The Role for 21st Century Skills in Badging, Micro-credentialing and Skills-based Hiring

About this Document

The International Council on Badges and Credentials has formed a working group to advocate, educate, and align 21st century skills competency frameworks with the future of work through emergent developments in badging, credentialing and skills descriptors.

The group's first task has been to collate global activities in this area. This report represents an attempt to summarise these activities in an accessible and simple way for those interested in finding out more about these topics. The report introduces 21st century skills as a broad concept, then explores linkages to skills frameworks, and finally turns to how 21st century skills may be evidenced with digital credentials, micro-credentials and digital badges. Additional reports from ICOBC provide greater detail with regards to micro-credentials.

The report summarises the current state of the field and identifies a set of gaps and actions that require resolution if all global citizens are to benefit from 21st Century Skills in the future of work.

We welcome communication with, and participation in, the working group and we are keen to add further relevant areas to this report as a live document that is representative of the broader community.

Please get in touch with us with comments you wish to make or if you would like to be involved in our future efforts as outlined at the end of the report.

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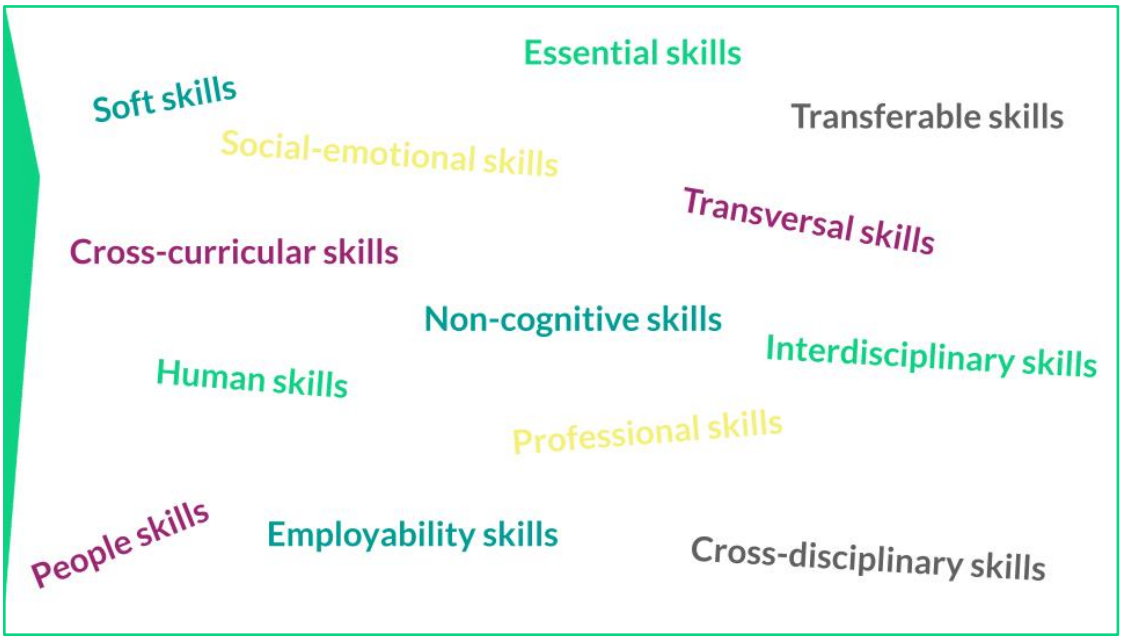
What are 21st Century Skills?

The term **"21st Century Skills"** represents an attempt to identify a set of skills that are useful in modern society and which transcend those skills that are only required within a given academic discipline.

Job roles are becoming less linked to discipline-specific capabilities, instead trending toward cross-disciplinary or interdisciplinary skills such as collaboration or creative problem solving. By elevating 21st century skills in the hiring process and aligning education accordingly, it is hoped that more flexible learning and work pathways can be developed. Facilitating efficient career transitions through mechanisms such as these will be vital given the rate at which technology developments are disrupting work roles for example through automation, robotics and globalisation.

Alternative terms closely related to "21st century skills" are shown in the following image.



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A similar desire to recognise and facilitate more diverse abilities within society is reflected in approaches such as Multiple Intelligences and Self-Regulated Learning skills (as discussed within Personalised Learning, for example) and social-emotional skills (as defined in the CASEL model, for example).

There are three key challenges with regards to the concept of 21st Century Skills:

1. The lack of a common definition for the term "skills."
2. The need to recognise both discipline-specific, generic, and transversal skills.
3. The lack of a common definition for the term "21st Century Skills".

The first challenge recognises that there is no universally agreed-upon definition of skills. Skills can be seen as being both universal and contextual. Skills indicate expertise which may be gained through education, employment or more generally life, which is suggestive of universality. However, there needs to be consideration of contextual knowledge, application, and behaviours when identifying skills expertise.

Furthermore, 21st Century Skills may be better referred to as **transversal** (defined as a line that intersects a system of lines) expertise in both the current time and beyond. In other words, this expertise applies across different tasks, roles and contexts both now and into the future.

Therefore, a second challenge exists with the balance between recognising disciplinary and transversal expertise and balancing broad and deep expertise. In terms of the former, expertise has often been considered separately; i.e., disciplinary expertise without any transversality and transversality without any disciplinarity. This limits opportunities to transfer recognition of existing expertise across different contexts where roles and tasks may vary in terms of both the number of specific skills, and in the range of skills they require. In terms of balancing broad and deep expertise, T and π - shaped skills requirements highlight two different requirements in terms of a breadth of skills that are required and either a specific skill that is required in-depth (T), or multiple skills that are required in depth (π).

The third challenge is the absence of an agreed-upon definition for what constitutes a 21st Century Skill. For example, ***The Partnership for 21st Century Skills*** identified three main skills areas: *Life and Career Skills*, *Learning and Innovation Skills,* and *Digital Literacy.* ***ATC21S*** identified four main areas: *Ways of Thinking*, *Ways of Working*, *Tools for Working,* and *Ways of Living in the World*. These are just two of countless frameworks for organizing skills such as these. Moreover, many terms fall within the broad scope of 21st Century Skills with illustrative examples including:

Learning/Cognitive/Thinking Skills such as analysis, creativity, innovation, problem solving, researching, reasoning, synthesis.
Life Skills such as adaptability, communication, initiative, planning, resilience, self-regulation.
Career/Working Skills such as collaboration, entrepreneurship, leadership, management.
Digital Literacy/Tools for Working Skills such as data analysis, presentation, reporting.
Citizenship/Ways of Living in the World Skills such as economics, ethics, health, professionalism, socio-cultural awareness, sustainability.

To enable 21st Century Skills to fulfill their potential within a skills-based economy, these conceptual challenges must be addressed.

What taxonomies and frameworks support 21st Century Skills?

As well as variation in defining 21st Century Skills, there is also variation in their application. Taxonomies and frameworks have been developed for use in largely three contexts: **educational**, **skills,** and **competency** frameworks.

- **Educational frameworks** are well-defined, with national qualifications and international recognition systems using learning outcomes, levels of study and amounts of credit (representing study hours) to enable learner mobility (e.g., Enic-Naric, Washington Accord, Bologna Process). Typically, these formal education structures use criteria mappings to translate from locally-specific learning outcomes to enable national or international comparability.

- **Skills frameworks** and associated classification systems (e.g., SFIA, ESCO and O*Net) seek to support employee mobility and workplace comparability by providing a common language through which to discuss skills, and often providing a method of linking skills to occupations.

- **Competency frameworks** seek to define organisational expectations in relation to specific occupational roles and the associated employee performance requirements (e.g., AAMC, Mechatronics Competency Model, Project Management and Systems Engineering Competency Model).

A key challenge in the modern workplace is how to maximise employee performance through enabling lifelong and lifewide learning and skills development. To do this effectively, it is important to provide mechanisms that connect educational, skills, and competency frameworks. 21st Century Skills are at the heart of developing these mechanisms, for example within the ILO's Global framework on core skills for life and work in the 21st century. They provide a way of understanding the content in each framework and connecting the performance measures within each with those found in the others.

Linking these frameworks together, however, is not without its challenges. One of the biggest is that competencies are developed in a context. As an example, consider those developed in a work environment. This would itself influence expectations and performance requirements and, by extension, subsequent skills development. Consequently, variations in how occupational competency frameworks record expectations and performance can lead to difficulties when attempting to translate occupational skills into educational recognition frameworks. Moreover, when looking from the opposite direction, capabilities gained in education need better translation for employment contexts because many employers currently find it very difficult to link educational achievement with workplace competencies.

This challenge is a key driver behind the increased focus on badges and micro-credentials -- credentials that can provide more fluid and flexible recognition mechanisms to enable better workplace mobility. For this reason, many leverage the term 21st
Century Skills because it provides a common competency language, which offers more transferability between education and employment.

One of the necessary steps in realising a better connection between these frameworks and more fluid workplace mobility is the widespread adoption of an agreed set of standards for framework usage when awarding micro-credentials or badges. At the moment, there exists a range of approaches and little common agreement, which is hampering the widespread adoption of such frameworks, micro-credentials, and badges.

In skills frameworks and classification, the World Economic Forum (WEF) has recently proposed that common standards are identified using taxonomies developed through data, machine learning, and human checking (e.g., employer engagement). The WEF approach builds on the ESCO (European Skills, Competences and Occupations) and the Occupational Information Network (O*NET) frameworks. The World Economic Forum acknowledges that existing taxonomies have focused on research and the labour market rather than their application in educational contexts. Conversely, key global organisations such as the OECD have emphasised the application of skills in an educational learning context rather than the workplace. For example, the OECD's Learning Compass 2030 only defines the knowledge, skills, attitudes, and values that learners need.

How do we currently measure 21st Century Skills for work?

Educational frameworks measure capabilities through learning outcomes rather than in skills for work. For example, the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) seeks to assess and analyse adult skills but it only measures numeric, IT, and literacy skills, which are not contextualised in the workplace.

In order to better measure skills for work within education, working groups such as Rethinking Assessment, the Council for International Schools, the Coalition to Honor All Learning, The Learner's Journey Project and the Australian Learning Lecture are carrying out research and/or beginning to explore this by lobbying universities to accept a wider range of skills transcripts for pre-tertiary entrance. In contrast to Higher Education, Australian Vocational and Education Training qualifications, for example, are notably competency-based and aligned to frameworks that include 21st Century Skills such as problem-solving (Core Skills for Work Developmental Framework).

Whilst there is increasing interest in competency based education in the pre-tertiary sector, with frameworks and models such as OECD's set of global competencies, the P21 framework, and the ASCD's Globally Competent Learning Continuum, there has been little effort to formally recognise any of these at a national government or tertiary level. Moreover, none of these frameworks have yet been connected with existing educational frameworks.

In terms of skills frameworks, O*NET captures data from industry experts regarding the knowledge, skills, and abilities required in each occupation, but it doesn't link these to education or to any form of overarching competency framework. The recently released Australian Skills Classification draws on O*NET data to attempt to develop a 'common language' for skills, and a way to explore the connections and transferability of skills between jobs. Skills for the Information Age (SFIA), which is primarily used within the information technology sector, provides a potential global common language for digital skills, but it is currently predominantly industry focussed and has not yet been connected to qualification frameworks.

At the time of this audit, therefore, it appears that competency frameworks remain bespoke to countries, educational sectors, specific industries, and organisations -- and do not connect with skills and educational frameworks. Some attempts are being made to better connect competency frameworks to skills frameworks and educational frameworks through competency, badging, and micro-credentialing standards. This is shown in the table on the next page.

Examples of Existing Global Standards Organisations:

Organisations	Standards
IMS Global	Open Badge Standards, CLR, CASE
Credential Engine	CTDL
IEEE	P1484.20.2 - Recommended Practices for Defining Competencies
W3C: Verifiable Credentials Working Group	W3C
HR Open Standards	JSON Transcript, ED exchange
Postsecondary Electronic Standards Council	

In this work, two particular areas of interest are the role of Credential Transparency Description Language (CTDL), as a vocabulary to communicate the elements of a competency, and Rich Skill Descriptors (RSDs), as a data format to provide a common interoperable and contextual skills definition. Examples like these could lead to natural language processing and knowledge graphs being used to automatically identify skills in work-related roles, and link these to those listed in employee applications and more widely as credential/micro-credential achievements. These, of course, would then enable skill supply and demand to be better understood and monitored, and potentially enable more equitable skills-based hiring practices.

In summary, whilst some work is being done to define work-based skills better for use within competency frameworks, very little is being done to join this to educational frameworks.

Why is there so much interest in skills-based approaches?

A broad range of stakeholders are working to enable skills-based hiring approaches. One common driver is the skills gaps and interest in maximising trade. In this context, international trade bodies such as the Global Trade Professional Alliance are exploring skills-based hiring, as are Governments such as those in Ireland, New Zealand, Australia and Singapore, Institutions such as the The Asian Global Education Monitoring Centre and African Union Commission are similarly interested not only in addressing their own skills gaps and maximising GDP, but also in addressing economic disparity, inequality, inequity, and bias in recruitment and employment, which are further drivers of interest in skills-based hiring.

Large corporations and nonprofits are also interested in optimising recruitment, training, and employment through such an approach. There are a number of global examples including the Telstra Exchange (Australia) and the IBM Skills Academy, and as part of charitable corporate social responsibility initiatives such as Accenture's Skills to Succeed in India programme and Vietnam's Know One ,Teach One programme.

Networks such as the Canadian Skills Training and Employment Coalition highlight broader interest from different sectors in developing skills-based approaches, with educational institutions and training providers such as the Australian Universities Work Integrated Learning Strategy, UpSkill America, and The Federal Reserve Bank of Philadelphia's Skills-Based Approach to Mobility, interested in meeting the needs of employers and stakeholder groups.

What are the future opportunities arising from a 21st century skills approach to badging, micro-credentialing, and skills-based hiring?

Turning to micro-credentialing, there is not yet full agreement on what constitutes the minimum size of a micro-credential, though a draft definition of micro-credentials has just been published through work led by Professor Beverley Oliver for UNESCO. The European MOOC Consortium, for example, has sought to define a minimum workload/study time of 100-150 hours through its Common Microcredential Framework. MicroBol, on the other hand, has sought to simply define an upper limit on a micro-credential of less than 60 ECTS (1500 hours). A comprehensive review of the state of micro-credentials is provided in a related ICOBC paper.

In badging, there are both open and closed badging approaches. Open badges operate using an open badges standard, with a certified platform issuing and managing badge data. The type of badges can be widely shared, but given the variety of evidence and alignment routes there is a challenge in understanding their value and exchangeability when linked to either education or employment. Closed badge systems (e.g., iDEA) can offer more clarity on evidence but suffers from similar difficulties in understanding their value and exchangeability. As it stands, both badging approaches suffer from challenges in how they relate to both micro-credentials and credentials.

The ICoBC interest in 21st Century Skills lies in the key role we can play in addressing current challenges in badging, micro-credentialing, and skills-based hiring. By introducing an element of standardisation in 21st Century Skills, we believe we can address these disconnects within and across the broader skills community.

A common approach can support the development of a clearer, more granular and more representative way of representing human capabilities and competencies. As outlined below, this is not without difficulty due to a number of gaps and actions that need to be taken, but it is still an enormous opportunity.

In simple terms, the use of 21st Century Skills terminology, alongside current developments in badging, micro credentialing, and skills-based hiring, provides a chance for each individual to better understand his/her own skills development as well as that of others and how they might compare in a competitive recruitment process. This will lead to more informed individual decisions regarding education, training, and retraining needs. Furthermore, it will lead to smoother transitions from formal education to employment and subsequently an individual's life career by developing the ability to more accurately align tasks with roles.

This will clarify the links between learning and 'learning for work', directly benefiting ourselves, our employers, and our economies -- ultimately leading to more equitable, effective, and fulfilling societies.

What is currently missing?

As outlined earlier in this paper, there are three key gaps:

1. A lack of common understanding of 21st Century Skills (conceptual and applied).
2. A lack of connection between frameworks (education, skills, competency).
3. A lack of portability and recognition of micro-credentials and badging as a way of developing and evidencing 21st Century Skills.

Addressing Gap 1: Universal translation through 21st Century Skills

The most significant current gap within the skills economy is the absence of a universal translation/conversion mechanism between education, skills and employment. Without this, it is very difficult to develop the fluid, lifelong learning and adaptable global workforce needed to address our rapidly changing skills landscape.

There are different solutions to this gap. An especially promising approach appears to be through a process similar to universal exchange rate mechanisms between the different currencies by creating a skills equivalent for education, training, and employment using a 21st Century Skills taxonomy.

Addressing Gap 2: Transparency through the use of 21st Century Skills

Another fundamental issue yet to be resolved is maximising the efficacy of the skills economy by enabling individual learner-earners to maximise their workplace opportunities. This requires a more transparent, equitable. and meritocratic approach to recruitment, training, and development.

Such an approach also enables long-standing structural inequalities in society to be better addressed in terms of potential bias and selection barriers. This is particularly important in addressing inequality amongst traditionally disadvantaged or marginalised groups such as those who have often been discriminated against based on their culture, race, color, ancestry, religion, gender and gender identity, national origin, sexual orientation, age, citizenship, marital status, disability, socio-economic background, or veteran status. Additionally, in many emerging economies, just the simple community access to in-person training institutions can be difficult -- either because of transportation, training cost, or family value issues.

Credentialing plays key roles in addressing such inequalities as they reduce, or potentially remove, existing structural barriers (including an ability for progress to be either consciously or unconsciously hindered by others).

In order to address such inequalities, it is critically important that any solutions to addressing challenges in the skills economy are collectively agreed in an open and transparent way such

that they are representative of all and enable all. Whilst progress is being made in terms of the use of open standards (with common data elements), this is still work in progress and again 21st century skills recognition can play a very important role in enabling these standards to be as effective as possible.

Addressing Gap 3: Raising public awareness to enable great portability and recognition through 21st Century Skills

A further gap is the broader societal understanding of the changes in the skills economy and how 21st Century Skills, badging, and micro-credentialing can help address these changes. Alongside technical solutions, communication strategies are required to explain and make accessible such approaches for the general public to understand the value proposition.

This report is a small step in this direction but there is clearly much more needed to address this gap.

Conclusion and Recommendations

This report recognises the tremendous paradigm shifts occurring in the education and labor markets globally, including the movement toward agentic lifelong learning and enabling approaches such as digital badges and micro-credentials. The significance of 21st Century Skills is noted, in many cases as a way to recognise the transversal skills that will foster greater economic productivity, but also as a mechanism to support greater equity and personal lifelong performance.

A number of challenges remain, including the lack of common definitions, understanding the standards and frameworks which are hampering the recognition of learner-earner capability, and the development of learner-earner competency.

There remains, therefore, an urgent need for us to advocate, educate, and align 21st century competency and skills frameworks with the future of work through these emergent developments in badging, credentialing, and skills descriptors.

This is the purpose of the ICoBC 21st Century Skills Working Group. We welcome input from interested parties to assist us in realising this purpose.

Appendix - Further thoughts and discussions

The accessibility and understanding of 21st Century Skills terms provides an important part of the solution to increase understanding alongside a set of practical guides and tools to help stakeholders engage with and progress with addressing their skills needs.

Within education, training, and employment, alongside a taxonomy of key agreed terms, there is a need to assess, verify, and validate learner-earner progress and achievements (with evidence and authentication linked to Self-Sovereign Identities, and to connect these clearly with current and future workforce needs).

Being able to track, for example, which 21st Century Skills have value in the labor market, which are currently missing, and how we can address these in education, training, and employment are critically important if skills gaps are to be resolved. Such gaps may exist also in specific technical areas or more generally, and may be at specific proficiency levels or again more generally. Having a broad understanding of such skills gaps within society will better inform all stakeholders seeking to address such gaps.

One particularly useful area, for example, is enabling learner-earners to better understand their own skills profiles and their match to job roles, careers, and skills sectors through a richer use of non-formal and informal progress and achievement (through badging and other micro-credentialing) alongside more traditional credentials. Job roles are typically represented through job descriptions and person specifications. And whilst specific sectors or roles may have standardised requirements, many job roles are defined specifically by organisations in the context of their particular needs. As such, a first stage in enabling employees to move more fluidity within and between organisations is a broadly recognised and adopted competency framework; or failing this, a straightforward way of exchanging between competency frameworks.

Such an approach requires two key elements. Firstly, an unambiguous way of recording competencies. Secondly, an unambiguous way of recognising proficiency. Given the breadth of competencies recorded in existing frameworks (can exceed 10,000 per framework), there appear to be two potential solutions to supporting exchange of competencies between job roles: 1) a computer-based translation service working at a high level of granularity, or 2) a human-based translation service working at a high level of abstraction. The former may provide a more accurate solution but at a significant cost in terms of ongoing maintenance. The latter requires hierarchical sub-structures to be developed but comes with the benefit of widespread understanding amongst both employers and employees.

The latter is where 21st century skills measurement can play a key role, providing sufficient detail for categorisation of competencies but sufficient abstraction to clearly identify potential

transversality of skills and exchange. By adopting such an approach, a clear proficiency system can also be developed based on existing proficiency levels.

Why should we pursue the increased use of 21st Century Skills within society?

The Information Age Becomes a Reality

Access to digital technology and platforms is becoming increasingly ubiquitous. It has in many countries been further driven by the adaptations to living in a world faced with the COVID pandemic; for example, an increase in online learning and working from home. Satellite broadband, 5G, and AI are providing levels of broadband access and capability for the first time in the world's largest markets -- Greater China, South Asia, the countries of Africa, Middle Eurasia, the Middle East, and Latin America. Low-cost smart devices available today now also provide high performance computing capability to individuals. Whilst universal accessibility is still a significant issue globally, new services around e-commerce, banking and finance, medical health, and agritech can and are routinely now being delivered; and for the first-time, access to the whole world's population for the remote delivery of digital services- - including affordable training and accreditation -- is achievable. Given these technological developments, credentialing and badging will be critical elements of skills proofs to enable individuals to participate in the global workforce.

Demographics

Populations in these very large emerging markets are proportionally younger and will require an unprecedented level of jobs with 21st century skills to match. In many cases, these skills are more than likely to be on the job, informal or formal micro-courses, and delivered online. For example, the importance of transferable skills has been identified for young people, with the FYA noting a young Australian entering the workforce today might have as many as five different careers and make 17 changes in employers over his/her working lives. The volume of demand will enable skilling to be available at price breakpoints not previously considered viable. New players to prepare and conduct these skills can also be expected to enter this emerging market space.

Covid 19 Pandemic Impact

The Harvard Business Review has discussed the way in which the COVID-19 pandemic lockdowns have reshaped our approach to working remotely, asking "Do we really need to be together, in an office, to do our work?" They claim that talent is now being sourced 'in the cloud' and those locally 'working from home' during the pandemic have demonstrated to employers that work can be done by 'workers from anywhere' in the world.

What does that mean for employees of the future?

Most businesses still hire locally to support local operations and economies. Expecting some growth in global recruitment and hiring is reasonable in established markets and economies; it depends on both labour market demand/supply, migration, tax, and other policies.

If businesses are going to recruit workers from anywhere around the world, and employ them based on the credentials they offer, then we can expect those job applications will need to include a digital identity plus a well-established trust that the credentials offered to businesses are legitimate -- have been verified and they are what they say they are.

Coinciding with this emerging global sourcing of talent is the emerging 'skills for the future' environment which has seen significant growth in the education sector to match the new 'future skill' competencies required by employers. Micro-course growth is expanding globally -- $US10bn in 2019 according to HolonIQ and even including huge emerging new markets in China, South Asia, and the countries of Africa.

Impact on the Individual

Micro-courses demonstrating 21st Century Skills in the workforce will be more important than ever, and talent will be required to showcase their new skills or updated skills, in the form of digital badges to be competitive in growing their careers.

In addition, there will be the critical ability to empower individuals -- the 'sovereignty of the individual' -- to use these credentials as they see fit, and when they have earned multiple credentials, enabling them to create reusable 'fit for purpose' credential packs.

A 'credential pack' allows an individual to compile his/her accredited training badges for a specific job or task that may be simultaneously required by one or many employers. They can also choose to add other relevant work or life credentials in a customised 'pack'.

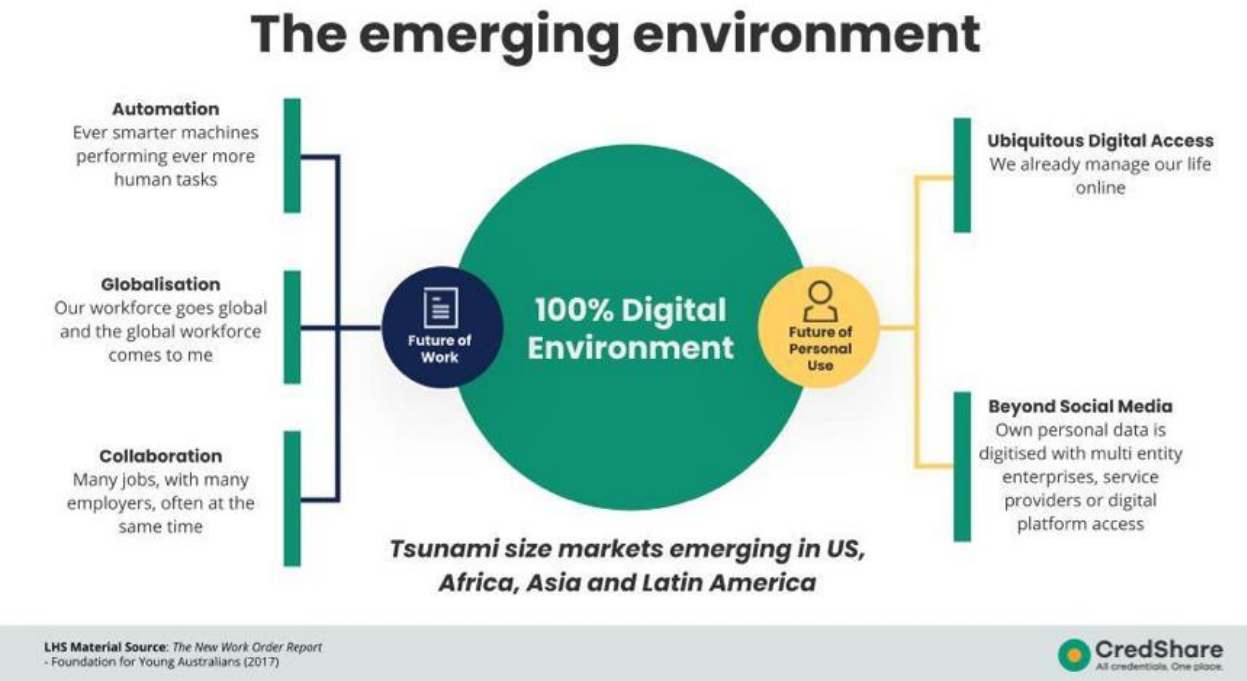
We expect to see the emergence of digital identity, skills verification, and 21st Century Skills credential 'exchanges' where an individual can choose what information they make available about themselves and their skills training. But when they do, the 'viewer' of that information will have confidence that it is verified and authentic.

It is, therefore, critically important to provide increased agency and autonomy to global learner-earners. They must have the ability to manage their own skills profiles as they progress through life. By doing so, they will be better able to understand how they can best develop as well as manage how they interact with the economy rather than simply becoming driven -- or worse excluded -- by it.

Being able to 'anonymously' control what personal data is shared, to control who uses their information and how, are key to both their job opportunities and broader societal participation and progress. Issuing authorities will be required to resolve numerous challenges with security, authentication, verification, data protection, privacy and control and morph into the sole, immutable, long-term life record of that skill.

The Future Nature of Work

Inexorably, we are moving to a more automated and global workforce. Unfortunately, as we do this, we are also maintaining, and in some cases growing, socio-economic disparities. We run a significant risk of increasing global conflict as high youth unemployment and underemployment add to decreasing opportunities to gain "skilled" employment across the world.



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Alongside many jobs disappearing, as they become automated, the digitisation of roles increasingly means fluidity in both how we can work and how we can be employed. In such situations, there is a clear risk of a race to the bottom with the disadvantages of 'zero-hour contracts;' but there are also potentially benefits in work being better aligned to our capabilities and interests.

Without a clearer understanding of our personal learning and skills, this latter opportunity will be limited. The more threatening former risks are likely to come to pass. 21st Century Skills can play a key role in developing this understanding.

There is already clear evidence that large corporations are reevaluating how they recruit and select employees. For example Google and Amazon have a decreased reliance on traditional formal education qualifications and an increased reliance on in-house approaches to evaluation and training.

In their book, *Seeing Around Corners: How to Spot Inflection Points in Business Before They Happen,* Rita McGrath and Clayton Christensen cast doubt on the value of corporate recruitment *solely* based on a tertiary qualification. There are also emerging suggestions that there is a potential existential threat to tertiary education; for example, where an EY Report declares that' work is the new university' and a KPMG Report declared 'peak university' and its 'golden age' has been reached and a new model based on personalised learning is required.

This Alpha Beta Report regarding the future of work and skills required in Australia postulates:

What we learn:

- The need to focus on the skill sets that machines can't replicate.
- The most valuable skills will be distinctively human characteristics.
- There is no 'one-size-fits-all' future skill set.

When we learn:

- The need to dramatically increase learning later in life.
- We will shift towards lifelong learning.
- We will need three times as much mid-career learning.

How we learn:

- More learning will be delivered flexibly and at work.
- Much of the new learning will be work-based.
- Learning will need to flexibly cater for mid-career workers.

If this is so, there are clear opportunities for using 21st Century Skills throughout a career, and to enable a better communication of educational achievements to suit employer needs in the future nature of work.

Internationally, as more seek to (or are forced to) look globally for employment, it is critically important that accurate and understandable mechanisms are in place to optimise recruitment and selection. For the large young populations globally, 21st Century Skills will be the primary way to access and enter the global workforce.