



**BRIDGING THE GAP:
Aligning Education and Workforce
Adoption of Digital Credentials**

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EXECUTIVE SUMMARY

Digital Credentials - verifiable, secure, digital records of a learner or employee's skills and achievements - have the potential to transform how skills are understood and evaluated in hiring. However, despite the increasing availability of credential data, employer adoption remains limited. (See Badge Count 2025)

To better understand this gap, 1EdTech conducted research across the workforce community, including reviewing published research, conducting focus group discussions, and engaging industry experts. This work sought to identify why credential data is not more widely used in hiring and what changes are needed to improve adoption.

Across this research, a consistent pattern emerged: employers are not lacking data, but they are struggling to interpret and trust it within real hiring workflows.

Employers rely on familiar signals—such as degrees and resumes—not because they are perfect, but because they are widely understood. By contrast, digital credentials often contain richer and more specific information, but lack consistency in how that information is structured, captured, and authored. As a result, even when relevant data exists, it is not always usable in practice.

KEY FINDINGS FROM THIS WORK:

- **Credential data is often difficult to interpret quickly, particularly in time-constrained screening processes**
- **Important information—such as evidence, assessment methods, and skill context—is inconsistently captured or not easily accessible**
- **Different reviewers (e.g., recruiters vs. hiring managers) rely on different signals at different stages of the process, but credential data is not designed to support this progression**
- **Employers continue to rely on familiar proxies because they provide consistent, if imperfect, signals of capability**
- **Current technology supporting hiring (eg: HRIS and ATS systems) are not designed to support rich credential data.**

Taken together, these findings point to a central challenge: credential data, including how it is written and shared, is not consistently aligned with how employers make hiring decisions in practice.

Because recruiters, hiring managers, and other stakeholders engage with candidate information at different stages and rely on different signals to build trust over time, credential data must support both rapid screening and deeper evaluation across multiple reviewers.

To address this challenge, this report introduces a practical set of data elements designed to improve employers' interpretation of credentialed skill and achievement claims.

These components reflect how employers evaluate skills in practice and provide a foundation for structuring credential data in a way that is both human and machine-readable.

In addition to defining what data is needed, the report highlights the importance of how that data is authored. Clear, specific, employer-aligned language is critical to ensuring that credential information is understandable and usable in hiring decisions.

The report also emphasizes that improving employer adoption requires coordinated action across the ecosystem. Issuers must align credentials to employer needs, platforms must support different types of reviewers and workflows, and employers must engage in defining and using structured skill data.

While the Minimum Employer Trust data model provides an immediate starting point, broader adoption will require a more comprehensive, interoperable data model.

Work is already underway within the 1EdTech community to advance this effort through the TrustEd Credentials Open Badges 3.0 Profile, which is poised to evolve into a full data model that supports these requirements.

Together, these efforts represent a path forward: improving how credential data is structured, authored, and aligned with real hiring practices to build trust and enable more effective, skills-based hiring.

The transition to skills-based hiring will not be driven by data alone, but by trust in the data's interpretability and in the interoperability of the credentials that carry it. This report provides a practical foundation for building that trust.

Four Key Components of the Dataset



Skill Identification



Achievement Context



Evidence of Skill



Trust Signals

METHODOLOGY

This report is based on a synthesis of research and industry engagement conducted across the credentials community to better understand how credential data is used—and not used—in hiring.

THE WORK DRAWS ON MULTIPLE SOURCES OF INPUT, INCLUDING:

- **In-person convenings and facilitated workshops with industry experts**
- **Interviews and direct engagement with workforce stakeholders**
- **Working group discussions across digital credentials, LER, and employer data initiatives**
- **Public sessions, discussions, and community feedback**

In addition to primary research, this report incorporates findings from leading employer-focused studies and workforce research, including work from organizations such as the UpSkill America, Society for Human Resource Management (SHRM), Burning Glass Institute, Northeastern University, the U.S. Chamber of Commerce Foundation, Jobs for the Future, and the Digital Credentials Consortium. (See Appendix for full list of referenced reports.)

Rather than relying on a single dataset, this report synthesizes patterns observed across these inputs to identify consistent challenges and opportunities in how credential data is interpreted and used in hiring.

The goal of this work is not to provide a comprehensive analysis of all credential use cases, but to define a practical, minimum set of data elements that can improve employer interpretation and trust, and to inform the development of more complete and interoperable data models.

THE EMPLOYER PROBLEM:

WHY CREDENTIAL DATA ISN'T WORKING YET

Employers are under increasing pressure to make faster, more accurate hiring decisions - often with incomplete or unreliable information. As organizations shift toward skills-first hiring, the limitations of traditional signals like resumes, degrees, and job titles have become more apparent.

This shift is driven by talent shortages, misaligned credentials, and growing evidence that resumes are an unreliable indicator of actual capability.

The significant expansion of digital credentials, while theoretically offering clear, verifiable signals of skills and aligning with the push for validated skills and transparent learning outcomes, often fails to deliver in practice. Employers need clearer, more trustworthy ways to understand what an individual candidate can actually do.

The Core Problem: Interpretation

The issue is not the existence of credentials—it is their ability to be understood by employers.

Employers are not evaluating credentials as standalone artifacts. They are looking for clear, validated signals of capability within credential data.

4 QUESTIONS THAT DECIDE EVERYTHING:

- What skill is being claimed?
- What did the individual actually do?
- How was that skill assessed?
- Why should I trust this claim?

Too often, credentials do not clearly answer these questions. Credentials are also often issued at different levels—from individual skills to full courses, programs, and degrees—adding complexity to the interpretation of skill information.

Why Resumes Still Dominate

Resumes remain dominant because they are familiar, flexible, easy to scan quickly, and because other forms of credentials are often not supported by HR systems.

However, they introduce well-known risks: resume data is self-reported, terminology varies widely among candidates, and evidence of actual performance is often unclear, as job seekers aren't always skilled at articulating what they know and can do.

Employers compensate for these gaps by relying on brand identity and through interviews, reference/background checks, and additional assessments—but these steps are costly and time-consuming.

Employers also rely heavily on familiar proxies when making decisions. Credentials such as degrees often signal more than subject-matter knowledge—they are interpreted as indicators of persistence, discipline, and the ability to achieve long-term goals.

Because these signals are widely understood, they carry weight even when they are imperfect. By contrast, newer or less familiar credentials may contain richer and more specific data about the learner and their achievements, but are less likely to be trusted or used if employers do not recognize or understand what they represent.

Digital credentials should reduce this uncertainty through structured, verifiable, and machine-readable data, enabling HR systems to ingest a candidate's credential data—something resumes rarely provide at scale and often represent only in a flat, human-readable format.

The Credential Paradox

Credentials are increasingly available, but not consistently usable.

While some credentials already include data such as skills, assessment criteria, and evidence, this data is often inconsistently structured, unevenly authored, or overly generic and vague—and in some cases exists outside the credential entirely—making it difficult for employers to interpret quickly. In short, trust signals are inconsistent, and credentials are difficult to compare across sources. As a result, credentials are typically treated as supplemental, not primary, hiring inputs.

This suggests the need for a more consistent, employer-aligned way of structuring credential data so that skill claims and other achievements can be more easily understood and evaluated across contexts. Employers do not need more documents; they need reliable signals of capability and trust. In this context, trust is not created by the presence of data alone, but by how easily that data can clearly communicate what the skill or achievement is, how it was demonstrated, how it was assessed, and why it is credible—without requiring additional interpretation.

These are not just technical problems. They reflect inconsistent data structures, unclear expectations across the ecosystem, and limited guidance on how to author credential data effectively.

HOW EMPLOYERS ACTUALLY MAKE DECISIONS

Employers do not make hiring decisions by evaluating credentials in isolation. They make decisions by interpreting signals under time pressure and across large pools of candidates.

In practice, hiring is about reducing uncertainty: can this person do the job, how quickly can they contribute, and can the information be trusted?

Decision-Making in Practice

Across research and employer feedback, hiring follows a consistent pattern.

For employers starting a candidate search process, often using Recruiters, the first goal is to quickly identify qualified candidates at scale. This is often done with a quick scan for fit by reviewing resumes, applications, or Applicant Tracking System (ATS) summaries.

To facilitate comparison across numerous candidates, employers require information that is easy to interpret and compare. Early in the process, reviewers rely on quick signals—such as the issuing organization, recognizable skill names, or the presence of supporting evidence—to determine whether a candidate should move forward. Later stages require deeper validation.

Hiring Workflow



Employers then look for evidence, moving from a claim (“has a skill”) to indications of demonstrated capability through experience, projects, or assessments. Hiring managers evaluate a candidate’s demonstrated capability and fit for a specific role. They may look more closely at evidence, assessment methods, and the context in which skills were demonstrated to determine whether the candidate can perform in the role.

Finally, they seek validation, confirming credibility through interviews, references, or additional checks. Supervisors or team leads may later assess readiness for performance in a real work environment.

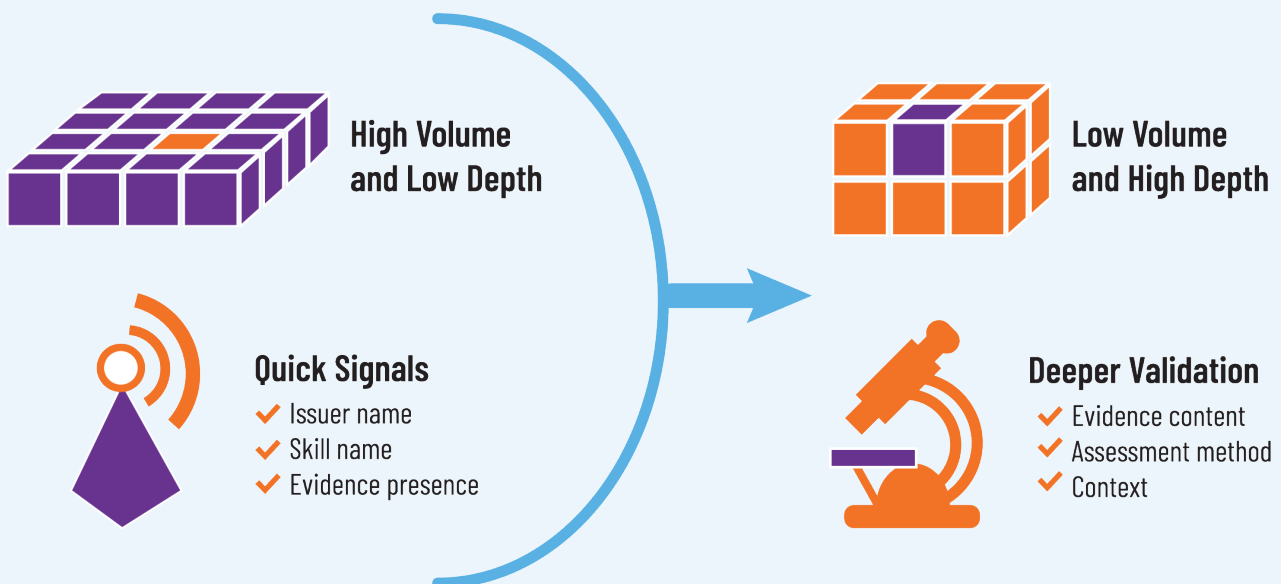
This reflects skills-first hiring: employers are looking for validated signals of capability they can trust and compare. Hiring decisions are not made by a single reviewer at a single moment.

Instead, they unfold across multiple stages involving different roles, each with its own priorities and constraints.

As a result, credential data is used and interpreted differently depending on who is reviewing it and when in the hiring process. Information that is useful at one stage may be less relevant at another. For example, formal skill definitions might be helpful for recruiters to identify and compare candidates at scale, but a hiring manager is likely more interested in the specific context in which the candidate can perform that skill.

The presence of evidence may act as an initial trust signal for a recruiter, while the content of that evidence becomes more important during later evaluation. Similarly, structured skill information may support filtering and matching in early stages, while detailed descriptions and context support final decision-making.

From Quick Signals to Deeper Evaluation



As a result, credential data must support both rapid screening signals and deeper validation details within the same structure. This also raises a dilemma for credential issuers, as they will not know when or who a credential is being used, and therefore will need to include data that can fulfill all possible requirements in the hiring process, while relying on HR systems to help surface the data appropriately when and where needed.

The Workflow Gap

In practice, digital credentials are not well integrated into hiring workflows. Credentials are often accessed via links or external platforms rather than embedded in hiring systems, making them harder to use at speed and at scale. The issue then is not only that credentials may lack the needed data, but that they are not consistently usable within employer workflows.

Digital credentials have the capacity to support each step: clearer skill descriptions for screening, evidence and assessment detail for evaluation, and verifiable information for validation, but the hiring systems need a clear and consistent way to access that information at the various points of the hiring process.

Hiring systems prioritize speed, comparison, and scale. Currently, there is no incentive to take the extra time to access information that is difficult to interpret, inconsistent across candidates, or not machine-readable, and therefore that valuable information is less likely to be used.

Even when credentials contain rich data, employers may not see it in their hiring processes, understand it quickly, or rely on it in decisions at scale. Instead, digital credentials are typically treated as supplemental rather than primary inputs.

What Employers Need

For credential data to be useful, it must align with how decisions are made. Employers need information that is easy to compare, clearly tied to industry or workforce-aligned skills, supported by evidence, transparent in how it was assessed, and credible.

When these conditions are met, credentials can function as meaningful signals. When they are not, credentials remain peripheral.

WHAT EMPLOYERS SAY THEY NEED

As organizations move toward skills-first hiring, employer research converges on a simple point: better signals are needed to support decisions. Findings from SHRM, UpSkill America, and Competency-Based Education Network (C-BEN) point to a consistent set of needs.

Clarity of Skills

Employers need to understand what a skill claim actually means. Broad labels like “communication,” “leadership,” or “data analysis” are too ambiguous on their own.

Useful skill information combines a clear, shared (canonical) definition with a brief description of how the individual demonstrated the skill in context. This supports interpretation and comparison across candidates.

Evidence of Capability

Employers want evidence, not just claims. A skill has limited value without some indication of what the individual actually did—through a project, task, or real-world application. Even a brief description of the activity can materially improve the interpretation of a credential.

Transparency of Assessment

Employers need to understand how a skill was evaluated. Visibility into the method—practical task, exam, or observation—strengthens confidence in the claim and aligns with C-BEN’s emphasis on outcomes-based assessment.

Without this, employers often default to other signals (resumes, interviews) or introduce additional assessments rather than relying on credential data, which takes time and adds cost to the search process.

Trust and Validation

Employers look for clear signals of credibility: who issued or validated the credential, what authority they have, and whether the information can be verified.

Trust is a combination of signals that enable quick judgment, not a single field.

Consistency and Comparability

Employers need consistency across credentials. Information should be structured so it can be compared across candidates and sources.

Inconsistent formats, terminology, or levels of detail limit use at scale, especially in systems that filter or rank candidates.

Key Insight

When skills are specific, supported by evidence, transparently assessed, and backed by credible sources, they are used. When they are not, they are often ignored.

Employers are not necessarily asking for more data—they are asking for clearer, more interpretable, and more trustworthy signals of capability. Different data elements add value at different stages, reinforcing the need to align credential data to how hiring decisions are made in practice—supporting screening, evaluation, and final decision-making.

Taken together, these needs point to the importance of defining a minimum set of data elements required for employers to interpret and trust credentialed skill claims.

WHY CURRENT CREDENTIALS FALL SHORT

Despite clear and consistent employer needs, current credentials often fall short in practice.

Skill definitions, when included, are frequently too broad or inconsistent to interpret reliably. Labels such as “leadership” or “communication” are used widely, but without sufficient context to understand what was actually demonstrated. As Meena Naik, Senior Director, Education, from Jobs for the Future (JFF) said at the 2026 1EdTech Digital Credentials conference, “Keywords are not skills.”

Evidence of capability is often missing, minimal, or difficult to access within hiring workflows. While some credentials include links or descriptions of evidence, these are not consistently present or easy to evaluate within hiring workflows.


Assessment methods are not consistently visible. Employers cannot easily determine how or when a skill was evaluated, making it difficult to judge the strength of the claim without conducting additional validation, so the credential isn’t saving them that time.

Trust signals vary widely. In many cases, it is unclear who validated the skill, what standards were applied, or how the credential can be verified.

Finally, credential data is not consistently structured for comparison at scale. Differences in terminology, format, and level of detail make it difficult to compare candidates across sources or integrate credential data into hiring systems.

These gaps are not due to a lack of data. In many cases, the information exists, but may not be included within the credential, and may be inconsistently structured, unevenly authored, or not presented in ways that support interpretation and use.

Why Credentials Fall Short

Employer Needs	Current State
● Clear skills	● Vague or inconsistent labels
● Evidence	● Missing or hard to access
● Assessment	● Not visible
● Trust	● Inconsistent signals
● Comparability	● Different formats/structures

A MINIMAL DATA MODEL FOR EMPLOYER TRUST

Taken together, these gaps point to a simple need: a consistent set of information that allows employers to interpret credential data quickly and confidently within hiring workflows.

At its core, employer trust depends on the ability to answer four practical questions:

- What skill is being claimed?
- What is the achievement context?
- What evidence supports the claim?
- Why should this claim be trusted?

These questions reflect how employers already evaluate candidates. When credential data clearly answers them, it can function as a usable signal. When it does not, it is often ignored.

This report proposes a minimal, structured set of data elements designed to support employer trust and interpretation. This is not a comprehensive data model, and a more complete model is still required for full implementation across systems.

Four Components of Employer-Usable Credential Data

This data model is organized into a set of four core data components that reflect how employers interpret credentialed skill claims.

Minimum Employer Trust Dataset



Skill Identification

- ✓ Skill name
- ✓ Definition
- ✓ Proficiency

Achievement Context

- ✓ Credential name
- ✓ Issuer
- ✓ Criteria

Evidence of Skill

- ✓ Evidence description
- ✓ Artifact link
- ✓ Assessment method

Trust Signals

- ✓ Issuer credibility
- ✓ Validation
- ✓ Endorsements

Skill Identification and Representation

Skill data must clearly define what skill is being claimed while also conveying how that skill is demonstrated by an individual.

THIS REQUIRES TWO COMPLEMENTARY ELEMENTS:

- **Shared skill reference: a standardized definition of the skill, including its name, identifier, and alignment to a recognized framework or taxonomy. This enables consistency, interoperability, and comparability across systems.**
- **Individual skill expression: contextualized information about how the skill was demonstrated within the credential, including relevant evidence, assessment, and performance details.**

Both elements are necessary. Shared definitions allow employers to quickly interpret and compare skills across candidates, while individualized expressions provide the context and evidence needed to evaluate real capability. Without shared references, skills are difficult to compare; without individual context, they are difficult to trust.

Effective credential data therefore integrates both layers—standardized skill definitions for clarity and alignment, and individualized data to support meaningful evaluation and decision-making.

Achievement Context

Achievement Context includes information about the conditions under which a skill was demonstrated, including:

- **Type of achievement**
(e.g., course, certification, degree, skill-level credential)
- **Environment or domain**
- **Date of assessment or issuance**
- **Duration or time investment**
- **Recency or expiration, where applicable**

Recency and context play a significant role in how employers assess the relevance and transferability of a skill.

Evidence of Skill

Evidence of Skill includes both the demonstration of capability and the method by which that capability was assessed.

This may include:

- **Evidence artifacts or work products**
- **Descriptions of demonstrated performance**
- **Assessment methods**
(e.g., performance task, exam, rubric)
- **Evaluation criteria or thresholds**
- **Performance outcomes, where applicable**

Employers consistently value not only evidence of work, but clarity in how that work was evaluated.

Trust Signals

Indicates why the claim should be considered credible. This includes who issued or validated the credential, whether it can be verified, and any additional signals that support trust.

Common elements include the issuing or validating organization, validation method, and any endorsements or alignments that strengthen credibility.

A Minimal, Interpretable Structure

It is also important to recognize that credentials are issued at different levels of granularity. Some credentials represent individual skills, while others represent broader achievements such as courses, certifications, or degrees. In these cases, a single credential may represent multiple underlying skills.

Issuers may choose to represent skills individually or package multiple skills within a broader credential. Both approaches can be valid, depending on the use case. However, for credentials to be employer-usable, this distinction must be explicitly addressed in how data is structured and presented.

Even when a credential represents a broader achievement, the relevant skill-level information—definitions, evidence, assessment, and trust signals—should still be clearly expressed for each skill in a consistent format. This ensures that each skill can be interpreted, compared, and used in hiring workflows, regardless of how it is packaged.

Where possible, skill definitions should align with shared frameworks or commonly understood terminology, while allowing additional detail on how the individual demonstrated the skill.

These components are not entirely new data—they reflect information that may exist within credentials, in linked systems, or in some cases not be captured at all. Where it does exist, it is often not consistently structured, captured, or presented in ways that support employer interpretation.

The goal is not necessarily to increase the amount of data, but to improve its clarity, consistency, and usability, although in some cases, new data will be needed.

When credential data is structured this way, it becomes easier to quickly interpret skill claims, compare candidates across sources, integrate information into hiring systems, and reduce redundant validation steps. This approach ensures that the same underlying data can support both individual skill credentials and broader credentials that include multiple skills.

A more detailed set of illustrative fields aligned to these components is provided separately.

Multi-Skill Credentials

Credentials may represent a single skill or multiple skills within a broader achievement, such as a course, certification, or degree.

In cases where multiple skills are represented, the model should support repeated skill-level data for each skill, including:

- **Shared definition or reference**
- **Individual context or expression**
- **Evidence and assessment information**

This ensures that each skill can be interpreted consistently, rather than being inferred from a broader credential.

Key Insight

Employer trust does not come from the presence of a credential alone. It comes from the ability to interpret that credential and its data, as a clear, credible signal of capability.

A minimal, well-structured set of data—aligned to how employers make decisions—can significantly improve how credentials are used in hiring.

Employers consistently emphasized the importance of minimal but consistently structured data over more extensive but variable representations.

A more comprehensive data model is required to fully implement these concepts across systems. Work is already underway within the 1EdTech community to extend existing standards, such as the TrustEd Credentials Open Badges 3.0 Profile, to support these requirements.

WHAT GOOD LOOKS LIKE: AUTHORING MATTERS

Even when the right data fields are present, credentials can still fail to support hiring decisions if the information is not written in a way that is easily understood by the employer interpreting the results.

In practice, one of the most common challenges is not simply missing data, it's how that data is written - the language used - so that it is clearly understood by employers. Vague, generic, or internally focused language reduces both human and machine interpretability, limiting the usefulness of credentials in real workflows. This reinforces the need for clear, consistent authoring guidance for key credential data elements.

Effective authoring balances consistency and specificity. Skill names and definitions should align with shared, commonly understood terminology, while descriptions, evidence, and assessment details should reflect the individual's actual performance and context.

Improving authoring is therefore not a secondary concern—it is central to making credential data usable by employers.

What Strong Authoring Looks Like

Effective credential data shares a few common characteristics.

Skill descriptions are specific and observable. They describe what a person can do, not what they studied. Where possible, include both a shared (canonical) definition of the skill and a brief, learner-specific description of how it was demonstrated in context.

Evidence descriptions are concrete. They provide learner-specific explanations of what was produced or performed, not just that something was completed.

Assessment methods are transparent. They make it clear how the skill was evaluated and by whom.

Language is written for an external audience, ideally aligned to employer language. Where possible, this includes using terminology co-developed with employers or drawn from job descriptions, and avoiding internal course names, jargon, or assumptions about context.

EXAMPLES OF AUTHORING

The following examples illustrate how shared skill definitions can be paired with specific, observable descriptions of individual performance.

Skill Description

- **Less effective:** Leadership
- **Stronger:** Led a five-person cross-functional team to deliver a software release within a two-week sprint cycle.

Evidence Description

- **Less effective:** Completed project
- **Stronger:** Developed and deployed a REST API, including documentation and automated test coverage, submitted via a public GitHub repository.

Assessment Description

- **Less effective:** Instructor verified
- **Stronger:** Final project evaluated using a rubric assessing system design, code quality, documentation, and successful deployment.

These examples are illustrative rather than exhaustive.

ADDITIONAL FIELD-LEVEL GUIDANCE (SELECTED)

A few targeted examples illustrate how small changes in specific fields can improve interpretability:

Skill Name Visual

- **Less effective:** Intro to Data Analysis
- **Stronger:** Data Analysis (Descriptive Statistics): Summarize and organize key features of a dataset

Skill Description

- **Less effective:** Understands SQL
- **Stronger:** Writes SQL queries to extract, join, and aggregate data from relational databases to support reporting

Assessment Method

- **Less effective:** Exam
- **Stronger:** Timed, proctored exam with scenario-based questions requiring query construction and result interpretation

Evidence Description

- **Less effective:** Final project completed
- **Stronger:** Built a dashboard analyzing sales trends using Python and SQL, including data cleaning, visualization, and written insights

Issuer Name

- **Less effective:** ABC Dept.
- **Stronger:** ABC University, College of Business, Department of Business Administration

A Practical Shift

For many issuers, improving credential usefulness does not require entirely new systems. It requires a shift in how existing fields are written.

By focusing on clarity, specificity, and transparency, organizations can significantly improve how their credentials are interpreted and used—without increasing complexity.

IMPLICATIONS FOR THE ECOSYSTEM

Improving the usability of credential data for employers is not the responsibility of a single actor. It requires coordinated changes across issuers, technology platforms, and employers themselves.

The findings in this report point to a shared challenge: aligning how credentials are created, structured, and used with how hiring decisions actually occur.

For Issuers

Organizations issuing credentials play a critical role in ensuring that skill data is clear, consistent, and meaningful.

This includes improving how data is authored, ensuring that skills are clearly defined and supported by evidence, and aligning language to external audiences rather than internal program structures.

Issuers must also consider how skills are represented within credentials. Whether issuing at the individual skill level or within broader credentials, the relevant skill-level data should be clearly expressed and accessible.

Where possible, issuers should collaborate with employers to align on skill definitions, terminology, and expectations. Co-developed or employer-informed credentials are more likely to be trusted and used in hiring decisions.

It is worth noting that a growing share of job postings now reference non-degree credentials, with many specifying particular credentials. The more issuers can partner with employers in creating their credentials, the more likely those credentials will be accepted.

For Technology Platforms

Platforms that store, display, and transmit credential data shape how that data is experienced by employers.

These systems should support both machine- and human-readable views of credential data. Structured data enables scale and automation, while clear presentation supports human decision-making.

Platforms should also account for different types of reviewers. Recruiters may require concise, scannable summaries, while hiring managers may need access to more detailed evidence and assessment information.

Supporting progressive disclosure—surfacing high-level signals first, with the ability to explore deeper levels of detail—is critical to aligning with real hiring workflows. Platforms should support role-based and stage-based presentation of data to align with how different reviewers interpret information.

For Employers

Employers play a role in defining what makes credential data usable.

By participating in the co-development of credentials, employers can help ensure that skill definitions, assessment methods, and evidence align with real job requirements.

Employers may also need to evolve internal practices to better incorporate structured credential data into hiring workflows, moving beyond reliance on traditional proxies where appropriate.

A Shared Opportunity

No single change will make credential data immediately trusted or widely adopted. However, coordinated improvements across authoring, data structure, and system design can significantly reduce friction.

By aligning credential data with how hiring decisions are actually made, the ecosystem can move toward more consistent, efficient, and skills-based evaluation of candidates.

Advancing toward a shared, interoperable data model will be critical to enabling consistent interpretation and broader employer adoption.

RECOMMENDATIONS AND NEXT STEPS

This report outlines the challenges and opportunities associated with making credential data usable and trustworthy for employers. The findings point to a clear direction: improving employer adoption requires better data aligned to how hiring decisions are made in practice.

The following recommendations are intended to guide action across the ecosystem.

Advance Toward a Full Data Model

While a minimum dataset provides an immediate foundation, a more comprehensive data model is required to support full implementation across systems.

This includes defining relationships between data elements, supporting multiple credential types, and enabling interoperability across platforms.

Existing standards efforts, including the TrustEd Credentials Open Badges 3.0 Profile (expected to be released in the second half of 2026), provide a foundation for this work and are being advanced to support these requirements.

Align Credentials to Employer Language and Needs

Credential data should reflect the language, expectations, and evaluation criteria used by employers. This includes using recognizable skill terminology, clearly describing observable capabilities, and aligning assessment methods to real-world performance.

Increase collaboration between issuers and employers in the design of credentials. Co-developed credentials are more likely to reflect real job requirements and be trusted in hiring workflows.

Support Multi-Stage Hiring Workflows

Credential data and platforms should be designed to support different reviewers and stages of the hiring process. This includes enabling both high-level signals for screening and deeper information for evaluation and decision-making.

Improve Authoring Practices

Establish and promote clear authoring guidance to ensure that credential data is written in a way that is understandable and useful to employers. This includes supporting both canonical skill definitions and learner-specific context.

Build Toward Ecosystem Adoption

Adoption will require coordination across issuers, platforms, and employers. 1EdTech is positioned to support this work by convening stakeholders, defining shared standards, and advancing both a minimum data model and a full interoperable model.

RECOMMENDATIONS FOR FUTURE WORK

Interpretation and Use of Evidence in Hiring Workflows

Employers consistently value evidence of demonstrated skill, but how and when that evidence is reviewed varies widely. Additional research is needed to better understand how evidence is used across roles, stages, and industries, and what formats or levels of detail are most effective in practice.

Proficiency and Comparability Across Contexts

Proficiency is frequently cited as important, yet definitions and scales vary significantly across organizations. Further work is needed to explore how proficiency can be expressed in ways that are both meaningful within a context and interpretable across different employers and systems.

System Constraints and Data Presentation

Employer systems often flatten and limit how credential data is accessed, displayed, or processed, particularly during early-stage screening.

Additional research is needed to better understand how structured credential data can be effectively integrated into existing hiring technologies and workflows without increasing complexity for employers.

Balancing Standardization and Context

Further exploration is needed to understand how shared skill definitions and individualized context can be combined in ways that support both comparability and meaningful interpretation across hiring scenarios.

CONCLUSION

Credential data has the potential to improve how skills are understood and evaluated in hiring. However, this potential is not realized through the presence of data alone—it depends on how that data is used. It depends on whether that data can be consistently interpreted, trusted, and used within real hiring workflows.

This report highlights a core challenge: credential data is often difficult for employers to interpret due to gaps in structure, inconsistencies in how information is captured, and variability in how it is authored.

At the same time, hiring decisions rely on multiple reviewers, evolving levels of trust, and a combination of quick signals and deeper validation. Addressing this challenge requires a more intentional approach to how credential data is defined and used.

The minimal data model to support employer trust introduced in this report provides a practical starting point.

By focusing on a small set of clearly defined and well-authored data elements—spanning skills, context, evidence, and trust signals—it becomes possible to improve how credentialed skill claims are interpreted by employers.

However, this is only the first step. Broader adoption will require continued work to define a more complete and interoperable data model, align credential practices with employer needs, and support implementation across platforms and systems.

Progress will also depend on collaboration. Issuers, employers, and technology providers must work together to align on shared expectations for what credential data should represent and how it should be used.

APPENDIX A: MINIMAL DATA FOR EMPLOYER TRUST

This appendix provides an initial set of illustrative data elements aligned to the minimum employer trust data described in this report.

These elements are intended to support employer interpretation of credentialed skill claims by focusing on clarity, consistency, and usability.

They represent a practical starting point for implementation and feedback, rather than a complete data model.

The data is organized into three layers that reflect how employers interpret credentials: the credential itself, the skills it represents, and the evidence demonstrating those skills.

These fields reflect both shared skill definitions and individual-level data needed to interpret how those skills were demonstrated.

Some fields support alignment to shared frameworks or canonical definitions, while others capture learner-specific context, evidence, and performance.

Evidence-Level Minimum Fields

Field	What it Captures	How to Write It
Skill Name	Name of the skill represented	Use common labor-market terminology; avoid internal course names or other higher ed lingo
Skill Description	What the person can do with the skill	Write as an observable capability, not course content
Proficiency Level Definition	Level of capability achieved	Use a clearly defined scale (beginner/intermediate/advanced or equivalent) and explain how you are defining that level or include employer/industry defined levels
Assessment Method	How the skill was evaluated	Specify evaluation method (performance task, project, observation, exam, etc.)
Assessment Date	When was the skill assessed	Specify the specific date when the skill was assessed. May not be the same as when the credential was awarded or issued.

Note:

Evidence fields should be interpreted alongside assessment information, as employers rely on both the demonstration of work and how that work was evaluated.

Credential-Level Minimum Fields

Field	What it Captures	How to Write It
Credential Name	Name of the credential awarded	Use a recognizable credential title that will resonate with employers; avoid internal codes, generic titles, or jargon.
Issuer Name, Creator & Source Name	Organization(s) issuing and validating, and/or defining the credential	Issuing Organization Name; Creator of the Achievement definition and Source Name (assessor), if different from Issuer
Issue Date	When the credential was issued	Use ISO date format
Credential Criteria	Requirements used to earn the credential	Brief description of assessments or work required

Note:

These fields are not intended to replace existing credential standards, such as Open Badges 3.0, but to highlight the minimum information needed to be included through those standards to support employer trust and interpretation.

Future work will expand on this foundation to define a more comprehensive and interoperable data model.

APPENDIX B: SOURCES REVIEWED – EMPLOYER DATA, SKILLS SIGNALING, AND HIRING PRACTICES

Purpose

The following sources informed analysis of employer demand, interpretation, and use of skills, credentials, and related data in hiring, advancement, and workforce development contexts. Technical standards, APIs, and transport specifications are documented separately.

A. Primary Employer Surveys & Hiring Manager Research

1. Glover, H. (2025). The Case for Validated Skills: What Employers Want and Need. Aspen Institute, UpSkill America.
2. Welsh, A., Alpert, S., Nanovic, A., & Warner, J. (2024). The Evolution of Hiring: What Managers Know About, Think About, and Are Doing with Microcredentials. Northeastern University, Center for the Future of Higher Education and Talent Strategy.
3. Welsh, A., Bloom, V., Lopez, M., & Nanovic, A. (2025). The Evolution of Hiring: Microcredentials and the Manufacturing Industry. Northeastern University CFHETS & The Manufacturing Institute.
4. Northeastern University CFHETS. (n.d.). Hiring Managers and Microcredentials.
5. Western Governors University. (2026). Workforce Decoded: AI, Skills, and the Future of Hiring.
6. National Association of Colleges and Employers (NACE). (2025). Job Outlook 2025.
7. SHRM & SHRM Foundation. (2026). The Skills-First Movement: Redefining How Organizations Hire and Grow.

B. Skills-Based Hiring Adoption & Labor-Market Evidence

8. Fuller, J., Langer, C., & Sigelman, M. (2024). Skills-Based Hiring: The Long Road from Pronouncements to Practice. Burning Glass Institute & Harvard Business School.
9. Burning Glass Institute. (2024). Skills-Based Hiring (Briefing).
10. SHRM Foundation & WorkRise. (n.d.). Skills-First at Work: Assessing the Effectiveness of a Skills-Based Hiring Program.
11. Birinci, S., et al. (2023). Job Applications and Labor Market Flows. Federal Reserve Bank of St. Louis.

C. Non-Degree Credentials, Quality, and Employer Trust

12. Berger, G., Seibel, S., Spitze, S., & Towns, S. (2024). The Importance of Understanding Non-Degree Credential Quality. Burning Glass Institute.
13. Jobs for the Future & Burning Glass Institute. (n.d.). EQOS Signal of Quality: Methodology.
14. Burning Glass Institute & HCM Strategists. (2024). Understanding and Acting Upon Market Demand for Non-Degree Credentials.
15. U.S. Chamber of Commerce Foundation. (n.d.). Skilled Credentials Toolkit (Version 6).

D. Employer Practice, Hiring Guidance & Implementation

16. Skillful & Markle Foundation. (n.d.). Skills-Based Hiring Playbook (Version 2).
17. Korn Ferry. (2023). Three Skills-Based Hiring Practices That Work.
18. Maurer, R. (2023). Skills-Based Hiring Requires Commitment to Change. SHRM.
19. Workable. (n.d.). How to Evaluate Candidates with Pre-Employment Skills Assessments.
20. HireQuotient. (n.d.). Skill Test: Ability Testing and Interview Assessments.
21. HireQuotient. (n.d.). What Is a Skill-Based Assessment Test for Employment?
22. Abel Personnel. (n.d.). Skills-Based Assessments: Identifying Top Talent.
23. Workforce Solutions. (n.d.). How to Write a Skills-Based Job Description.
24. (2024). Using Skills Frameworks. Employer workforce guidance document.
25. Workday. (n.d.). Why Skills-Based Hiring Is Transformational.

E. Employer-Facing LER & Resume Re-Framing

26. U.S. Chamber of Commerce Foundation & T3 Innovation Network. (n.d.). Reimagining the Resume: An HR Guide to Learning and Employment Records (LERs).
27. American Workforce Policy Advisory Board, T3 Innovation Network. (2020). Learning and Employment Records (LERs) White Paper.

F. Supporting Research & System-Level Context

28. U.S. Chamber of Commerce Foundation & T3 Innovation Network. (2025). A New Data Paradigm for the Future of Work.
29. U.S. Chamber of Commerce Foundation & JEDx. (n.d.). Improving Occupational Autocoding.
30. Topos Partnership. (n.d.). Employer and Public Perception Research.

G. Digital Credential Interoperability & Data Infrastructure

31. Digital Credentials Consortium. (2024). The Essential Guide to Digital Credential Interoperability.

APPENDIX C: COMMON TERMS AND DEFINITIONS

As institutions, employers, and technology providers increasingly work together to design and adopt Learning and Employment Records (LERs) and related innovations, shared language becomes essential.

To aid in a common understanding, the following is a list of terms and definitions associated with the work of the LER Accelerator initiative, a coalition of higher education stakeholders that seeks to promote the adoption of Learning and Employment Records (LERs) in postsecondary education by addressing various challenges hindering their implementation. Find the full document [here](#).

Badge

Recognition designed to be displayed as an acknowledgement of accomplishment, activity, achievement, skill, competency, interest, association, or identity. Badges, often expressed online and referred to as a “digital badge,” may serve as stand-alone credentials or contribute to larger records, such as CLR or LERs. Open Badges are a specific, standardized format for digital badging.

Comprehensive Learner Record (CLR)

A digital record that captures and communicates a learner’s achievements throughout their educational experience. A CLR can include academic accomplishments, co-curricular activities, and competencies gained outside the classroom, such as career-ready skills. The CLR can compile multiple achievements, including

courses, programs, degrees, and Open Badges, into a single, interoperable credential. CLR is generally viewed as the learning component of a Learning and Employment Record (LER).

A learner/earner may receive multiple CLR throughout their learning and earning journey in both K-12 and postsecondary environments. Institutions can decide to issue CLR at any point for a learner, as well as issue at major milestones such as degree or certification completion.

Credential

An official document or digital record that validates an individual’s achievements, knowledge, or skills. This can include degrees, diplomas, certificates, badges, licenses, microcredentials, professional certifications, and peer recognition or self-claims. Credentials can be issued by recognized authorities, such as industry organizations and associations, governments, learning organizations, or by peers and self-attested credentials.

Learning and Employment Records (LERs)

Lifelong, digital records that capture and communicate an individual's learning and employment information, including skills and competencies.

LERs can document learning wherever it occurs and may include records of a person's credentials, degrees, learning and employment history—including CLR. LERs can refer to an individual digital record or a collection of multiple records and distinguish which records are verified and which records are not.

Intended to bridge educational and employment spaces, LERs can provide a comprehensive view of an individual's skills and achievements.

Microcredential

A type of competency or skills-based recognition that can be used to demonstrate mastery and is usually smaller than a traditional degree or certificate.

Microcredentials, often expressed as Open Badges, can serve as stand-alone credentials or be part of larger records like CLR and LERs. Noncredit-bearing microcredentials are sometimes referred to as alternative credentials.

Verifiable Credential (VC)

A tamper-evident credential that can be cryptographically verified to ensure authenticity and integrity. Verifiable Credentials adhere to the W3C open data standard for exchanging and proving ownership of digital documents including government, health, and education records. Open Badges and the CLR Standard can be implemented as Verifiable Credentials.

Wallet

A secure digital application for storing and managing credentials (e.g., certificates, badges, employment records). In much the same way a physical wallet holds money and credit cards, a wallet may contain digital credentials. Legacy terms include digital passports, portfolios, and badge backpacks.