent sourcing including recruitment, screening, verification, and hiring
 - Learners pursuing career, education, and credentialing opportunities
 - Education and training providers improving their delivery of services to employers and learners
- Challenges and issues that should be addressed in the technical work groups
- Performance metrics for evaluating the potential impacts of pilot projects based on these use cases
- Ethical considerations

This work group report first summarizes the most important stakeholder use cases for exploring breakthrough innovations through the application of Web 3.0 technologies. Next, the report summarizes major technology challenges and issues that cross-cut these use cases. The report then highlights possible performance metrics that could be used in evaluating the impacts of pilot projects addressing these use cases as well as ethical considerations. The report concludes by providing a proposed template for Work Groups 2, 3, and 4 to use in developing pilot project ideas for these stakeholder use cases, technical challenges and issues, performance metrics, policy barriers, and ethical considerations.

STAKEHOLDER USE CASES

Stakeholder use cases address what key stakeholders need to do better to improve the functioning of the talent marketplace. The following stakeholder use cases provide the most important opportunities for achieving breakthrough innovations.

Employer Use Cases

Signaling

- Communicate critical job descriptions and related hiring requirements (e.g., job postings) including competency and credentialing requirements.¹
- Communicate internships and other types of work-based learning opportunities to the talent marketplace.

¹ Competency requirements are statements about what someone knows and is able to do including employability skills. They also may include values, beliefs, attitudes, and personality traits that enable people to thrive in the work environment of an employer. Competency requirements may go beyond competency statements to include more detailed information about how competencies are demonstrated and assessed. This additional information is important in improving communication between employers, education and training providers, and learners.



- Communicate critical team projects, roles, and how these projects and team members are evaluated and assessed.

Recruitment

- Search and discover potential talent sourcing partners (e.g., education and training providers) with programs that provide credentials and competencies that match the employer's hiring requirements, including how competencies are demonstrated and assessed.
- Search and discover potential job candidates (including internal candidates) that match competencies, credentials, and other hiring requirements with the potential for successful recruitment, hiring, and advancement.
- Search and discover internal and external candidates for building project teams.
- Develop new competency requirements and use them to identify potential candidates from existing talent pools including previous applicants and internal candidates.
- Determine the impact of unnecessary hiring requirements (e.g., bachelor's degree) that may reduce potential candidates and the diversity of that talent pool.

Application, Screening, and Verification

- Request and obtain complete and verified information related to job profiles and hiring requirements necessary for screening, matching, and hiring decisions.
- Send feedback to learner and education and training providers on gaps between job requirements and learner competencies and credentials, including preferred competency demonstrations.
- Analyze the competencies that are consistently lacking within an industry and use that data to create pre-requisite criteria that can be used to trigger position or internship placement.

Onboarding and Development

- Determine and address gaps in competencies and credentials necessary to attain expected job performance during onboarding process.
- Further develop and credential employees to meet changing needs.

Performance Analytics

- Analyze and profile top job performers in critical jobs to determine hiring requirements and preferences (especially competency and credentialing requirements) as well as potential sourcing channels and partners.

Learner (Student/Worker) Use Cases

Signaling

- Communicate to employers and education and training providers their career and education goals and their curated competencies, learning demonstrations, and credentials that can be validated.



Career and Education Opportunity Search and Discovery

- Search and discover jobs and professional education and credentialing opportunities that best match career goals based on the evaluation of accumulated competencies and credentials.
- Search and discover other career and education opportunities that match current competencies and credentials that have not been considered by a learner.
- Search and discover changing employer hiring requirements, determine gaps with current competencies and credentials, and how best to fill these gaps with education, training, and credentialing opportunities.
- Search and discover where other learners have developed and credentialed different competencies as a guide in developing career and education plans.

Application, Screening, and Verification

- Maintain and manage resumes and comprehensive learner records along with verifications through professional profiling tools and systems.
- Use these tools and systems to publish professional profiles on the open web.
- Use these tools and systems to translate competencies and credentials in resumes and comprehensive learner records to the language used to describe hiring requirements in job postings.
- Use these tools and systems to complete, manage, and screen applications for employment, education, and credentialing opportunities through public-private financing and means-tested programs while protecting privacy.
- Use these tools and systems to increase equity and diversity in the application process.

Participation and Transition

- Use tools and systems to manage information—including who can see it, when, and where—to participate in opportunities and programs.
- Use tools and systems to manage information to obtain records of participation/completion and use this information to transition into other opportunities and programs.

Performance Analytics

- Analyze and profile successful job performers in jobs related to a learner's career goals. Then identify competency and credentialing profiles and how to build a similar profile for future hiring and promotion.

Education & Training Provider Use Cases

Signaling

- Communicate competency, learning demonstration and assessment, and credentialing requirements to employers and learners to improve alignment with employer and learner needs.



Search and Discovery

- Search and discover changing employer hiring requirements for updating and aligning relevant programs.
- Search and discover current job postings that best match program competencies and credentials as well as persistent gaps.
- Search and discover employer partners and their job opportunities that best align with programs and credentials and the gaps that still exist between employer hiring requirements and program competencies and credentials.
- Search and discover related education programs and credentials for providing career, education, and advancement opportunities within career and education pathways.
- Search and discover learners where programs and credentials will provide the best value for economic and education advancement.
- Search and discover comparable information on how other education and training providers are responding to changing employer needs.

Learner Services

- Outreach and enroll new or underserved populations to promote economic opportunity.
- Guide learners in making connections with other education and training providers and employers to achieve career and education goals.
- Guide learners who are in the workplace on next steps in pursuing career and education pathways.
- Provide services to graduates to update their learning and credentials based on changing employer preferences, programs, and credentials.
- Provide assessment services to verify new competencies acquired through employment and continuing professional education.
- Provide services to learners to document and verify learning and competencies to demonstrate progress for accessing and maintaining competency-based financial assistance (e.g., new competency-based approaches to employer tuition assistance, student grants, and loans).

Align Programs/Credentials and Learner Records

- Use employer hiring requirements and the application requirements for related programs and credentials to develop and update programs and credentials.
- Use employer requirements for hiring, applications, credentials, and public/private financing (e.g., student grants/loans, means-tested government programs) to update information provided in comprehensive learner records (e.g., transcripts).
- Respond to employer's changing hiring requirements in real-time rather than in scheduled program improvements (e.g., annual).
- Improve alignment and connections with learning opportunities offered by other education and training providers to reduce time and cost to credentials.
- Access and manage credentialing information across multiple providers.

Performance Analytics

- Analyze and profile successful program graduates and get feedback from employers to adjust and update programs and credentials.



TECHNICAL CHALLENGES & OTHER ISSUES FOR WORK GROUPS

The following are technical challenges and issues that cut across multiple stakeholder use cases.

Improving Search & Discovery

- **Open Linked Data.** Employer, education and training provider, and student/worker information is not always published on the open web in ways that can be easily accessed, analyzed, and linked to other data to improve the search and discovery process in the talent marketplace.
- **Trust in Assertions.** We have no way of knowing whether student and worker claims in professional profiles about competencies, credentials, and work histories can be trusted before going through a verification process. We have the same issues with education and training provider claims on the credentials they offer to students and workers, including the competencies of those they credential.
- **Competency Development and Translation.** Stakeholders cannot develop, translate, compare, and analyze competencies to improve search and discovery of the best opportunities in the talent marketplace.

Improving Application Processing & Verification

- **Demand-Supply System Interoperability.** There is a lack of alignment between recruitment and applicant processing systems and learner record management systems that manage learner information in the form of resumes, transcripts, and professional profiles.
- **Competency Development and Translation.** Stakeholders cannot translate, compare, and analyze competencies to improve screening and selection, in part because of the challenges stakeholders face when developing and communicating these competencies.
- **Verification.** It costs stakeholders time and money when verifying assertions in learner records including information on education, credentials, work history, and other hiring requirements.

Improving Performance Analytics

- **Access to Large-scale Data and Analytic Tools.** Stakeholders do not have equal access to large-scale data and tools needed to make better decisions in search and discovery and application processes. This includes data on career and education outcomes of students and workers within and across national, state, and local talent markets.

These technical challenges must be addressed with the full understanding that all major stakeholders have widely varying capacities in using technology. This includes small and mid-sized employers, students and workers from low-income and disadvantaged backgrounds, and many education and training providers including universities and colleges.



EXPLORING PERFORMANCE METRICS

Performance metrics should focus attention on breakthrough opportunities that create shared value for employers, learners, and education and training partners and lead to a more responsive, dynamic, and inclusive talent marketplace. They also should promote a balanced approach to innovation that improves time, cost, and quality while improving market efficiency, economic opportunity, and diversity. In addition, they should be designed for disaggregation by demographics, geographic area, and types of education and training providers.

Example Employer Metrics

Metric: Reduced time and cost in sourcing diverse qualified talent who are retained and productive

- Reduced time and cost in identifying sourcing partners (e.g., education, training, and credentialing providers) and diverse pool of potential candidates that meet competency and credentialing requirements
- Reduced time and cost in recruiting and processing qualified applicants
- Reduced time and cost in verification of competencies and credentials and related work experience in the talent sourcing process

Metric: Improved effectiveness in sourcing diverse qualified talent who are retained and productive

- Number and percent of education, training, and credentialing providers aligned to competency and credentialing requirements that can provide a diverse qualified applicant pool
- Number and percent of potential candidates and applicants that meet competency and credentialing requirements
- Number and percent of potential candidates and applicants from untapped and diverse populations
- Number and percent of qualified potential candidates and applicants who are successfully hired and onboarded
- Number and percent of qualified hires that are retained and achieve full productivity within expected time periods

Example Learner (Students & Workers) Metrics

Metric: Reduced time and cost in developing career and education goals along with finding employment, learning, credentialing, and financial assistance opportunities consistent with those goals

- Reduced time and cost in finding career and employment opportunities
- Reduced time and cost in finding education and training programs and credentials related to career and education goals
- Reduced time and cost in finding financial assistance

Metric: Reduced time and cost in applying for employment, learning, credentialing, and financial assistance opportunities and attaining credentials

- Reduced time and cost in providing the necessary information for completing an application
- Reduced time and cost in verification of competencies, credentials, and related work experience in the application process



- Reduced time and cost in transferring between learning opportunities (e.g., receiving advanced standing from prior learning, accelerated opportunities for postsecondary transfer, providing alternative pathways to credentials)
- Reduced time and cost in attaining credentials

Metric: Improved effectiveness in meeting application requirements, accessing opportunities (e.g., hired, enrolled, and approved for financing), and achieving value from opportunities (e.g., employment and earnings, credential attainment, financing) consistent with those goals

- Number and percent of learners enrolling in education and training opportunities aligned with employer hiring requirements consistent with career and education goals
- Number and percent of learners accessing programs and financing necessary to participate in and complete programs to achieve credentials consistent with career and education goals
- Number and percent of learners that meet competency and credentialing requirements of employers consistent with career goals
- Number and percent of learners from untapped and diverse populations enrolling in aligned programs and meeting employer hiring requirements
- Number and percent of learners that are successfully hired and onboarded
- Number and percent of learners that are retained and achieve full productivity within expected time periods

Example Education & Training Provider Metrics

Metric: Reduced time and cost in identifying and aligning with employer partners and their competency and credentialing requirements

- Reduced time and cost in identifying potential employer partners
- Reduced time and cost in translating and aligning programs and credentials with employer hiring requirements
- Reduced time and cost in establishing sourcing partnerships with employers

Metric: Reduced time and cost in sourcing diverse qualified talent who enroll, complete programs, and attain credentials

- Reduced time and cost in identifying and recruiting diverse qualified talent to apply for programs and credentials
- Reduced time and cost in recruiting and processing qualified applicants.
- Reduced time and cost in verification of competencies, credentials, and related work experience in the application process

Metric: Improved effectiveness in creating shared value for employers and learners and expanding opportunity

- Number and percent of learners completing programs and attaining credentials consistent with their career and education goals
- Number and percent of learners completing programs and attaining credentials that meet employer hiring requirements
- Number and percent of learners meeting hiring requirements that are hired, retained, and fully productive within expected time periods
- Percent of learners engaged in work consistent with their career goals
- Average earnings of learners and percent attaining earnings consistent with career goals
- Reduction in the gaps of program completion and credential attainment rates of learners from untapped and underserved populations
- Reduction in the gaps of employment rates and earnings of learners from untapped and underserved populations



ETHICAL CONSIDERATIONS

T3 Innovation Network partners should address major ethical considerations in exploring breakthrough opportunities in the talent marketplace.

- **Promoting Opportunity and Diversity.** How do we promote diversity and expand opportunities for disadvantaged and underserved populations? How do we ensure that artificial intelligence and machine learning algorithms do not have the unintended consequences of reducing access and diversity?
- **Ensuring Digital Access.** How do we ensure equity of access for disconnected populations who lack digital literacy and may be left out of the emerging benefits of these innovations?
- **Learner Agency and Self-Sovereignty.** How do we expand the capacity of more learners to manage and control their information to achieve better results in the talent marketplace? How do we do this in ways consistent with national and international laws and regulations that are designed to protect the rights of learners?
- **Privacy and Data Security.** How do we achieve these breakthrough innovations while ensuring privacy and data security?



IDENTIFYING POTENTIAL PILOT PROJECTS

TEMPLATE & EXAMPLE

T3 Innovation Network partners including participants in all four work groups will be developing and sharing ideas on potential pilot projects. They should be encouraged to use the following template in describing these pilot project ideas.

Pilot Project Summary	What is the proposed pilot? What would it take to demonstrate the simplest version of the big idea?
------------------------------	---

[EXAMPLE]

Job Registry Project: Provide employers and their HR technology providers the tools and resources they need to clearly communicate their hiring requirements (both competency and credentials) in a rapidly changing talent marketplace.

Stakeholder Use Cases & Challenges	Who are the stakeholders and how will the project address their challenges?
---	---

[EXAMPLE]

Employers: Communicate critical job descriptions, profiles, and hiring requirements (e.g., job postings) to the talent marketplace.

Education & Training Providers: Search and discover changing employer hiring requirements for updating and aligning relevant programs and credentials to address changing needs and fill skill gaps. Also, search and discover employer partners with the best alignment to programs and credentials.

Current Challenge: Employers do not have the tools and systems to clearly communicate competency and credentialing requirements in ways that can improve alignment with education and training programs and talent supply.

Breakthrough Innovation	What is the big idea? Describe the potential innovation and how Web 3.0 technology convergence can be leveraged.
--------------------------------	--

[EXAMPLE]

Improve standardization in how employers communicate hiring requirements on the open web and directly to talent sourcing partners. Provide them with tools to communicate competency and credentialing requirements.



Project Metrics

What does success look like, and how will it be measured?

[EXAMPLE]

Employers:

- Reduced time and cost in identifying talent sourcing partners and diverse pool of potential candidates that meet competency and credentialing requirements
- Number and percent of education, training, and credentialing providers aligned to competency and credentialing requirements

Education & Training Providers: Reduced time and cost in –

- Identifying potential employer partners
- Translating and aligning programs and credentials with employer hiring requirements
- Establishing sourcing partnerships

Ethical Aspects, Equity Considerations, & Policy Implications

What are the equity, ethical, and policy implications and considerations—intentional or otherwise—of the innovation?
How will stakeholders need to balance value creation with risk?

[EXAMPLE]

- Improved communication and alignment may not provide improved opportunities for small and mid-sized companies nor expand opportunity and diversity for learners and workers.
- Improved signaling may reinforce existing inequities instead of actualizing more open pathways to opportunity.
- There are future policy risks in government mandating what, where, and how job posting information is published.

