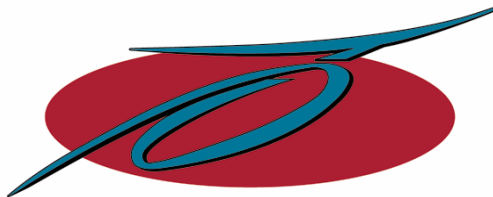


**Environmental Scan:
Overview of the ePortfolio in General
and in the Workplace Specifically**

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F u t u r E d

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1. Setting the Stage

1.1. Introducing the ePortfolio

An ePortfolio is an electronic portfolio or record of learning acquired from all learning environments – a digitally created and managed archive of acquired skills and knowledge. The term “learning” is used as shorthand for “a body of acquired skills, knowledge and abilities (SKA) resident in either an individual or a community.” The term “electronic” is used to imply the use of a computer, particular software or tools, and, often, the Internet.

The ePortfolio is formally defined as “a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose”¹. Therefore, the term ePortfolio is shorthand for two items – the digital archive and the presentation drawn from it.

The term ePortfolio is also shorthand for both process and product. ePortfolio tools help creators to identify and reflecting on the outcomes of learning experiences. Creators can be individuals, organizations, even businesses – and they can be the receivers/processors as well. The process for creating an ePortfolio is for an individual or a group of individuals to focus on experiences and draw from them statements and evidence of the acquired learning and culture. Explicitly, for ePortfolio experts, the ePortfolio development process includes identification, collection, selection, reflection and presentation of evidence of learning and culture. These are the steps that are followed to create an ePortfolio – archive and/or purpose-driven presentation.

An ePortfolio can be created and used by individuals, communities and/or organizations to archive and share learning and culture acquired from informal, non-formal and formal learning environments; provide evidence or verification of learning in a dynamic, multimedia fashion; manage personal and collective learning to maximize usage and for planning; and showcase or promote particular assets as required.

Looking at the history of the ePortfolio, as sweeping generalizations, it has been used in:

- primary and secondary education as a tool for demonstration of learning;
- in higher and post-secondary education for the assessment of learning;
- lifelong learning to enable continuous “reflective” learning and to inventory all types of learning;
- the workplace for the recognition of work experience and workplace training, for recruitment and targeted training, and for career advancement;

¹ As defined by the National Learning Infrastructure Initiative (2003).

- eLearning for Learning Management Systems and Knowledge Management through both online tools and web-based services; and
- organizational and/ or economic development through asset mapping and quality assurance.

FuturEd has studied and promoted the ePortfolio since 1997. FuturEd research demonstrates that the ePortfolio is linked closely with:

- Human resources development and **Human Capital Management** – as the means of identifying and managing what a person and a group of persons knows and can do;
- **lifelong learning** – as the method of tracking and recognizing ongoing learning, as an incentive to the lifelong learning requirement;
- **Prior Learning Assessment** – as the outcome of the PLA process of exploring and determining an individual’s non-formal and informal learning;
- **education and training at all levels** (K-12, PSE and workplace) - as a teaching tool (reflection as a basis for learning), as a learning management tool (e.g., project-based learning) and as an alternative form of learning assessment;
- **eLearning** – as a type of Knowledge Management, a part of a Student Information System and a potential form of “Usable Learning Object” repository;
- **learning organizations** – as a means of tracking and developing human capital and assisting professional development of employees within organizations across sectors;
- **community economic development** – as an inventory of collective community human capital assets;
- **future learning systems** that rely less on credentials and more on competencies; and
- **cultural archiving**, through digital storytelling, of traditional and indigenous wisdom.

To this list, the most recent addition is the relationship to **social capital** development and utilization, i.e., the value of social networking and social networking tools such as ELGG.

In this paper, there will be a brief discussion of each of these concepts vis-à-vis the ePortfolio; however, the focus of this paper will be the ePortfolio in the workplace and specifically for skilled immigrants.

1.2. The Project: ePortfolio for Skilled Immigrants and Employers

This paper is prepared in the context of a project undertaken by the Learning Innovations Forum d’Innovations d’Apprentissage (LifIA).² LifIA has launched a project to research and develop a strategy for an ePortfolio system for skilled immigrants to Canada. It is well known that skilled immigrants have

² For more information about ePortfolios, please go to the LifIA website or contact Victor Leginsky, Project Manager at +1 250 539 2130 (vleginsky@lifia.ca). To follow our project, please watch our project weblog. We welcome the posting of comments there.

difficulty getting appropriate employment in Canada, and that part of the problem is that employers have difficulty recognizing training and work experience acquired outside of Canada. LIfIA is committed to the belief that an electronic portfolio, or ePortfolio can be an effective and efficient tool for skilled tradespersons and professionals to set out their foreign training and work experience, with supporting digital evidence. To ensure that an ePortfolio system is effective, employers will be engaged to ensure that it is designed to meet their needs and expectations.

By the end of March 2006, we will be producing:

- This comprehensive environmental scan of the current state of ePortfolio use (1) in the workplace, (2) for skilled immigrants, and (3) in related training and HR institutions in Canada and beyond;
- Research-based conclusions about the feasibility and advisability of an ePortfolio system in various industries and employment environments; and
- A strategy for creation and implementation of an ePortfolio system and associated tools for immigrants and their potential employers across Canada.

The project is funded by Human Resources and Skills Development Canada (HRSDC), through the Foreign Credential Recognition (FCR) Program. LIfIA has contracted with three consulting agencies to undertake the work: Learning Agents from Manitoba, FuturEd Inc. from British Columbia, and the Edmonton Mennonite Centre for Newcomers (EMCN). All three have proven track records in the implementation of learning innovations as they benefit individuals and society at large. In addition, we anticipate a wide number of strategic partners from the industry sector councils, professional regulatory bodies, training institutions, immigrant-serving agencies, and human resource development professionals.

We intend that this project will support HRSDC FCR program objectives and contribute to the ePortfolio work of the Organization for Economic Development and Cooperation (OECD), Campus Canada, the European Institute for eLearning (EIfEL), ePortConsortium in the US, WPLAR Manitoba, and others who share our goals. The goals of LIfIA are to achieve “an ePortfolio for every citizen” and “one ePortfolio for life.” This project is a piece of a much larger puzzle, and we are working to ensure that all Canadians have access to a digital identity and a digital record of formal and non-formal learning. And we are working to ensure that, when ePortfolios are created, they meet international quality standards and provide return on investment for their creators and users.

The goal of this project is to stimulate and support an ePortfolio system that is useful and used by immigrants as they seek employment, workplace advancement and skills upgrading in Canada, and that is used by employers to recruit and place individuals who have training and work experience from outside

Canada. This maximizes the use of human capital, both individually and collectively. Hypothetically, the ePortfolio is a means to:

- Recognize and utilize the entire repertoire of skills and knowledge acquired through all forms of learning, improving the productivity and efficiency of education and training;
- Assess and recognize the body of skills and knowledge that foreign-trained workers bring to the employment environment, improving the utilization of Canada's new human capital;
- Target and recognize the Essential Skills required for productive work in the occupation;
- Target training, increase efficiency of training, promote lifelong learning, and improve productivity of Canadian learning systems and Canadian workers;
- Match acquired skills and knowledge to required competencies in a systematic, authentic fashion to maximize Human Capital Management; and
- Begin the integration of skilled immigrants overseas prior to their arrival in Canada

This project is intended to test those hypotheses.

The project team proposes to work with employers, through industry Sector Councils, employer associations and immigrant serving agencies to develop and implement an ePortfolio system to help employers better connect to and confidently employ skilled immigrants,. Although the focus is on employers, the team will work with labour, government, educational and other stakeholders. The initial focus will be on work experience and skills in the context of unregulated occupations; however, the project outcomes should have applicability to regulated occupations as well as immigrants and Canadian workers of all types, with appropriate modifications.

The proposed ePortfolio system will include (1) tools and assistance for immigrants to create electronic records of acquired learning and work experience, (2) tools and assistance for employers to receive and process electronic learning records and work experience and skills. This project is designed to link to the Campus Canada work on recognition of foreign credentials, and other related projects; we have been careful not to duplicate efforts.

The general objective of the overall project is to develop, implement, research and improve an interoperable ePortfolio system. This system would be used by skilled immigrants and employers in Canada. Therefore, this paper concludes with a discussion of the relevant issues and policy goals.

1.3. The Context: Issues for Skilled Immigrants and Employers

It is recognized by HRSDC, and others, that “immigration has long helped to build and define Canada.”³ From the beginning of Canada, immigrants have brought a diverse set of talents, abilities and skills; and, with our aging population and low birth rates, immigration will continue to play a part in building Canada. Immigration currently accounts for more than 70% of net growth in the labour force; and as a result of demographic shifts, immigrants are expected to account for all net labour force growth by 2011, and for all net population growth by 2031.⁴ Recent immigrants to Canada have higher average levels of education than the Canadian-born population. In 2000, 58% of working-age immigrants had a post-secondary degree at landing, compared with 43% of the existing Canadian population.⁵

Canada encourages skilled immigrants to move to Canada, and while they arrive with high hopes, they find it very challenging to find work in their trades and professions because it is often difficult, if not impossible, to accurately verify their credentials and work experience. Even with higher levels of education and better skills, immigrants are less successful than Canadian-born workers with an equivalent education. It can take up to 10 years for the earnings of university-educated immigrants to catch up to their Canadian counterparts. A recent study from Statistics Canada⁶ revealed that, among immigrants aged 25 to 44:

- 56% had worked in at least one job within six months of arriving in Canada, and 80% had worked in at least one job within two years of arriving;
- Of those, only 33% were in their intended occupation after one year and 42% after two years.

This is demoralizing to those immigrants, and a waste of human capital assets. The majority of immigrants coming to Canada today are visible minorities. According to Jeffrey Reitz,⁷ race appears to be a more reliable predictor of how foreign education will be evaluated in Canada than the specific location of the origin of the immigrant from outside Europe. This is problematic, inaccurate at best and immoral at worst.

It has been estimated that, in 1996 dollars, the total annual immigrant earnings deficit from lower immigrant skill quality, underutilization of immigrant skills, or pay inequities for immigrants doing the same work as native-born Canadians in Canada was \$15.0 billion, of which \$2.4 billion was related to skill

³ *Knowledge Matters: Helping Immigrants Achieve their Full Potential* (HRSDC, 2003).

⁴ *Immigration, Labour Force and the Age Structure of the Population* (HRDC, 1999)

⁵ *Canadian Labour Force Survey 2000-2001* (Statistics Canada, 2001)

⁶ *Longitudinal Survey of Immigrants to Canada* (October 2005) available at <http://www.statcan.ca/english/survey/household/immi/immi.htm>

⁷ Reitz, J.G., 2001. “Immigrant Skill Utilization in the Canadian Labour Market: Implications of Human Capital Research”. *Journal of International Migration and Integration* 2, no. 3 (summer), quoted in “Immigrant Settlement and Social Inclusion in Canada”, Ratna Omidvar, Ted Richmond, Jan 2003

underutilization, and \$12.6 billion was related to pay inequity.⁸ The same study indicated that employers give little credence to foreign education and none to foreign work experience.

At the same time, employers are having difficulty finding skilled professionals and tradespeople for a variety of reasons. HRSDC's Workplace Skills Strategy explicitly names the following environmental pressures that are relevant in this context:⁹

- Demographic - Aging society and tighter labour markets will make it more difficult for firms to hire workers.
- International Competition - Competition for skilled labour exists on a global scale.
- Underemployment - In 2001, 35% of workers with Post-secondary Education (PSE) were employed in low-skilled jobs that did not require a PSE diploma; the problem is largely one of integrating immigrants; and 24% of high-skilled jobs were held by person with high school or less.

Skills shortages are significant issues for employers in Canada, according to research by the Canadian Manufacturers and Exporters (CME)¹⁰ whose members report the following challenges:

- Deteriorating Business Conditions - Availability of Skilled Personnel: 46%
- Key Determinants of Future Business Growth - Improving Labour Productivity (65% - top of the list)
- Strategic Challenges - Availability of Skilled and Experience Personnel (42%)
- Key Factors Affecting Business Innovation - Availability of Qualified Personnel (78%)
- Strategies to Address Future Labour Needs - Upgrade Skills of Current Employees (85%) and Hire Recent Immigrants with Foreign Training (47%)

HRSDC has found at least three Human Resources (HR) issues faced by employers that are relevant to this discussion:¹¹

1. Lack of access to information - Small companies don't know where to go/who to talk to about HR planning needs
2. Shortages of skilled/experience/trained workers - Difficulty in hiring or hire under-qualified to fill holes, or cannot retain staff
3. Lack of HR planning skills and good HR practices - Unaware which sets of knowledge, skills, abilities and attitudes are most valuable to support economic performance of their organization

⁸ Reitz, J.G., 2001. Immigrant Skill Utilization in the Canadian Labour Market: Implications of Human Capital Research. *Journal of International Migration and Integration* 2, no. 3 (summer) quoted in "Immigrant Settlement and Social Inclusion in Canada"; Ratna Omidvar, Ted Richmond Jan 2003

⁹ Source: Powerpoint from Johanne Mennie, Assistant Director, Program Policy Planning and Analysis November 2003)

¹⁰ CME Management Issues Survey 2004-2005

¹¹ Source: Powerpoint from Johanne Mennie, Assistant Director, Program Policy Planning and Analysis November 2003

In this regard, CME has identified skilled immigrants as a key enabler.¹² They state: *Internationally trained workers bring value to any company, including increased productivity and innovation. As well, these workers offer:*

- *the skills you need;*
- *a workforce in touch with more sectors of the global market, drawing on a wider range of knowledge, experience and perspectives to achieve creative solutions and improvements;*
- *excellent employee relations and attendance;*
- *optimized employee commitment and effort; and improved reputation in the community, resulting in easier recruitment of potential new employees.*

Clearly, there is a serious disconnect between latent and recognized capabilities of our skilled immigrants, one that carries an enormous cost for Canada. Skilled immigrants face a complex problem where:

- their formal credentials may be difficult to assess or recognize by professional and accrediting bodies in Canada
- their work experience may be difficult to describe to employers
- their workplace training and lifelong learning may be vital but completely unrecognized.

This last issue affects both skilled immigrants and Canadian workers alike. According to the Canadian Forum of Independent Business (CFIB), *although informal training (on-the-job, tutoring, mentoring) constitutes the bulk of workplace training in Canada* there is currently a lack of effective ways to recognize this human capital development, especially for Small to Medium Sized Enterprises (SMEs).*¹³

The recognition of foreign credentials and foreign work experience are two sides of the same coin, both are important but they are very different. Credentials are “paper-based” in that a process can be undertaken to track courses, programs, marks and completion of formal education and training leading to credentials. Work experience is not as easily traced, described or verified. Employers of skilled immigrants have indicated that they have difficulty with assessing both and are looking for tools to help appropriate recruitment and placement of skilled immigrants in both regulated and non-regulated professions and trades.

The ePortfolio is just such a tool. Proponents of the ePortfolio note that an ePortfolio is both:

- a means of going beyond formal credentials to create an inventory of skills and knowledge, identifying what skilled immigrants can do rather than what they can't, and

¹² Business Results Through Hiring Internationally Trained Workers In Canada: “Right Before Your Eyes” (CME 2003)

¹³ CFIB, Availability of Labour and Training Survey, 2002

- an instrument to track improvement and gap reduction.

It is hypothesized that this instrument can accelerate their acceptance into Canadian professions, their transition to the Canadian workforce and their mobility within that workforce.

The growing skills shortages in Canada are beginning to make us realize that we cannot afford to waste human resources or training resources. Skilled immigrants and others who are unemployed and/or underemployed may need only a small amount of targeted training to meet credential and/or employability requirements, but too often they are required to take lengthy and redundant training. This causes them to reduce their expectations and take jobs that do not make use their professional skills or training. An ePortfolio helps to identify skill gaps and make career development plans that may include training, work experience and/or other forms of learning. These career development plans may be formalized as learning contracts between workers and employers or employer-approved facilitators, as is currently endorsed by such employer organizations as WPLAR and the Manitoba Aerospace Human Resources Coordinating Committee (MAHRCC).

It is recognized that an ePortfolio benefits an individual in a number of ways – e.g., reflective learning, recognition of non-formal learning, career planning --, and there are a growing number of ePortfolio initiatives and tools available. Coordination and leadership is needed to ensure that these initiatives are interoperable and don't create confusion and frustration to learners. There should be a "one ePortfolio for life" system to ensure that ePortfolios are effective and efficient tools. To be truly useful, an ePortfolio should also benefit employers and education institutions. This requires a "processor" system, i.e., tools that make it easy for the reception and processing of ePortfolios submitted by individuals. No such system exists at this time, and without effective tools, neither PLA nor the ePortfolio will be implemented in the workplace. Impartial coordination and leadership are required here between the eLearning industry, learning systems and employers.

2. ePortfolio: The Big Picture

The “big picture” for the ePortfolio includes a variety of “players,” products and services, applications and practices. We have a good sense of where this project fits into a learning and eLearning research and development agenda.

2.1. The Players

For some, the concept of the ePortfolio is very new; however, there have been individuals and organizations involved in research and development of ePortfolios for some time, within and between countries and continents.

Internationally, the Learning Innovations Forum d’Innovations d’Apprentissage (LifIA) partners with the European Institute for eLearning (EifEL) to advocate for an ePortfolio for every citizen by 2010, and one ePortfolio for life. LifIA provides both project management and access to ePortfolio and eLearning expertise. To promote the ePortfolio, the LIFIA¹⁴ in the Americas and EifEL in the European Union advocate for:

- an ePortfolio for each and every citizen by 2010;
- one ePortfolio for life (implying transportability and interoperability);
- quality ePortfolio systems for Return on Investment; and
- learning innovations as they benefit learners, organizations and communities

LIFIA and EifEL organize ePortfolio Working Fora and ePortfolio projects to engage any and all parties interested in the ePortfolio. LifIA and EifEL promote the quality standards for ePortfolios, developed by FuturEd¹⁵ through an international project, and they promote the eLearning industry and informed choice through, e.g., the Consumer’s Guide to ePortfolio Tools and Services available from FuturEd and LifIA.¹⁶

Other international ePortfolio “players” include, but are not limited to:

- IMS Global, which has launched ePortfolio interoperability specifications¹⁷ to promote transportability and interoperability of ePortfolio tools. The rationale here is that Individuals will be reluctant to invest the time and effort to create an ePortfolio if they can’t take it with them between and among learning and employment environments;
- ePortConsortium, a virtual ePortfolio community, largely in American higher education.

¹⁴ Complete information, with ePortfolio Working Fora reports, is available at www.lifia.ca

¹⁵ ePortfolio Quality Discussion paper is available at <http://www.futured.com/pdf/ePortfolio%20Quality%20Discussion%20Paper.pdf>

¹⁶ Available online at http://www.lifia.ca/en/pdf_brochure_consumerguide_v0409.pdf

¹⁷ Available online at <http://www.imsglobal.org/ep/index.cfm>

2.2. ePortfolio Tools and Services

A growing number and variety of ePortfolio tools and services are available online, categorized broadly as either education based or employment based. In the education and training realm, some institutions are choosing to build bespoke ePortfolio tools, while others choose from among some of the following samples.

- Avenet's efolio¹⁸ is a Web-based portfolio management system that enables students, professionals, educators and others to organize, manage and display career and educational information to advance educational and career objectives. Membership in the Learning Innovations Forum d'Innovations d'Apprentissage (LlfiA)¹⁹ includes access to a career ePortfolio through Avenet, and FuturEd will be conducting research on this international ePortfolio initiative²⁰ as it relates to the ePortfolio 2010 initiative.
- Epsilen Portfolios²¹ is a comprehensive Electronic Portfolios Management System designed and developed at the Indiana University UPI CyberLab. Epsilen Portfolios offers a Web environment for students, faculty, alumni, and professional individuals to build personal portfolios. While it is designed for the academic environment, it is adaptable to the workplace.
- Nuventive's iWebfolio is a flexible, Web-based personalized portfolio with the power to store and present a lifetime's worth of experience. Individuals can use iWebfolio to easily create an unlimited number of customized portfolios for school, job applications, or any use imaginable, while controlling who sees specific portfolio information. Because iWebfolio is viewable with any standard browser, authorized users can access portfolios anytime, anywhere in the world. Membership in the European Institute for eLearning includes access to the Nuventive iWebfolio.²²
- Folio by ePortaro²³ is an enterprise level electronic portfolio software system. Designed to support reflection, growth, accomplishment and collaboration, the ePortfolio system enables portfolio owners to demonstrate their skills, competencies, personality and mastery to third parties. It fully supports multiple languages in a single installation; and has partners in Europe to help with that.
- ELGG²⁴, a social networking platform developed out of the University of Edinburgh. ELGG is an open source learning platform quite different from the portfolio tools listed above; it is similar to MSN My Space²⁵ in that it is a place where a person established his/her identity, then reaches out to share with others. As such, it is linked to social capital rather than human capital management.

¹⁸ Complete information is available at <http://avenetefolio.com/>

¹⁹ Go to www.lif-fia.org for membership information.

²⁰ See the press release at http://avenetefolio.com/index.asp?Type=B_PR&SEC={6D124B20-C790-4A0A-8FBC-0A7927A450BC}&DE={2A8D84FA-A089-4DD3-9203-EC70C400AF6F}

²¹ Complete information is available at <http://www.epsilen.com/>

²² Go to www.eife-l.org for membership information.

²³ Complete information is available at <http://www.eportaro.com>

²⁴ www.elgg.net

²⁵ <http://spaces.msn.com>

These are but a small number of the ePortfolio services available; they are mostly developed for the academic environment but adaptable to the workplace. For example, Chalk and Wire²⁶ is a Canadian ePortfolio service with applicability in the workplace. Says Geoff Irvine from Chalk and Wire, "Companies with a strong training ethic and commitment to employee growth both through company derived training opportunities, and those generated by "self-starter" employees seeking to improve their skills, could easily use the tools. The employees do not have to know anything about technology to develop their portfolio, so there is little or no learning curve and lost productive time. They can have many portfolios of any look and feel they choose for different contexts: performance reviews, promotion interviews, job searches. On the HR administration / leadership side, the assessment tools allow the aggregation and disaggregation of professional development data across the organization in a few clicks. Patterns in professional growth and weaknesses in professional practice within the organization are quickly made obvious causing performance differences and move to target and fill the gaps. There is also a full survey tool that allows them to query employees at anytime."

In the context of human resources recruiting, training and development, ePortfolio tools are harder to find because they are labeled differently. For example:

- eRecruitment
- Career transitions tools
- Prior Learning Assessment portfolios
- Electronic labour exchange

Explicit products will be identified later in the project.

2.3. ePortfolio R&D context

In the context of research and development, the concept of the ePortfolio is connected to:

- Community networks and community learning networks;
- eLearning and uses of ICT in education, training and human resources development;
- Application of and access to broad-bandwidth technologies and possibilities;
- Community asset accounting, social capital and community economic development;
- Human Capital Accounting and the management of Knowledge Workers;
- Prior Learning Assessment and the recognition of all forms of learning;
- Innovations in learning systems and HRD;
- Volunteer recruitment, development and management;
- Professional communities of practice and virtual communities;
- Community and enterprise branding and competitive advantage;
- Strategic planning and change management.

²⁶ Complete information is available at <http://www.chalkandwire.com/eportfolio/>

2.4. ePortfolio Applications and Purposes

This project focuses on the ePortfolio in the workplace and in human capital management, and the latter part of this paper examines it in depth. This section focuses on the related but distinct applications of the ePortfolio, i.e., in non-formal / lifelong learning, formal learning, and in eLearning. The potential application of the ePortfolio to workplace issues and workforce policies is impacted by the uses of ePortfolio in these other fields of endeavor.

2.4.1.ePortfolio and Non-formal / Informal Learning

In the context of non-formal learning, the ePortfolio is a means of assessing and recognizing knowledge and skills acquired through community and family responsibilities, workplace experience and training, travel and leisure activities. In this context, it is related to policies and practices associated with lifelong learning, prior learning assessment, and

2.4.1.1. Lifelong and Lifewide Learning

In the context of lifelong and lifewide learning, the ePortfolio is a means of tracking and recognizing ongoing learning, and thereby an incentive to the lifelong learning requirement in contemporary society and the KBE workplace. The promotion of lifelong learning has been a pre-occupation of governments and government policies worldwide.

2.4.1.2. Prior Learning Assessment

One specific practice aimed at promoting lifelong learning is the assessment and recognition of “prior learning.” The practice has a variety of labels – PLA/PLAR in Canada, RPL, The promotion of PLA/PLAR has been a more recent government preoccupation, and the practice is growing in most industrialized countries. In this context, the ePortfolio is a product or outcome of the PLA process of exploring and determining an individual's non-formal and informal learning.

2.4.2.ePortfolio in Formal Learning

In education and training at all levels – elementary and secondary, adult and higher education, and workplace training, the ePortfolio can be:

- a teaching tool (reflection as a basis for learning),
- a learning management tool (e.g., project-based learning); and
- an alternative form of learning assessment.

ePortfolio tools – with interventions by teachers or mentors - help creators / users to identify and reflect on the outcomes of learning experiences. In the context of formal education and training, the Portfolio has the capacity to be a learning tool, an assessment tool, and a record of achievement. It is inherently motivational in that it focuses on what the person can do, rather than what they can't, as measured by standardized tests. In fact, portfolio assessment and portfolio learning are common practice in primary literacy education, and in adult literacy and basic education programs. For example, in Cape Breton, adult learners and their tutors use a paper-based process to demonstrate learning.²⁷ To portfolio assessment, the ePortfolio adds the electronic dimension that enhances the storage size and updating capabilities of a paper-based portfolio.

2.4.3.ePortfolio and eLearning

In the context of eLearning, the ePortfolio is both process and product. It is a type of Knowledge Management for individuals and organizations; a part of a Student Information System for learning agencies; and a potential form of “Usable Learning Object” repository for individuals.

eLearning is one of the newest method by which people acquire learning both formally and informally. Until recently, definitions of eLearning tended to focus more on indirect instruction than the opportunity for unstructured learning. And until recently, we saw the ePortfolio as an element of eLearning. For example, the Open eQuality Learning Standards²⁸ (formerly the Canadian Recommended E-learning Guidelines) state that good eLearning begins with assessment of prior learning and ends with a method by which the learner can add to his/her individual learning ePortfolio. Now we see that the ePortfolio is what good eLearning should be.

After considerable research and reflection, FuturEd has concluded that the ePortfolio represents the single greatest innovation in the use of learning technologies for the following reasons.

1. The ePortfolio is eLearning at its finest – the best, least complicated, most appropriate use of ICT for learning and learning management on an individual and a societal basis.
2. It is an elegant use of inelegant technologies – using complex technological developments in simple, practical ways. Unlike most eLearning, the ePortfolio tool is typically user-friendly and appealing with great and immediate utility.
3. It is a learning leveler – it can be made accessible to each and every person regardless of skill levels and personal assets, and there is seldom a substantial cost involved. An ePortfolio can be as ubiquitous and equalizing as the Internet itself.

²⁷ Available at <http://www.nald.ca/cbln/projects/dsuccess/dsuccess.pdf>

²⁸ *Open eQuality Learning Standards* are available at http://www.lifia.ca/en/learn_equal_proj.htm

4. It focuses on “the positive” – archiving and showcasing what a person knows and can do. The outcome of an ePortfolio is “look what I’ve achieved!” Rather than being deficit-based, it is asset-based.
5. It can become a complete description of a person’s “human capital” – acquired skills and knowledge, including and going far beyond those represented by formal credentials. An ePortfolio incorporates learning from formal, informal, non-formal, accidental and incidental learning environments.
6. It is a more accurate description of a person’s “human capital.” Being competency-based, it doesn’t assume or imply competence or use proxies for learning.
7. For teaching purposes, it builds on best practices in designing, delivering and assessing skills and knowledge. Authentic assessment is a cornerstone of the ePortfolio.
8. For learning purposes, it is appropriate for all levels and types of learners. It builds on best practices in how people learn and shows positive change in the acquisition of new skills and knowledge. Reflective learning another cornerstone of the ePortfolio process.
9. It is equally adoptable in both formal and informal learning situations. Teachers and instructors can use it for alternative assessment of learning aimed at accreditation. Lifelong learners can use it to understand and record ongoing acquisition of insight and competencies.
10. It is endlessly scalable – from the individual to an entire business or nation. This is, in part, because of interoperable technologies and, in part, because of common learning and learning management needs at all levels.
11. It can be both deeply private and universally accessed. While the content of an ePortfolio is the sole property of the person or body creating the ePortfolio, it can be shared by them in many controlled ways or eBroadcast to the world.
12. It is a comfortable means of communication between learners and teachers / mentors / advisors and friends. It is exploratory rather than definitive.
13. It can be a critical transformation tool for learning systems – to outcomes based, learning-centred learning.
14. It enhances creativity and problem-solving. With the ePortfolio, there are many ways to explore and present learning.
15. It can be, at one time, both a teaching and learning tool – with the ePortfolio creator both learning through reflection and teaching through sharing the acquired insight and competencies.
16. It has endless utility to individuals and those they engage with. People of all ages can use it as a personal knowledge management tool, recording achievements, targeting new learning requirements, even making application for advance standing in formal learning environments. Employers can use it to understand and manage an entire workforce of any size, for identifying human resource needs and best utilizing human capital. Communities of place, interest or

practice can inventory entire competency banks and human capital resources for development and marketing purposes.

17. An ePortfolio system can do what computers do best – sorting and matching.

18. The ePortfolio, as a teaching/learning tools, creates a unique balance between structured and unstructured learning. The tools guide but do not limit learners.

For all these reasons, by substituting the ePortfolio for eLearning, different approaches are taken to the implementation of eLearning policies and practices.

2.4.4.ePortfolio for Learning Organizations

Although we typically think of ePortfolio creators as individuals, ePortfolios can be created and utilized to advantage by groups of people. For example, ePortfolios can be used by:

- businesses and agencies, as a means of tracking and developing the collective human capital and assisting professional development of employees within organizations across sectors;
- communities, either virtual or real, as an inventory of collective community human capital assets for, e.g., community economic / social development;
- cultural groups, as digital storytelling for cultural archiving of traditional and indigenous wisdom;
- enterprises, as a means of assessing and demonstrating quality of products and services in a standards-based and transparent fashion.

A community can be one of several things:

- A group of people and enterprises within a specific geographic area, i.e., a local community;
- A group of people and/or enterprises that have a common cause or interest, regardless of geography, i.e., a voluntary community of interest;
- A public sector endeavor, such as a university or non-profit organization, i.e., a mandated or assembled community;
- A private sector endeavor such as a business, i.e., an enterprise community or production system.

Each type of community could use the ePortfolio with similar and different processes and purposes.

Both individuals and communities of all types. can use an ePortfolio to:

- Archive learning acquired from all forms of learning in an inclusive, objective manner;
- Provide evidence or verification of learning in a dynamic, multimedia fashion;
- Manage Human Capital Assets (skills and knowledge resident in humans) for and by themselves to, first, maximize usage of acquired learning and, second, conduct gap analysis to target required assets; and
- Showcase or promote particular assets as required.

3. ePortfolio in the World of Work

In the world of work, portfolios have been used for years – artists create portfolios of their work, teachers require students to create portfolios for assessment of learning, investors create portfolios for asset management. In this sense, the “e” simply removes a mammoth amount of paper and allows for continuous updating of the portfolio through digital technology.

3.1. ePortfolio in the Workplace

In the workplace environment, trainers and HR specialists have been using both portfolios and eLearning for some time. Quite naturally, the electronic portfolio – ePortfolio- is a combination of the two, but it introduces unique advantages. First, the “e” provides an opportunity for mediated evidence of competencies in the archive – digital audio, video, artifacts and hyperlinks. It is a living document” that individuals can add to or modify on a regular and immediate basis, in creative and highly sensory ways. A second advantage is the incorporation of reflective learning. An ePortfolio embodies both process and product: the process of reflecting on learning experiences and the product of verifying claimed learning outcomes. The ePortfolio tool is a semi-structured framework for reflective learning; it goes well beyond filling in blanks in a database like the conventional resume form. A third advantage is that the same tool can be used by individuals, businesses, organization and/or communities – real or virtual. Each will use the same processes of collection, selection, reflection, projection and presentation;²⁹ and their purposes may be relatively the same: the self-examination and communication of knowledge and learning assets. An ePortfolio is an electronic portfolio of acquired learning – knowledge, skills and abilities acquired through formal, non-formal, informal, accidental and incidental learning. The fourth advantage is the focus on learning – actual competencies, rather than credentials that serve as a questionable proxy for competencies.

There are several types of portfolios, based on purpose. Helen Barrett – the world’s leading proponent of the ePortfolio in teacher education and in the K-12 sector – distinguishes between various types: working, assessment, demonstration and presentation portfolios. In the corporate environment, the most useful type of ePortfolio will be a standards-based demonstration portfolio, i.e., an ePortfolio tool or system that allows the individual to map his/her skills and knowledge against a “standard” bank of professional or occupational competences. This type of ePortfolio tool assists the individual to assert types and levels of competences, and most importantly, to provide the evidence.³⁰ There are a lot of applications of this type of ePortfolio, particularly in teacher education and continuing professional development, for example:

- Standards-based ePortfolio for teachers at the University of Iowa;
- Performance support for teachers who use ePortfolios by Concordia University;

²⁹ For more information, see <http://www.helenbarrett.com/ALI/intro.pdf>

³⁰ Step-by-step information is available at <http://www.helenbarrett.com/portfolios/howto/index.html>

- ePortfolios for teachers in the UK through the Centre for British Teachers.

In the corporate environment, and in the context of eLearning, the ePortfolio can meet the needs of (1) employers, (2) HR managers and trainers, (3) individual employees, (4) professional associations and agencies, and (5) entire business enterprises.

Employers are continuously looking for new staff, and the task of recruiting and selecting the right employees is often difficult, expensive and risky. The ePortfolio can increase effectiveness and efficiency of the hiring process by providing more and more relevant information about individuals seeking employment. Beyond the reliance on credentials, the employer is able to determine additional and specialized competences – human capital – of individuals. Online recruitment agencies are encouraging ePortfolios to prove resume claims.³¹ In order, however, for the employer to find the ePortfolio useful, there must be a system of “production and consumption” – a common tool used by both employer and applicant to match required competences to acquired competences. Such systems are currently under discussion, with considerable effort being directed at engaging employers in the process.

HR managers and trainers use tools to encourage and manage training in the workplace. The ePortfolio is an ideal tool for managing learning because it requires the personal involvement of trainees, thereby increasing motivation and personal responsibility. It is the ideal tool for trainers because it (1) focuses training on intended outcomes; (2) allows for alternative methods of assessment of learning; and (3) targets training through mediated skills gap analysis. And it is a critical tool for eTeachers and eTrainers. The Open eLearning Quality Standards³² – consumer-based eLearning quality standards that guide the development and evaluation of eLearning products and services – require that good eLearning begin with “prior learning assessment” and conclude with a method by which a person can add new competences to his/her acquired bank of competences. The recognition of prior learning puts value on learning from work experience and informal training, in addition to formal training; and it is the beginning point for many education and training specialists.

Individuals will appreciate the opportunity to create their own digital archives and ePortfolios. In the workplace environment, they will have the opportunity to (1) create a complete inventory of skills and knowledge; (2) provide digital evidence to support assertions; and (3) reflect on their varied opportunities to learn. Their ePortfolios will be used to show skill development and diversification over time in support of promotion, to identify skill gaps and aid in career planning. The ePortfolio becomes a new type of résumé for the Knowledge Economy.

³¹ For example, see <http://content.monstertrak.monster.com/resources/archive/jobhunt/portfolio/>

³² The OeQLS are available at http://www.lifia.ca/en/learn_equal_proj_oeqls.htm

Characteristic	Traditional Résumé	ePortfolio
content	lists of credentials and work experiences (with skills and knowledge implied)	lists of skills and knowledge (with learning experiences and credentials referenced where appropriate)
development process	keep track of formal credentials, dates, employer addresses, job descriptions	examine learning experiences for the skills and knowledge acquired
perspective on learning	learning happens largely in formal institutions, and credentials and work experience are the valued learning opportunities	learning happens in both formal and non-formal situations, and all learning has value
format	short and factual	may be more comprehensive, with broader lists that can be cross-referenced with actual skills and knowledge in job and training requirements
validation	credentials and employer's references have been unchallenged proxies for learning	different forms of validation are required, in addition to credentials and references, e.g., personal references
purpose	to get a job	for career planning and development: appropriate work and/or training

Professional organizations will use the ePortfolio to assess and certify bodies of skills and knowledge. They are particularly eager to use ePortfolio to assess foreign qualifications and work experience, where (1) formal credentials are difficult to verify and/or (2) applicants do not have recognized credentials but extensive practical experience. In an era of “skills shortages,” this is a major concern of employers, industries and entire countries. In the academic sense, this is Human Capital Assets Management.

Finally, entire businesses can create an ePortfolio of products and services for quality assurance, strategic planning and/or marketing. Their ePortfolio can demonstrate to clients that they are learning, continuously improving and responsive to customers needs.

3.2. Workforce ePortfolio Developments

A number of new projects are focusing on the systematic implementation of ePortfolio systems in various types of employment. An internet scan has revealed the following.

- **Essential Skills ePortfolio (Canada)**³³

Adult literacy and workplace literacy initiatives are often related formally and informally to the Essential Skills Occupational Profiles (ESOP) . Human Resources Development Canada has invested significant

³³ Information available at <http://www.nald.ca/naldnews/00summer/page2.htm>

resources in creating ESOP for a large number of occupations;³⁴ and these ESOP have become the basis of a number of tools for workers and workplace trainers.³⁵

Individuals can now create an ESOP ePortfolio using the self-assessment tool available online³⁶ - a demonstration website for the ESCORT project, "Essential Skills Computerized Occupational Readiness Training". For more than eight years, Tom Clahane and Patrick Cummins have collaborated on developing this project, using different software tools, and it is now at "launch" status. The portfolio.telecampus site is the front end of the overall process, which also includes links to customized learning pathways and instructional modules directly modeled on the Essential Skills Profiles developed by HRSD. The process was first tested by Industry Canada, and recently beta tested by Corrections Canada in the Prince Albert facility. According to the developers, many changes have taken place since that test was completed. The instructional component has been completely replaced since then, and there are a number of national demonstration projects under development.

ESCORT is a tool designed to assist learners across the full scale of possible program approaches, from independent study to highly facilitated learning. The concept is simple-

- identify and recognize prior learning through a variety of assessments,
- research and choose an occupational direction,
- identify the gaps between existing skills and required essential skills as identified in the Essential Skills Profiles,
- create a learning plan,
- document experience through the portfolio,
- remediate where necessary through asynchronous web based instruction until the objectives have been mastered.

The program design can be modified based on the level of support required by the participants. It is specifically oriented to older adolescent/ adult learners and is strongly focused on developing occupational readiness. ESCORT is primarily designed as a web based tool, although it can be modified for LAN environments.

At some point in the near future, this service should be broadly available to adult learners, and they would create ePortfolio with the expectation – in part - that an employer would receive and process it. There are no tools for employers, particularly basic enough for SMEs or incorporating the nature of foreign trained

³⁴ Complete list of Essential Skills Profiles is available at http://www15.hrdc-drhc.gc.ca/English/general/tp_trainer.asp

³⁵ *How Others are Using Essential Skills: Adult Education Sphere* at www15.hrdc-drhc.gc.ca/English/general/UpdateApp2_e.asp

³⁶ ESCORT is available online at <http://www.cep-consulting.com/escort/demo/english/intro.cfm>

workers. According to research by the CEP Union of Canada,³⁷ employers do not make sufficient use of the ESOP for a number of reasons, among them a lack of awareness of essential skills requirements in the workplace and a belief that employees do not require any training. Hence, the ESOP ePortfolio is one tool that workers and workplace trainers can use to promote the importance of ESOP.

According to Cummins,³⁸ “the Essential Skills Portfolio makes HRDC’s Essential Skills Profiles the centre of a learning/assessment package available free on the Web. Groups or individuals will use the Essential Skills Portfolio Website to assess and document their Essential Skills and to discover what additional skills they need in order to achieve their occupational goals. The package will provide printable learning materials in key areas. It will guide users through building portfolios for the occupations they choose, then generate a résumé which they can forward to prospective employers. It will give learners control over their learning. It will give teachers and learners a comprehensive view of basic education objectives in relation to specific occupations. And it will give employers a clear picture of applicants’ abilities.” At this point, FuturEd is unable to find any service providers (e.g., colleges or private trainers) or individuals who have used the ePortfolio, but it is a current research priority to do so.

- **Skills Credentialing Tool (Canada)³⁹**

Adult and workplace literacy is often closely related to employability skills as well. A form of ePortfolio, applicable to higher level literacy learners and with a specific credentialing application, is currently under development by the Conference Board of Canada. The Skills Credentialing Tool (SCT) will be an employer-completed assessment of Essential Skills and Employability Attitudes and Behaviors as set out by the Conference Board. The SCT is intended to help employers evaluate their employees’ Essential Skills and Employability Attitudes and Behaviours. The Skills Credentialing Tool is being developed with the support of The Conference Board of Canada’s Skills Solutions Forum (SSF), a multi-stakeholder action research network that brings together business, education and government leaders to engage Canadian employers in the process of building, recognizing and leveraging essential skills and employability attitudes and behaviours in the workforce for competitiveness and growth. A similar tool, based on the Conference Board employability skills, is available to youth online.⁴⁰

According to the Conference Board, the SCT, which will be launched in fall 2004, will be the only employer-completed assessment of Essential Skills and Employability Attitudes and Behaviours⁴¹ leading to a national skills credential for individuals. Ostensibly, employees will earn an employability

³⁷ *Opportunities for Tomorrow: National Learning Needs Assessment Summary Report* (CEPU, 1999) available at www.nald.ca/fulltext/opptom/english/p1.htm

³⁸ *The Essential Skills Portfolio* (Cummins, 2002) at <http://portfolio.telecampus.com>

³⁹ Excerpted from information at <http://www.conferenceboard.ca/SSF/>

⁴⁰ Wow-Skills is a self-assessment tool available at <http://www.wow-skills.com/>

⁴¹ Listed in full at <http://www.conferenceboard.ca/education/learning-tools/pdfs/esp2000.pdf>

credential from the Conference Board. A similar tool is under development by Campus Canada.⁴² The Record of Learning will be a permanent record of all previous credits, workplace training and formal / informal learning which could be applied to a degree, diploma or certificate awarded by select public post-secondary education institutions in Canada.

The SCT has been developed for employers who wish to provide feedback to employees on their Essential Skills and Employability Attitudes and Behaviours, improve workplace productivity, and establish and communicate a standard for high performance in the workplace. The SCT is also for employees who wish to earn a nationally-recognized skills credential, enhance their workplace performance, and develop their Essential Skills and Employability Attitudes and Behaviours.

The SCT provides a common language and a set of performance-based standards to help employers and employees agree where Essential Skills and Employability Attitudes and Behaviours are concerned. Employers or employees can initiate a skills evaluation using the SCT, but only employers can create an assessment. Individuals control who has access to their own skills records. An employer and an employee must agree on an assessment before it becomes a permanent part of the employee's record. These steps are to ensure that individuals learn how to ask for and accept constructive feedback on their skills performance, and employers have a standard evaluation tool to help them assess Essential Skills and Employability Attitudes and Behaviours.

Current thinking about the ePortfolio, from international experts and initiatives, is that the ePortfolio belongs to the individual, is created by them through a process of reflective learning, and attaches to "evidence" in a digital archive owned and maintained by the individual. In that sense, then, the SCT will probably constitute employer-assessed evidence for the individual's ePortfolio of workplace learning.

- **The EUCEBS ePortfolio (European Union)**

European Union Certificate in Basic Skills (EUCEBS) is an EU-funded project committed to providing in an eLearning environment the opportunity for a high level of interaction between tutor and learner, trainer and trainee.

Establishing an ePortfolio system⁴³ for use by all who are registered with EUCEBS is intended to help achieve this. Their ePortfolio is a tool to enable the effective monitoring of an individual's own learning within a lively atmosphere of electronic inter-communication. Members of the Virtual Community of

⁴² *Record of Learning* information is available at www.CampusCanada.ca

⁴³ Available at http://www.eucebs.org/EN/dsp_ePortfolio.html

ePortfolio users that are expected to build up will be part of the EUCEBS family, whether they are able to attend a registered centre or need to access their ePortfolio remotely.

The project will pilot in training centres and workplaces a competence-based European Certificate in Basic Skills covering 6 domains: Citizenship, Communication, ICT, Interpersonal Skills, Learning to Learn and Numeracy. They are seeking endorsement for the Certificate from the qualifications-awarding bodies of EU member states, will provide validation of the Certificate on-line in a number of European languages, and in due course will set up an enduring framework to ensure the continuing delivery of the certificate. Candidates who pass all the Performance Criteria in any domain can gain a mini- certificate in that domain. A record of awards gained will be sent to the EUROPASS agency of the country where a candidate presents the required evidence of competence. Award-holders will be issued with a European supplement to any national basic-skills certification held, and with a personal European CV. They expect EUCEBS accreditation to be recognised in many European countries as proof of suitability for work. EUCEBS has 9 partners from 8 countries. As a new service, research outcomes are not yet available.

- **Key-PAL - Key Skills Portfolio Assisted Learning (Europe)**

The Key Skills Portfolio Assisted Learning (Key-PAL) project⁴⁴ is under development by the European Institute for eLearning (EIfEL) with Socrates funding from the European Union. The aim of Key-PAL is to establish the relevance and potential impact of the ePortfolio on the development and assessment of key-skills (basic skills / key competencies).

It is recognized, by EIfEL and others, that there is a need to raise massively the level of basic skills of the European population, in particular in the groups of disfranchised young adults, requires the exploration of innovative approaches, where technology is not only used as a mean to 'teach' new skills, but as a tool to empower learners to manage their own learning. Key-PAL will explore how the ePortfolio can support and "valorize" self-managed learning and development for the acquisition of key-skills. It will explore the ability of the ePortfolio to support young adults in interacting with all the actors that can contribute to their development and learning: orientation services, educational services (school of second chance, night classes), and all naturally occurring informal and non-formal learning opportunities (at work, in social activities, at home, in libraries, clubs or museums, etc.).

The target group of this proposal is primarily those individuals and agencies working with young adults lacking mastery of basic skills. Beyond this, the project will play a fundamental role in promoting key skills policies to the broad user community. The correlation between poor basic skills - such as literacy - and social exclusion has been highlighted by The European Basic Skills Network (EBSN), which has been funded

⁴⁴ Information available at www.eife-l.org

by the European Commission DG for Employment and Social Affairs. During the Lisbon Council the European five areas of 'new basic skills' for the knowledge-based economy have been identified: ICT, Technological culture, Foreign languages, Entrepreneurship; and Social skills. This evolution of the conception of basic skills leads many observers to understand that there is a need for a re-conceptualization and redefinition of 'basic skills' or 'key competences' in the light of the needs of a knowledge economy and society. As this knowledge economy and society is a 'digital society', this re-conceptualization needs to take into account the potential of knowledge, information and learning technologies (KILT).

For Key PAL, ePortfolio is defined as "an extended, dynamic CV, establishing links to an online database, which contains personal and professional achievements, team results, references and all relevant evidence of competence obtained in the course of work and learning. It provides an opportunity to reflect on one's own professional practice and to share the lessons learned with others." The aim of Key-PAL is to establish the relevance and potential impact of the ePortfolio for the development and accreditation of basic / key-skills. In order to do so, the project will, among other things:

- Identify new basic skills, and how these skills, together with the traditional basic skills, can be better integrated into the curricula, learned and maintained through life – this is part of the benchmarking exercise;
- Make attainment of basic skills genuinely available to everyone, including those less advantaged, those with special needs, school drop-outs and adult learners – and explore how the ePortfolio can provide effective support to this process;
- Promote informal as well as official validation of basic skills, in order to facilitate continuing participation in education and training, and to promote employability – while traditional portfolios have already demonstrated their ability to support the validation / accreditation process, an ePortfolio requires additional basic skills that might be an obstacle or an opportunity for the recognition of basic competencies;
- Explore the ability of the ePortfolio to support young adults in interacting with all the actors that can contribute to their development and learning: orientation services, educational services (school of second chance, night classes), and all naturally occurring informal and non-formal learning opportunities (at work, in social activities, at home, in libraries, clubs or museums, etc.)
- Explore the potential of the ePortfolio to go beyond the development and assessment process to provide a framework for self-managed learning and development, to maintain and update continuously one's basic competencies through personal development planning.

The ePortfolio will provide a new kind of consistency between the object (acquiring key-skills) and the means (ePortfolio). The ePortfolio, as opposed to traditional approaches, including traditional 'paper-based' portfolios, is 'consubstantially' linked to the mastering of key-skills:

- Working (learning and living) with others: the ePortfolio provides a collaborative environment where learners can document and share the outcomes of their activities, get feedback from others, provide feedback to others. The ePortfolio is a connectivity tool that encourages knowledge sharing from a group of learners, to an extended professional (social) community.
- Literacy and information literacy: a portfolio is a tool that provides support to individuals to develop literacy skills through building a public (digital) image of themselves that will be greatly beneficial to the improvement self-esteem.
- Numeracy: although perhaps more indirectly linked to the ePortfolio than the literacy key skill, the use of ePortfolios to provide a space where the learner can collect, organize and display the outcomes of activities involving numeracy skills, is an encouragement to build a global view of one's competencies and how they relate and interact.
- Entrepreneurship: the ePortfolio is a connectivity tool that could be used as a hub to interact with others in order to design, manage and exploit the results of a project.
- Learning to learn: the ePortfolio is a tool that can support the learning planning process, or PDP (personal development planning). The ePortfolio provide an environment that facilitates the self-management of learning, the collection of feedback from others.
- Cultural awareness: through valuing informal and non-formal learning, the ePortfolio can boost the desire to contribute more actively in the various cultural activities of a community

According to EIfEL, the ePortfolio provides a unique opportunity to explore how can technology provide and support:

- Autonomous learning – how the ePortfolio provides some of the support required for self-managed learning and lifelong learning
- Valuing informal and non-formal learning -- how the ePortfolio values the outcomes of informal and non-formal activities to promote and recognize the acquisition of basic-skills
- Reflective learning – how can the ePortfolio provides a framework encouraging self-assessment, getting feedback from others, reflect on one's' own work and sharing the knowledge acquired with the other members of his/her professional community
- Learner-centric learning – providing the professional and the lifelong learner with the tools that will help him/her to manage / plan the personal / professional development (PDP)
- Interactive learning – encourage the exchange of experience and knowledge among learners and value the ability of learners who do so, i.e., to use the ePortfolio to develop social skills.
- Flexibility – provide a framework that guarantees the maximum flexibility in the way an individual can organize and present his/her portfolio.

In summary, this is fundamentally a research project to test these hypotheses, from which an ePortfolio tool will be created.

- **INFLOW – another EIFEL ePortfolio Project**

EIFEL is associated with a project called INFLOW:⁴⁵ Informal Learning Opportunities in the Workplace, which will develop a model(s) for the identification of informal learning taking place within SMEs and recording of the evidence in an electronic portfolio; develop methodology for the accreditation of the achievements by a QCA accreditation body in the UK (Edexcel) initially to produce reliability and validity linked to reference points and / or standards of achievement; and test the transferability of the model between Member States by piloting the methodologies with the Engineering Sector in France, Germany and Sweden and between production and service sectors by piloting in the Hotel and Hospitality sector in Spain, France and the UK. This will be done through an innovative partnership comprised of national accreditation bodies, training organisations, employers, e-specialists and research organisations. It is in response to the Skills and Mobility Action Plan (2002) which included an objective of “working towards greater European recognition of informal and non-formal learning” as a step to ensuring that the labour force had the necessary skills as well as the capacity to adapt and acquire new knowledge throughout their working lives.

3.3. ePortfolio for Human Capital Development and Management

The rationale behind the development of ePortfolio in the workplace rests in the policy problems associated with developing and managing human capital assets for the globalized Knowledge-based Economy (KBE). Workers of all types are become more mobile, while most credentialing and professional accreditation bodies are geographically-bound. This dilemma results in a need for states to find ways of promoting transferability and transparency of credentials, together with stimulating lifelong learning for the KBE.

The concept of Human Capital Management (HCM) has been explored and developed by the OECD and FuturEd as a means to understand and implement the necessary adaptations individuals and nations must make to measure and utilize knowledge assets – knowledge resident in human beings – in relation to economic performance and prosperity. The implementation of HCM is an OECD-recommended means of improving the efficiency of human capital investment and utilization. The implementation of Human Capital Management (HCM) is an OECD-recommended means of improving the efficiency of human capital investment and utilization. In 1996, the OECD concluded that public policy must focus on the development of better signals for competence validations, valuation, accounting and financial reporting. Firms had begun to think of employees as investments rather than costs, and as the cost-to-investment-based thinking evolved, the transition continued towards full accounting of human capital investments as assets that produce returns over an extended period of time. The OECD publications *Measuring What*

⁴⁵ Complete information is available at <http://www.eife-l.org/projects/inflow/>

*People Know: Human Capital Accounting for the Knowledge Economy*⁴⁶ and *Human Capital Investment: An International Comparison*⁴⁷ extend the treatment of physical capital to human capital in a discussion of knowledge production, diffusion and consumption in light of the disciplines of economics, accounting and education.

Human capital is defined as *the knowledge that individuals acquire during their life and use to produce goods and services or ideas in market or non-market circumstances*.⁴⁸ According to the OECD, this definition of human capital is non-committal about the source, nature or validation of embodied competences; and helps to focus on two issues: (1) the productive capacity arising from knowledge; and (2) the utility of improving the methods for assessing the productive capacity of human capital. HCM is a method of systematically identifying, measuring and presenting information about the human resources of an organization. It is related to and sometimes confused with such other concepts as: intellectual capital,⁴⁹ intellectual potential,⁵⁰ knowledge management, Human Resources Accounting (HRA), Human Capital Accounting (HCA), intangible investments⁵¹ and/or intangible assets – which range from the intellectual property rights of patents, trademarks, copyright and registered design through contracts; through trade secrets and public knowledge such as scientific works; to the people-dependent or subjective resources of know-how, networks, organizational culture, and the reputation of product and company.⁵² FuturEd has concluded that the concept of HCM is also directly related to human resources management in the knowledge economy, lifelong learning, assessment and recognition of prior learning, electronic labour market information, knowledge management, and the electronic learning record or ePortfolio.⁵³

The ePortfolio becomes the tool for promoting and managing human capital through lifelong learning. An ePortfolio, in a sense, can become an alternative credential and/or a more accurate statement of qualifications. On one hand, HCM addresses the challenge to the reliance on credentials for employment and advancement. There is a growing body of literature about rampant credentialism and the dubious utility of some academic credentials. The OECD acknowledges that “usually education certificates are

⁴⁶ Measuring What People Know: Human Capital Accounting for the Knowledge Economy (OECD, 1996)

⁴⁷ Human Capital Investment: An International Comparison (OECD, 1998)

⁴⁸ Measuring What People Know: Human Capital Accounting for the Knowledge Economy (OECD, 1996), p. 22.

⁴⁹ Intellectual capital is proprietary information and knowledge that lowers costs or increases customer value; it is human capital plus structural capital such as databases and documents. Examples are patents, trade secrets, copyright protection, trademarks and contracts. An “intellectual capital” reading list is available at <http://www.icmgroup.com/biblio.html>

⁵⁰ *The Austrian Approach to the Measurement of Intellectual Potential* (Schneider, 1999) at <http://users.austro.net/measuring-ip/OPapSchneider/theoreticalframework.html>

⁵¹ Intangible investments, in this context, include research and experimental development, training, organizational change, marketing and software.

⁵² Hall, R. 1992. The Strategic Analysis of Intangible Resources, *Strategic Management Journal*, Vol. 13.

⁵³ For more information on the ePortfolio, see other FuturEd papers, e.g., *The ePortfolio and HRD Policy Goals* (Barker, 2003) available at www.FuturEd.com .

used to measure actual competencies, but these achievement certificates are imprecise at best.”⁵⁴ The OECD foresees a situation where “any new investment in learning will be undertaken with more attention to type, method and content. In other words, quality of education will be more important than quantity.”⁵⁵ The ePortfolio facilitates, perhaps encourages, the acquisition and recognition of skills and knowledge outside the formal credential-acquisition system. On the other hand, while individuals and all of society, are urged to adopt lifelong and life-wide learning, there is an acknowledged lack of incentives other than formal credentials. The OECD asserts that individuals need to be able to see their investments in skill formation as a lifelong commitment to building assets. It has been hypothesized that an ePortfolio, by accurately reflecting an individual’s acquired skills and knowledge, could increase access to training, appropriate employment and/or career advancement – ostensibly incentives for some. As noted by the OECD, the continuing emphasis on lifelong learning reinforces the need to reform the information and decision-making mechanisms that determine learning acquisition choices. They recommend that “reforms should take into account, for individuals, their lifetime pattern of investment in human capital, and for institutions, the existence of multiple distinct learning pathways and the need for mobility and linkages between them.”⁵⁶

In summary, HCM promotes a different view of knowledge management. Comparing formal credentials to the ePortfolio, FuturEd concludes that while formal academic credentials reflect time spent in class, represent questionable proficiency, are used as a proxy for skills and knowledge, are dated and of variable quality, and include formal learning only; the ePortfolio reflects time spent learning, presents evidence-based proficiency, is a statement of actual skills and knowledge, is “living” and systematic, and values all types of learning. FuturEd calls the ePortfolio the New Management of Learning. Through the ePortfolio, HCM enables the better use of human resources, recognition of foreign work experience and qualifications, more efficient training and increased return on investment in learning, increased productivity, promotion of lifelong learning and development of the eLearning industry worldwide.

To implement HCM and an ePortfolio system, a nation-wide effort may be required. The OECD notes that firms do not have the capabilities or financial means to pursue assessments that are often imprecise or expensive; nor do they have the negotiating experience to allow them to enter into contracts that explicitly validate the estimated value to the firm of a person’s acquired skills. “In the absence of nation-wide efforts to establish appropriate and affordable human capital information and decision-making systems, firms are unable or unwilling to develop such systems on their own are likely to suffer from lower productivity growth and reduced ability to compete because they will be less effective and efficient in acquiring and using human-embodied knowledge.”⁵⁷ To this end, the OECD acknowledged Prior

⁵⁴ Measuring What People Know: Human Capital Accounting for the Knowledge Economy (OECD, 1996); p. 20.

⁵⁵ *Redefining Tertiary Education* (Wagner, 1998) at <http://www.oecd.org/publications/observer/214/article4-eng.htm>

⁵⁶ OECD, 1996; p. 73.

⁵⁷ OECD, 1996; p. 54.

Learning Assessment as a most promising area of innovation, referring to it as “achievement-based evaluation of human capital accumulation.” They note that “explicitly negotiated and transparent links between competence validation and market validation have not yet been made; however...there is a new and growing potential to turn measurement into valuation as new active labour market policies are combined with reform of educational financing and closer ties between learning institutions and the workplace.”⁵⁸ The ePortfolio is the tool that now makes this possible.

3.4. ePortfolio for Social Capital Development and Management

Another way of examining the benefits of an ePortfolio in the context of the workplace relate to the development and utilization of social capital. Social capital is a socio-economic concept with a variety of inter-related definitions, based on the value of social networks.⁵⁹ The French sociologist Bourdieu⁶⁰ defined social capital as “made up of social obligations which is convertible, in certain conditions, into economic capital.” For contemporary purposes, social capital is the value of social obligations or contacts formed through a social network; and social networks are the medium through which social capital is created, maintained, and used. In short, social networks convey social capital. For a time in the late 1990s, the concept was highly fashionable, with the World Bank devoting a research programme to it, and the concept achieving public awareness through Robert Putnam’s 2000 book, *Bowling Alone*.

Social capital development is particularly important in the context of skilled immigrants to Canada, because on the one hand, they have lost their social networks “back home” and on the other hand, benefit from the creation new social networks in Canada. According to Jacobs (1961), “When social capital is lost, from whatever cause, the income from it disappears, never to return until and unless new capital is slowly and chancily accumulated.” In this context, the ePortfolio is a social networking tool. The ePortfolio is means to develop social capital: friends, colleagues, and more general contacts through whom you receive opportunities to use for financial and human capital.

According to Johnson⁶¹, it would be nearly impossible for humans to exist without the benefits derived from social learning, participation in social institutions (such as family, community, coordinating behaviours, and norms), and information transference. Fundamentally, these activities are a function of interaction. When complemented with accumulated labour, these activities result in the accumulation of all forms of capital. She notes that capital can be embodied in four forms: physical, human, cultural, and social. “The potential complementarity of production of different forms of capital is exemplified in the process of obtaining a degree from a distinguished institution of higher education. It can

⁵⁸ Ibid., p. 59.

⁵⁹ Definition taken from Wikipedia http://en.wikipedia.org/wiki/Social_capital

⁶⁰ Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 239–258). New York: Greenwood Press.

⁶¹ Johnson, C. (2003). A model of social capital formation. SRDC: Working Paper Series 03-01

be assumed that human capital is created on the way to obtaining such a degree. Social capital may be created because classmates may keep up their networks of friendship and reciprocity. Cultural capital may be accumulated in two forms: institutional and embodied. Institutional cultural capital is accumulated because some status or benefit is bestowed on an individual by matriculating at such a distinguished institution. Embodied cultural capital, the ability to participate in society with regard to social or cultural institutions, may be gleaned through repeated interaction with other individuals while in the university environment.”

The concepts of social and cultural capital are abstract, intangible, and oftentimes non-transferable as assets. They both share the necessity for social interaction in their creation and use. However they are fundamentally different in that social capital resides in other people and the embodied state of cultural capital resides within a person, much like human capital. This is one of the two basic functions of social capital: (1) as a source of social control, and (2) as a source of benefits through networks. The most common function of social capital is acting as a source of network-mediated benefits beyond the immediate family, in promoting or achieving access to employment, mobility, and entrepreneurial success. This is the utility, for some, of such social networking tools as weblogs (blogs) and ELGG⁶² - “an open source learning landscape platform.”

3.5. Employer Perspectives

To be completed by Learning Agents who are surveying (1) the literature and (2) employers for current practices associated with ePortfolio functions

3.6. ePortfolio for Skilled Immigrants

To be completed by EMCN who are surveying (1) the literature and (2) employers and immigrant serving agencies for attitudes toward ePortfolios

⁶² <http://elgg.net/>

4. Developing an ePortfolio system: What we Know

From this environmental scan, we know a number of the things we need to know in order to develop and implement a large-scale ePortfolio system. We know the key players, a variety of tools and services, and the underlying reasons for and benefits of a ePortfolio system for skilled immigrants and employers of them in Canada. In addition to that, we know

- what the major issues are – challenges we face, how to compare and choose or develop tools and services, how to ensure quality and Return on Investment in an ePortfolio;
- what a system would look like – roles and responsibilities, together with system elements;
- who the key stakeholders are in order to address challenges and create success;
- what public policy goals we seek to contribute to, and what a consequent evaluation plan would look like; and
- the essential elements of a national program.

4.1. The Major Issues

4.1.1. Awareness and Access

As with other uses of learning innovations and/or the Internet, the fundamental needs are for awareness and access to the tools, the hardware and the Internet. The “worst case” scenario is characterized as the Digital Divide, and we know that a significant number of Canadians do not have access to computers and high-speed internet access. In addition, the majority of Canadians have never heard of an electronic portfolio; hence the need for a great deal of public education – in this case for both skilled immigrants and employers. There may even be the problem of resistance, as some of the large-scale computer-based programs have created an atmosphere of distrust – the gun registry and the electronic health record are fresh in people's minds. Considerable resources and creativity will be required to increase awareness and access, especially for employers in Small and Medium Sized Enterprises (SMEs) – the majority of employers in Canada.

4.1.2. Quality for ROI

In order for anyone – skilled immigrants, employers, students, whomever – to want to create an ePortfolio, use it and keep it current, there must be some form of Return on the Investment of time, energy and other resources. Having taken this perspective, a set of quality standards have been created, and we know that, when we choose or develop an ePortfolio tool / service, it must meet these quality standards (Appendix A). When we choose or develop an ePortfolio tool, we know what questions to ask of commercial vendors and designers (Appendix B).

4.1.3. Interoperability and Transportability

In Canada, when we talk about an ePortfolio service, it is in the context of a hypothetical ePortfolio system for citizens of all ages:

- Pre-school and primary students
- Elementary and secondary students
- College and university students
- Adults of all ages as workers (self-employed and employed)

For each of these groups, the purposes of the ePortfolio may be different; however, the hypothesized system should be “seamless” – ensuring that the individual can take his/her ePortfolio with them through life with little difficulty. The key is “interoperability” of tools and processes.

4.1.4. ePortfolio Utility in the Workplace

While there are a variety of purposes for an ePortfolio in the workplace, there are essentially four to focus on in the development of an ePortfolio system for skilled immigrants and employers:

- recruitment and appropriate job placement
- human capital management and development
- targeted training and career counseling
- productivity enhancement

In addition to these goals, there are society-wide social and economic benefits to aim for through systematic implementation of an ePortfolio system.

4.2. ePortfolio system

An ePortfolio without someone to receive, process and/or utilize it is like one hand clapping. Clearly, what is needed is a system of producer – i.e., skilled immigrants -- and consumer – i.e., certification bodies and employers. FuturEd has conceived of such a system (Appendix C) and to date, no real systems exist for skilled immigrants and employers.

In an enterprise-wide or nation-wide ePortfolio system, there are six categories of roles and responsibilities: i.e., there are producers, consumers, facilitators, influencers, technicians and agents.

The **producers** are the individuals – citizens of all ages – who create and manage their own digital archives and purposeful ePortfolios. For example, students use ePortfolios for reflective learning and

to demonstrate acquisition of skills and knowledge. Adults, in their roles as workers, family and community members, use ePortfolios to determine and describe their entire inventory of competencies acquired from formal, informal, non-formal, incidental and accidental learning.

The **consumers** are the individuals and agencies that receive and process the ePortfolios of individuals and agencies that are using the ePortfolios. Teachers use ePortfolios for teaching and assessment of learning. The education systems use ePortfolios for recording learning and accountability to clients. Employers use ePortfolios for selecting appropriate employees and managing human capital. Trainers use ePortfolios to provide targeted training. Career counselors use ePortfolios to assist in planning and decision-making.

The **facilitators** are the teachers, trainers and career counselors who help individuals to create and manage their own ePortfolios.

The **influencers** are “gatekeepers” who make it possible or impossible to use an ePortfolio system; they may be policy makers, corporate executives, administrators.

The **technicians** are those who develop the tools and processes; they typically have technical and business expertise to develop and market ePortfolio products.

The **agents** are those who provide the service for both producers and consumers, responding to the issues of influencers and maximizing the talents of the technicians.

To complete the system, there are two primary components to an ePortfolio system: products and services. **Products** include, but are not limited to software programs and digital tools for:

- producing ePortfolios;
- producing ePortfolio processors; and
- processing ePortfolios.

Services include, but are not limited to,

- training for ePortfolio facilitators (teachers, trainers and career counselors);
- training for ePortfolio processors (employers and HR specialists);
- assistance to individuals (workshops and mentoring services);
- storage for and lifelong access to individual ePortfolios (security and reliable access);
- strategic advice to and market intelligence for facilitators and decision-makers;
- accountability mechanisms for assessing effectiveness and efficiency.

In the development of an ePortfolio system for skilled immigrants and employers, we know that we need to ensure that all products and services are considered.

From a slightly different perspective, Jafari⁶³ sets out The ePortfolio Success Algorithm:

Successful ePortfolio Project = I + J + K + L + M + N + O, where

I = ease of use

J = sustainable business plan

K = advanced features

L = robust integrated technology

M = lifelong support

N = standards and transportability and

O = X (the other, based on situation)

We know that we want to plan for a successful ePortfolio project.

4.3. ePortfolio Policy Goals

In designing and evaluating an ePortfolio system for skilled immigrants, we know we are guided by a number of important public policy goals. For the federal government, our goals include contributing to increasing and improving:

- labour mobility where credentials have served as barriers
- targeted workplace skills training with improved gap analysis
- enhancement and recognition of workplace training and non-formal learning
- transitions into and out of bridging programs
- individual responsibility for skills upgrading, career development and lifelong learning
- local – national Human Capital development and management
- effectiveness and efficiency of learning systems
- accountability for learning expenditures (focus on learning objectives)
- employment levels in all regions
- transitions and engagement of skilled immigrants with both learning and the workforce

As well, our goals are to contribute to reducing problems with:

- foreign credential recognition
- declining productivity
- underemployment and skills shortages

Finally, we aim to contribute to building on investments in:

- Workplace skills development
- Learning communities

⁶³ Jafari, A. (2004). *The "Sticky" ePortfolio System: Tackling Challenges and Identifying Attributes* published by Educause Resources at http://www.educause.edu/content.asp?page_id=666&ID=ERM0442&bhcp=1

- Sector councils
- Information Highway and Learning Technologies
- Occupational Skill standards, Essential Skills
- Prior Learning Assessment and Recognition
- Online learning and learning services

For skilled immigrants, indeed all Canadians, we aim to contribute to the effective understanding and use of all skills and knowledge, recognition for lifelong learning, and career development and planning For employers, we aim to contribute to:

- better recruitment and retention;
- human capital management (managing knowledge assets resident in people);
- targeted skills development:
- productivity increases.

Therefore, we intend to develop, implement and monitor an ePortfolio strategy with:

- effective tools for producers and consumers
- “rewards” – ROI for producers and consumers
- innovative and ongoing partnership development
- management of a research agenda and knowledge dissemination
- regular communications and Working Fora
- evaluation and ongoing ROI analysis
- links to international initiatives

5. Conclusion



This paper sets the stage for three additional project papers:

1. ePortfolio for Skilled Immigrants – a SWOT analysis prepared by EMCN
2. ePortfolio as it is used in the Workplace – a situational analysis prepared by Learning Agents
3. Focus Group research – employer perspectives of our proposed national strategy

Appendix A

ePortfolio Quality Standards Prepared by Dr. Kathryn Barker, FuturEd Inc. April 2004

The following consumer-based quality standards are based on a diagnosis of quality issues and challenge,⁶⁴ and created by an international committee of ePortfolio experts.

1. A digital archive and an ePortfolio are developed and owned by the individual or organization creating them. The use of both or either, and any changes to them, are under the control of the individual. Both are confidential and access is controlled by the individual.
2. The ePortfolio system has the capacity to maintain a complete inventory of skills and knowledge acquired by the individual through formal, non-formal, informal, accidental and incidental learning. The ePortfolio development process includes thoughtfulness about learning represented.
3. The ePortfolio system lists and describes skills and knowledge in a way that is recognized and respected by educators, employers, professional bodies, and others who receive and process ePortfolios. Where possible, the ePortfolio competency standards but also allows unique or non-specific competencies.  system links to established flexibility to accommodate
4. The content of the ePortfolio is current, Methods of validating learning are credible.  accurate, and verifiable. flexible, appropriate, and
5. To develop the ePortfolio, there are explicit instructions with examples, a universally-recognized glossary of terms, and professional assistance if required. The ePortfolio is easy to access, use, and modify by the owner.
6. The ePortfolio and archive have the capacity to incorporate a variety of media.
7. The ePortfolio is portable and interoperable in a technical sense.
8. The ePortfolio service is multi-purpose, customisable and adaptable to various uses, e.g., assessment by teachers, learning through personal reflection, planning, individual or community asset mapping.
9. An ePortfolio system is seamless, allowing the individual to create many versions of his/her ePortfolio and use this process throughout life, from primary school through higher education and career training to the workplace and lifelong learning environments.
10. An ePortfolio system provides secure long-term storage, privacy, access and ongoing support.

⁶⁴ ePortfolio Quality Standards: An International Development Project (Barker, 2003) is found at <http://www.futured.com/pdf/ePortfolio%20Quality%20Discussion%20Paper.pdf>

In generating these standards, FuturEd appreciates the input and assistance of the following organizations and individuals.

Participating Organization	Representative
AAHE (American Association for Higher Education)	Darren Cambridge
AMTEC (Association of Media and Technical Education in Canada)	Genevieve Gallant
CACE (Canadian Association for Community Education)	Barb Case
CADE (Canadian Association for Distance Education)	Bill Muirhead
Campus Canada (Industry Canada)	Jane Kralik
CanLearn (Human Resources Development Canada)	Karin Fuller
CAPLA (Canadian Association for Prior Learning Assessment)	Sandra Aarts / Bonnie Kennedy
CEA (Canadian Education Association)	Penny Milton
COL (Commonwealth of Learning)	Angela Kwan / Paul West
CSBA (Canadian School Board Association)	Lionel Sandner
ElfEL (European Institute for E-Learning)	Maureen Layte
Licef –TeleUniversite	Karen Lundgren
CERI / OECD (“watching brief”)	Kurt Larsen
Additional ePortfolio / eLearning Experts	Helen Barrett Barbara Cambridge Marquis Bureau

Appendix B
Consumer's Guide to ePortfolio Tools and Services
FuturEd, 2004

There are a large number of potential tools and services available, but no one system will meet everyone's needs, so you will have to choose the right one for your agency or business. To make an informed choice, these questions will help draw comparisons.⁶⁵

1. Who is the producer, provider or supplier? What is the organization's history? Does it give you a sense of confidence? How do you contact the head office? How reliable and credible is the product/service? Is there a body of evidence or supporting research? Can you contact references who have bought and/or used the product/service? Does it come with a guarantee or warranty?
2. What information and consumer service is available, and how accessible is it? Is there any local access in your country or region? Is information easily available? Are demonstration materials available? Do you have a sense of the quality of customer service? Is technical support available – e.g., 1-800-number?
3. What is the intended purpose? Is the ePortfolio focused on assessment process or demonstration product? What is the primary purpose of the ePortfolio, e.g., presentation of achievements, assessment of learning, reflective learning, planning and gap analysis? Does the ePortfolio accommodate all forms of learning, e.g., formal, informal, non-formal, accidental, or incidental? Can the ePortfolio be repurposed, e.g., from an assessment of learning to a record of achievement?
4. Who is the intended purchaser? Is the intended purchaser an education institution, a human resources agency, a business or industry? Does it matter? Is the product or service aimed at a very narrow or very broad audience – e.g., one level of education such as secondary school or assessment of learning at any level? What assumptions are made about the target consumer, e.g., organizational needs for an ePortfolio, funding sources?
5. What staff will be required and involved? For managing the ePortfolio system, who is involved and what are the requisite qualifications? For creating an ePortfolio, who is involved and what are the qualifications? What is the nature and cost of training provided? What is the time and cost to your organization?
6. Who is the intended user? Is the product or service for a general or a specific population – e.g., within a type of industry or with a particular educational level? Is the ePortfolio owned exclusively by the user? What creation process is followed? Is it individualized or conducted in groups? Is external assistance required or advised? Will external assistance be available? Is it accessible to specific populations? What languages is it available in?

⁶⁵ The complete *Consumer's Guide to ePortfolio Tools and Services* (FuturEd, 2003) is available at http://www.lifia.ca/en/pdf_brochure_consumerguide_v0409.pdf

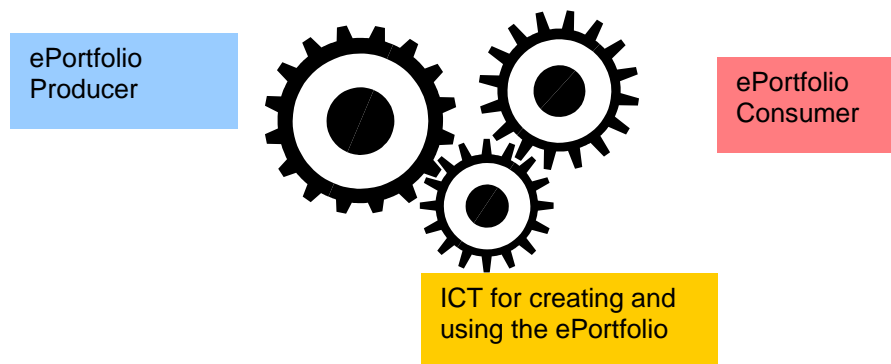
7. What is the difficulty level? Can it be used for people for whom English or German is not their first language? Can it be used by people with low literacy levels? Does it have appeal or application to different age groups – e.g., youth, seniors?
8. What is the nature of the product or service? Is there a product you own, a service to be contracted, or both? What is the type of product – e.g., computer software, web application? What equipment is needed? What general equipment is needed – e.g., hardware? What particular equipment or software is needed? How are you involved in using the product or service? What equipment and facilities are provided? What time will be required of you?
9. What are the end results of the process or service? How usable is the final product to you? What is the degree of technicality? Who owns the information gathered? Are results confidential? What is the nature of the confidentiality?
10. Where is the ePortfolio stored? Are there linkages to existing or needed services such as: training plans or materials? existing management information systems? job classification systems and industry occupational skill standards? education outcomes and reporting systems?
11. Is the product or service “user-friendly”? Is the terminology generally understood or “unique” to the producer? Is there a glossary of terms? What amount and type of information is required in advance in order to use the product or service?
12. Is the product flexible and adaptable? Is the format flexible – e.g., can it be modified or changed at all? Is it adaptable to various industries or sectors? Can it be adapted to different sizes of organization – e.g., small enterprise to multinational firm, an individual school to entire system? Is it relevant to a particular country or adaptable to any cultural context?
13. Is it a “living” tool or service? Has it been updated and/or revised? How often? How recently?
14. What is the total cost? Is there an initial fee and/or annual fee? Are there licensing fees? Does this apply to multiple and/or single sites or users? What are the ongoing costs? What does storage cost? What is the total cost per individual ePortfolio? Are there economies of scale – e.g., reduced cost with increasing numbers? What are the associated purchaser costs – e.g., training, administration time, communications? What are the customizations costs?

Appendix C

FuturEd ePortfolio System™



For purposes of development of the ePortfolio System, an **ePortfolio** is a digital or electronic learning record, an inventory of a persons skills and knowledge, acquired through formal, non-formal and informal learning experiences, with relevant verification. A **system** is one of production and consumption that makes the ePortfolio useful and used. Therefore, the necessary components of the FuturEd ePortfolio System are **producers, consumers** and **ICT**. In a small number of cases, the producer and consumer may be the same person but the functions remain the same. In all cases, a computer is used for creating and using the ePortfolio in the critical “matching” process; often this involves using the Internet as well.



ePortfolio producers are the individuals or groups who create or generate their own ePortfolios.

Producers may be:

- Learners or potential students of all ages
- Workers and people seeking work
- Citizens of all ages
- Communities

ePortfolio consumers are individuals or agencies that receive and process ePortfolios.

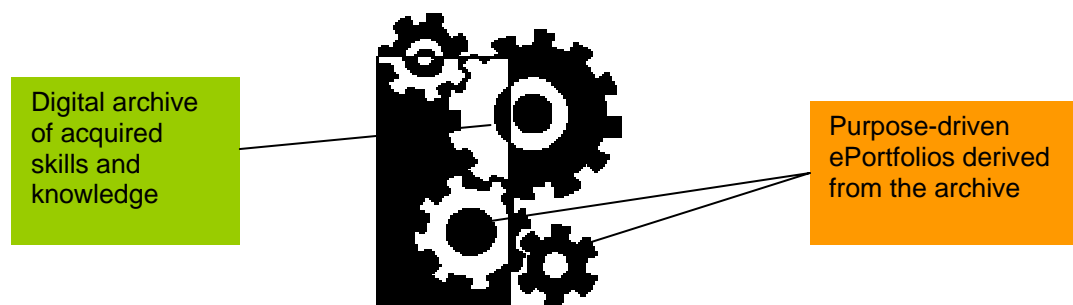
Consumers may be:

- Educators, helping students to learn and/or assessing student learning
- Employers, assessing the suitability of job applicants and/or managing human capital assets
- Counsellors, assisting individuals in planning for career development and life changes
- Businesses, choosing from between choices in host communities and expansion sites
- Governments, creating inventories of human capital and targeting skills development policies
- Individuals, using their own ePortfolios for self-awareness and planning, e.g., career development.

In the **production process**, a person or community develops and maintains as complete an **archive** as possible; the individual or the group:

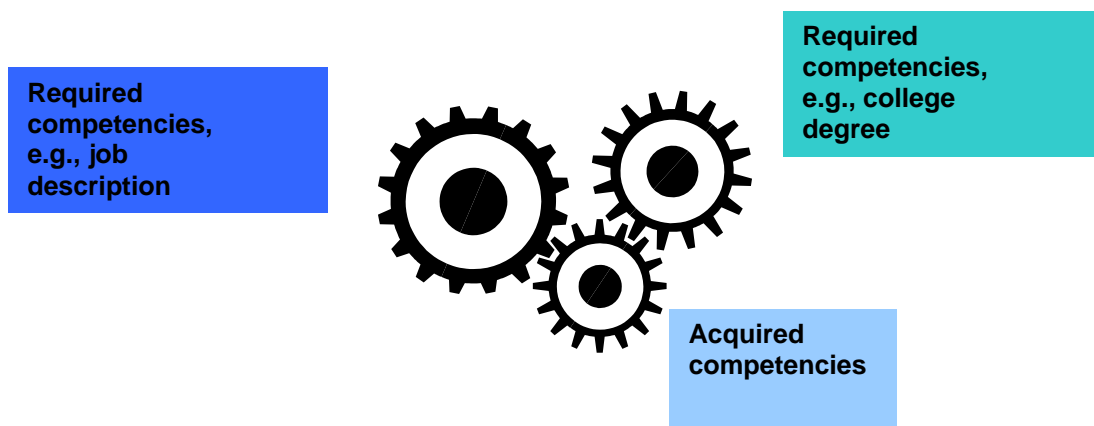
1. Concludes and/or reflects on a learning experience, e.g., an educational course, workplace training, a community or family role;
2. Using a computer, lists **acquired skills and knowledge** (competencies); and
3. Using a computer and/or the Internet, attaches evidence of acquired competencies, e.g., professional credentials, artifacts, references.

From this archive, a person can generate a focused ePortfolio when opportunity or necessity dictates.



In the consumption process, a person or agency exams the acquired competencies in the context of **required competencies**. For example,

- Education institutions examine registrants for pre-requisites for course or requisites for program completion (to award advanced standing, thereby enhancing efficiency in learning systems)
- Accrediting bodies examine applicants for requisite professional competencies.
- Employers examine applicants for job fit and suitability.
- Trainers examine trainees for competency gap analysis and targeted training.
- Counsellors help individuals examine their own competencies vis-à-vis those required for career development and life changes.



The fundamental uses of the ePortfolio, while varied and numerous, are **learning and/or matching** acquired with required learning.

- Students learn through the ePortfolio process of description, reflection and validation of acquired skills and knowledge.
- Students and others learn from the ePortfolio process how to describe and value learning from all types of experiences.
- Students demonstrate learning (acquired skills and knowledge) with relevant verification (text or visual) and educators assess learning.
- Workers demonstrate their employment capacities and/or training needs.
- Individuals and communities showcase what they are capable of with the intent of “winning” a match to someone’s expectations.

The entire development and utilization of the ePortfolio is made effective, efficient, and **electronic** through the use of ICT – Information and Communication Technologies:

- Computer-based and web-based ePortfolio creation tools for producers
- Web-based sets of occupational and other skill standards for both producers and consumers
- The **potential** for computer-based or web-based ePortfolio processor tools for consumers to receive and process individual ePortfolios.



In this context, the ePortfolio is related to **eLearning** – as a type of Knowledge Management, a part of a Student Information System and a potential form of “Usable Learning Object” repository. In addition and in summation, the ePortfolio is integrally linked to:

- **education and training** at all levels (K-12, PSE and workplace) - as a teaching tool (reflection as a basis for learning), as a learning management tool (e.g., project-based learning) and as an alternative form of learning assessment;
- **lifelong learning** – as the method of tracking and recognizing ongoing learning, as an incentive to the lifelong learning requirement;
- **Prior Learning Assessment** – as the outcome of the PLA process of exploring and determining an individual’s non-formal and informal learning;
- Human resources development and **Human Capital Management** – as the means of identifying and managing what a person and a group of persons knows and can do;
- **future learning systems** that rely less on credentials and more on competencies, making learning systems more effective and efficient.

The implementation of this ePortfolio system requires a wide variety of tools and services, many of which do not exist yet. This provides a significant opportunity for Canada’s eLearning industry; it will require significant collaboration and coordination in order to generate a seamless system that is effective and efficient for Canadians, individually and collectively. **FuturEd Inc. has begun work on the ePortfolio system with partners in BC, in Canada and in the European Union. For more information, check the eLibrary at www.FuturEd.com or contact kbarker@futures.com.**

ePortfolio for Skilled Immigrants and Employers



EMPLOYERS AND ePORTFOLIO Situational Analysis

Prepared by Learning Agents Inc.

30 November, 2005

Executive Summary

While there is relatively low recognition for the term "ePortfolio" among Canadian employers, increasing numbers of them are using electronic tools to recruit employees and manage their development for the benefit of the company. These tools bear a strong resemblance to several aspects of the ePortfolio vision, incorporating such elements as skills frameworks, evidence-based assertions, and collaborative learning plans.

These leading edge employers do seem to see the benefits of the electronic management of human capital. However, it is not clear that they agree with the entire vision as proposed, particularly those aspects linked to content ownership and mobility. It also appears that most employers are taking a cautious "point improvement" approach, rather than a broad-based integrated strategy.

Complicating matters further is the traditionally low importance assigned to human capital development in corporations amid other pressing business. The management of recruitment, training and other development functions are often perceived as administrative tasks rather than strategic opportunities, so "HRIS" projects to automate and enhance these HR functions are typically assigned fewer resources than so-called "core business" projects.

Given these conditions, it seems likely that many solutions introduced by employers will be incremental and not designed for interoperability, reducing the potential for rational labour mobility.

Yet counterbalancing this is an overall drive in the business IT world for simple, XML-based interoperability of "eBusiness" applications, even for internal business functions. The HR-XML Consortium is leading the charge in the HR section of this arena.

Another trend that is helping drive standardized interoperability is the concept of "software as a service". Rather than build new applications to meet new needs, businesses will first look to see if this function can be outsourced to an external (generally XML-based) "application service provider" who can link back effectively to their existing corporate systems. Benefits of the approach include reduced capital outlay, reduced total cost, increased flexibility and shorter turnaround.

The same industry experts also note the beginnings of a change in the character of recent HRIS applications. They appear to be moving beyond the automation of administrative functions, such as personnel, payroll, benefits, to the management of higher level strategic concerns, such as performance management and succession planning. These applications are becoming increasingly integrated, in order to better handle the lifecycle of employee information management.¹

ePortfolio Scope for this Discussion

The ePortfolio has four arguable purposes for employers which are related to their need for productive human capital:

1. A **work readiness** tool that enables upstream pre-employment services to prepare applicants (e.g. Youth or Newcomers)
2. A **hiring support** tool for selecting among potential job applicants
3. An **employee development** tool that managers, HR personnel and the employees themselves can collaborate on
4. A **knowledge management** tool to locate human capital to meet corporate objectives and retain knowledge when the employees leave

¹ Online Workstream seminar featuring James Holincheck, Research Director, HR Management Systems, Gartner Research
http://www.accelacast.com/webcasts/gartner_workstream/

As a hiring tool, the value of an ePortfolio is transitory, but the ongoing opportunities for human capital development through personal reflection, knowledge building, mentoring and collaboration between employees, the employer and their surrounding network provide far more opportunities for lasting value generation.

Examples of HRIS Tools Linked to ePortfolio

These examples and trends indicate that many of the underlying principles of the ePortfolio vision are already at work in the corporate world.

Work Readiness (Pre-Employment)

Employers benefit when applicants come to them with the correct skills, knowledge and attitudes required for productivity. Pre-employment programs run by education and training organizations help applicants consolidate their Essential and Employment skills. Examples of tools to facilitate this process are the Ontario Skills Passport, the HRSDC-funded ESPORT, and the Employment Readiness Scale used by ASPECT BC.

The Conference Board of Canada has recently introduced SkillsSolutionsNet (SSN) and the Skills Credentialing Tool (SCT) to operate in this arena.²

Hiring Support

Electronic Résumés

Solicited or unsolicited, the emailed résumé is now the primary channel for an applicant to get his or her profile into an organization. Although the résumé is usually sent as an attachment, it can also be formatted into the body of the message, either as plain text or in html (web) format. Viewing the document electronically makes it possible to provide links to additional material on the Internet that support assertions made in the necessarily brief résumé. Electronic cover letters also provide the same opportunity in narrative form.

Résumés are summary documents that are customized to the known needs of the employer. They are highly structured, but that structure varies enough to make automated analysis difficult. Larger employers faced with hundreds or even thousands of résumés often use text analysis tools, seeking key words and phrases linked to their needs.

Employer Web Sites

Due to low cost, most web sites of medium to large sized companies have an *Employment* or *Careers* page, listing available positions, together with job descriptions. Applicants use these and other information available on the company site to craft their résumés. So-called "**Employers of Choice**" market themselves to desirable candidates by "telling their story", making evidence-backed assertions about their success, describing the benefits of working there, and highlighting opportunities for professional development and personal growth.

Applicant Web Sites

Although not yet common, this option is increasing in popularity, due to low/no cost, and the opportunity to expand on the brief résumé. Barriers in Canada include the lack of standardized templates and tools for content creation by non-experts, and the cost of personal Internet access. In jurisdictions such as Minnesota and Wales, state-wide access to personal web sites specifically labelled as ePortfolios is provided to all citizens.

² <http://www.skillsolutionsnet.com>

Company Web Sites as ePortfolios

The web sites of individual contractors and small service-based companies often amount to organizational portfolios for marketing their services. These web sites make assertions about the companies' ability to develop solutions that are linked to client needs, and the assertions are backed by evidence such as case studies, work samples, white papers and client endorsements.

Job Boards: Matching Job Descriptions to Résumés

In Canada, large sites such as Workopolis, Monster.com, Working.com and HRSDC's Job Bank provide a public forum for employers and applicants to find each other. Smaller sites are also provided by some National Sector Councils and other sector-specific sites, such as mfgjobs.ca.

Online forms standardize content to some degree, but key word searching is still the dominant method of matching. One exception is the Job Bank, which uses National Occupational Classification (NOC) codes as the dominant link. Making sure the NOC code is correct generally requires intervention by service providers at Job Bank. HRSDC is developing an automated Web Service tool to make NOC classification a self-serve function.

eRecruitment and Applicant Tracking Systems

These are employer-owned software solutions designed to accelerate and improve the process of selecting the right candidate for the job.

Employee Development

In the past, the major users of administrative HR applications were HR employees. In the future, managers and employees will be the primary users of these strategic HR applications.³

Employee Performance Management Systems

Mount Sinai Hospital in Toronto is implementing a system to help with its compulsory accreditation review. The systems support the hospital's existing **Balanced Scorecard** organizational performance measuring system and can also accommodate 360 degree feedback reviews. The hospital sees the system as part of an employer of choice strategy.⁴

The Conference Board's SkillsSolutionsNet and Skills Credentialing Tool are also intended to serve this need.

Leadership Succession Planning Systems

There is a growing market for tracking tools to plan for smooth succession, using such tools as:

- Leadership Competency Models
- Employee Performance Reporting Dashboards⁵

Knowledge Management

Knowledge Management is moving beyond document management to expertise location for project team building and to solve corporate challenges. Examples of this trend include Tacit and AskMe.

³ *Ibid.*

⁴ *Canadian HR Reporter*, June 21, 2005 <http://www.hrreporter.com>

⁵ *HR Executive Forum brochure Fall 2005 (pdf)*

<http://www.hrexecutiveforum.com/HRForum/Documents/Succession%20Management%20meeting%20brochure.pdf>

An interesting automated expertise finder is ZoomInfo, which develops a profile of any person who is on the Internet. Readers can try this themselves by going to www.zoominfo.com; the results are surprisingly accurate and well laid-out.⁶

Integrated Talent Management Systems

Gartner Research points to an emerging trend of integrating previously separate administrative and strategic HR applications into "talent management suites", with a common infrastructure and interoperable functions, such as global identity management.⁷

Integration with ERP Systems

By definition, Enterprise Resource Planning (ERP) Systems are highly integrated application suites. PeopleSoft began as a set of HR applications that grew into a broader ERP system. PeopleSoft has since been acquired by Oracle in its quest to compete with SAP for dominance in the ERP market. SAP competes with "ERP Human Capital Management" and "E-Recruiting" elements.

Interoperability Standards - The HR-XML Consortium

This increasingly influential independent body develops and promotes standardized interchange of HR information, such as staffing and résumés. It provides services such as an online test bed and certification of HR-XML compliance for vendors and business clients.

"The mission of the HR-XML Consortium is to spare employers and vendors the risk and expense of having to negotiate and agree upon data interchange mechanisms on an ad-hoc basis. By developing and publishing open data exchange standards based on Extensible Markup Language ("XML"), the Consortium provides the means for any company to transact with other companies without having to establish, engineer, and implement many separate interchange mechanisms."⁸

⁶ Gartner Blog: "The High Performance Workplace - Do You Really Know the Capabilities in Your Workforce?" 31 October, 2005
<http://hpw.blog.gartner.com/blog/index.php?blogid=3>

⁷ Ibid Online Workstream seminar,.

⁸ <http://www.hr-xml.org>

Potential Issues

Ownership

Interoperability and Portability

Complexity

Perception as "Just Another HR Function"

In addition

Analytical Framework

Electronic Résumés

The résumé with accompanying cover letter is the primary medium that job applicants use to market themselves to potential employers. For this reason, Employment Service Providers serving Newcomers focus heavily on teaching the skills behind the creation and use of these key documents.

Applicants may be responding to job advertisements. If so, the advertisement itself provides clues on how to shape the base résumé and even what "key words" to use. This makes for a well-focused résumé, but it is often merely one of dozens or even hundreds responding to the same advertisement.

Many employers use automated technology processes to search for key words related to their needs, such as subject expertise, soft skills and other items of interest. Documents that remain in electronic form have an advantage here, since they do not need to be scanned prior to processing. The need to scan hard copy documents should be considered as a barrier, particularly for Small to Medium-Sized Enterprises (SMEs) who typically will not have the required robust technology to scan and convert the resumes to text.

The format of the electronic résumé may vary, each with its own advantages and disadvantages:

- Electronic text documents (e.g. Microsoft Word, RTF, PDF)
 - ADVANTAGE: familiar format
 - DISADVANTAGE: need to download, fear of viruses, embedded links not useful if printed or read offline, lack of control after sending (can't be updated)
- Formatted emails (either plain text or html)
 - ADVANTAGE: no need to download, user usually already online so links usually work
 - DISADVANTAGE: formatting (esp.html) may not be compatible with email system, lack of control after sending
- Online forms-based résumés and job advertisements (typically linked to job boards an/or HRIS systems; see below)
 - ADVANTAGE: updatable, standardized structure, often multiple versions, linkage to job advertisements in the system (automatic notification for applicants and employers)
 - DISADVANTAGE: limited scope for individual customization ("over standardization")
- Personal web site

- **ADVANTAGE:** updatable, fully customizable, personalized, can be "deep linked" to specific elements of interest to employer in a particular context, multiple versions possible
- **DISADVANTAGE:** (usually) need for online access, potential usability issues due to lack of standardization

Job Boards

The online forms-based résumé can be seen on jobs boards such as Workopolis, Monster.com, HRSDC's Job Bank, and those hosted by a number of Sector Councils. These link employer job notices to applicant résumés through such means as:

- overall text matching (free text search)
- matching text in particular fields (still free text)
- menu-driven taxonomies (forced choices within fields, through popup menus or searching controlled vocabularies)
- HR-XML (a markup language focused on HR processes, now supported by Monster.com)

Since these are focused mostly on hiring, they are of interest primarily for the tools and processes used to filter good prospects out from hundreds or even thousands of applicants.

Independent (Standalone) eRecruitment and Applicant Tracking Systems

Workstream

Independent Employee Performance/Relationship Management Systems

The Performance Management Site
<http://www.performance-mngt.com/>

Halogen eAppraisal™ Healthcare helps Mount Sinai...

Corporate Renaissance Group emPerform/Great Plains
<http://www.crgroup.com/EmployeeAppraisals/>

Employee Relationship Management

Succession Planning

Talent Management Suite

Integrated set of strategic HR applications [performance management, succession planning] that can be integrated with core administrative applications (Personnel, Payroll, Benefits).

James Holincheck, Research Director, Gartner Research (Human Resource Management Systems)
http://www.accelacast.com/webcasts/gartner_workstream/

http://www.technomedia.ca/en/htm/en_02_04_01.htm

KM/Expertise Finders

Tacit

AskMe

ZoomInfo

<http://www.zoominfo.com/>

See Gartner blog
<http://hpw.blog.gartner.com/blog/index.php?itemid=340#comments>

Project and Portfolio Management [PPM] Applications

Project and portfolio management tools are designed to support the project life cycle -- from portfolio management and resource allocation, to detailed project planning, through work execution, while also supporting multisourcing environments by helping to mitigate communication and coordination problems driven by outsourcing.

Daniel B. Stang http://www.gartner.com/DisplayDocument?doc_cd=115841

HR Modules of ERP Systems

These so-called "Human Capital Management" systems are components of Enterprise Resource Planning (ERP) systems such as SAP and Oracle (which has acquired PeopleSoft and JDEdwards). They make several claims about competency management and alignment with corporate objectives, but this needs more investigation. (See Living Inventory for a current snapshot).

Individual Contractors and Small Employers: Organizational Portfolios

Employers are also suppliers of products and services in search of clients. As such, they are motivated to market their offerings through all appropriate channels, including the Internet.

In this sense, a company's web site can be seen as an "organizational ePortfolio". This may be a useful way to make a business case with employers about the benefits of analyzing portfolios job applicants and employees.

Several examples of organizational websites designed to attract clients have been discovered. They are particularly prevalent among services such as design and consulting. Although they vary widely in content and appearance, most contain the following:

- list of clients
- contact information
- examples of work

Some go further:

- biographies of key personnel
- news, articles and white papers
- client references

Typically, these web sites are found via direct links or by generic web search tools such as Google, rather than through structured informational hierarchies. They also do not typically conform to competency frameworks. They are designed as a supplementary channel for other forms of marketing.

Barriers

HR seen as administrative rather than strategic

- focus on cost reduction rather than delivery of value

High cost/risk of new software systems (purchase as a service)

Project Strategy for Researching and Engaging Employers

To ensure that an ePortfolio system effectively addresses the needs met by the traditional processes and technologies in place, Canadian employers across a broad spectrum of economic sectors, human resources professionals, key professional certification boards, and a variety of organizations and agencies are being engaged via survey and interview to:

- Assess their current technical and procedural infrastructure as it relates to both candidate selection and ongoing staff development;
- Assess their acceptance and implementation levels of various other 'forward-thinking' human resources management processes (i.e. 360 feedback, intentional staff development planning and tracking) as a litmus test for potential acceptance to ePortfolio concepts;
- Assess their tertiary utilization of technology as it relates to both candidate selection and ongoing staff development (i.e. using Google to perform background validation, use and integration of e-Learning tools)
- Assess their current awareness of the ePortfolio concept;
- Ensure that their needs are elicited, compiled, analyzed, and conveyed.

The scope of the survey is designed to provide a representative sample of organizations in Canada with some weighting towards organizations determined to be premier employers of choice.

Organizations have been grouped into the following sectors with invitations extended to organizations within those sectors noted in parenthesis:

- Financial Services (20)
- Industry and Resources (38)
- Pharmacological (7)
- Technology and Communications (31)
- Professional Services (9)
- Government (2 – more to be added)
- Public Sector and Non-Profit (15)
- Sector Councils, Professional Designation Organizations, Labour and Trades Groups, etc. (17)
- Health (TBA)
- Educational (TBA)
- Other (21)

Depending on the percentage of engagement in the group above, other avenues may be chosen to find a sufficiently large audience willing to engage.

Within each sector, companies have been selected based on a diversity of organization size (relative to number of employees), geographic representation, and willingness to participate based on contact with the company.

Companies have been included based on their presence in either/or the Globe and Mail, Report on Business Top 100 Companies (of which only the top 49 were included) and the MacLean's Magazine listing of Top 100 Employers in Canada (of which all were included).

Sector Councils and Provincial HR Practitioner Associations are being contacted in order to extend the invitation to participate in the survey. This is expected to provide a genuine randomness to the survey as members may contribute responses (including demographics relating to the industry they are employed in without having to divulge the organization that they work for. This will also offset the weighting that may occur due to the inclusion of the various 'Top' employers directly invited to participate. It is hoped that these invitations to participate in the survey, passed to the membership of these associations will result in the addition of several hundred more respondents.

The confidentiality is expected to provide freedom for the respondent to contribute honestly without either the worry of breaching their organizational confidentiality rules or the potential to 'up-sell' the organization's actual activities relating to the subjects of the survey questions.

Survey Scope of Inquiry

Questions on the survey are segregated into 4 parts;

1. Organization Staffing / Hiring Processes – 11 Questions;
2. Staff Development and Skills Inventory – 13 Questions;
3. ePortfolio Awareness – 5 Questions; and,
4. Demographic Information – 3 Questions.

Survey Technology

The survey is being presented on the web via a third party survey solutions provider "Perseus SurveySolutions Express". A preliminary attempt at contacting organizations and conducting the survey via email was abortive due to both the perceived lack of anonymity and difficulty involved in connecting with individuals both empowered and motivated to complete and return the survey (out of the blue) at the target organizations. By adopting a web based, third party survey tool, targeted organizations can be invited via email with little or no direct contact (beyond the initial investigation to determine an appropriate individual to direct the invitation to). This web-based survey has now been created and contains the same questions as the original survey (with the addition of demographic questions). It is being currently being deployed with the expectation of sufficient and representative levels of response being attained prior to the end of October. Analysis of survey results will follow the close of the survey window.

(See survey in Appendix)

Online Survey

Summary of Activity

It is the objective of Employers: Situational Analysis and Living Inventory Phase to identify opportunities for adoption of ePortfolio concepts where clear benefits exist over existing methods and to ensure that these opportunities are inventoried and clearly defined.

This assessment attempted to provide a comprehensive sample of Canadian employer's utilization of ePortfolio concepts and assesses the variety of processes and technologies undertaken with respect to hiring processes and staff development processes.

To obtain this information, over 100 Canadian Employers and Agencies were contacted and invited to participate in a survey. This survey contained four sections:

- Awareness, familiarity, and current usage of ePortfolio Concepts
- Hiring practices as related to technology
- Employee development practices as related to technology
- Survey participant sector demographics.

Further invitations were extended to the provincial HR Professionals Associations to forward to their membership, however only Nova Scotia and Manitoba confirmed their involvement and responded by forwarding the invitation to their membership. Ontario and Alberta decided not to extend the invitation to their membership and BC, Saskatchewan, and Newfoundland/Labrador did not respond (via email or voicemail) to the invitation. Nova Scotia requested a fee to extend the invitation to the membership.

Of these invitations (direct contact and via HR associations), so far only 25 companies responded to the survey, a response rate estimated at roughly 8 percent.

Results provided below are current as of November 28, 2005. More responses will result from ongoing contacts with employers.

Demographic Penetration

Geographic Distribution - Location of Head Office

- Ontario 30.4%
- British Columbia 30.4%
- Saskatchewan 21.7%
- Manitoba 13.0%
- Alberta 4.3%
- Northern Territories 0%
- Maritimes 0%
- Quebec 0%

Industrial Sectors Represented

- Public Sector and Non-profit 21.7%
- Other 21.7% (Manufacturing & Distribution, Transportation, Immigration Services, Call Centre)
- Financial Services 17.4%
- Technology & Communications 13.0%
- Professional Services 13.0%
- Government 8.7%
- Industrial and Resources 4.3%
- Pharma or Medical 0%
- Sector Council or Prof. Assoc. 0%

Company Size Distribution (by Count of Employees)

- Less than 100 30.4%
- 100-500 43.5%
- 501-1000 8.7%
- 1,001-10,000 13.0%
- Over 10,000 4.3%

'ePortfolio Awareness' Survey Section

These were the most pertinent questions posed to Canadian employers and were intended to gauge the current utilization of ePortfolio concepts in use in the marketplace.

Have you heard of Electronic Portfolios (ePortfolios)?

- Yes 39.1%
- No 60.9%

Do you accept portfolios (paper or electronic) as evidence of skills?

- Yes 30.4%
- No 8.7%
- Have Not Seen Any. 60.9%

'Organization Staffing / Hiring Processes' Survey Section

These questions related to the processes and technologies utilized in the surveyed companies hiring processes and were intended to gauge the current utilization of technology and relative ease (or difficulty) in finding appropriate employees for skilled positions.

How difficult is it for you to find suitable applicants for your skilled positions?

1. 0.0% (Easy)
2. 16.0%
3. 44.0%
4. 36.0%
5. 4.0% (Difficult)

What is your overall satisfaction with your success in hiring the right person for the right job?

1. 8.0% (Very Satisfied)
2. 44.0%
3. 44.0%
4. 4.0%
5. 0.0% (Very Dissatisfied)

What is the average cost of an unsuccessful hire?

- \$5,000 or Less 12.0%
- \$5-10,000 20.0%
- >\$10,000 28.0%
- Don't Know 40.0%

How do you find new skilled employees? (High + Moderate incidence)

(Multiple answers means total exceeds 100%)

- Advertise on Internet 84.0%
- Advertise Among Existing Employees 72.0%
- Advertise in Newspaper 64.0%
- Word of Mouth / Referral 60.0%
- Advertise on Monster, Workopolis or Similar 52.0%
- Review Unsolicited Resumes 48.0%
- Head-Hunter/Recruitment Firm 16.0%

Do you process electronic or paper resumes for specific key words?

- Yes 20.0%
- No 76.0%
- Don't Know 4.0%

Do you use any other technologies to sort incoming resumes?

- Yes 20.0% (PeopleSoft, eRecruit)
- No 80.0%

Besides CV/Resume, what other material do you accept or require from the applicant in your hiring process?

	Mandatory	Preferred	On Request	Not Required
• Copies of certification documents	28.0%	8.0%	36.0%	28.0%
• Letters of reference	20.0%	16.0%	24.0%	40.0%
• Portfolio	4.0%	8.0%	28.0%	60.0%
• Website or electronic portfolios	0.0%	8.0%	24.0%	68.0%

How important are the following to finding the right person?

	Critical	High	Medium	Low
• Communication Skills	52.0%	44.0%	4.0%	0.0%
• Interpersonal Skills	48.0%	48.0%	4.0%	0.0%
• Experience	48.0%	44.0%	8.0%	0.0%
• Demonstrated Specialty Expertise	48.0%	32.0%	20.0%	0.0%
• Problem Solving Ability	32.0%	56.0%	12.0%	0.0%
• Availability	28.0%	44.0%	24.0%	4.0%
• Credentials	28.0%	40.0%	32.0%	0.0%
• Cost / Salary	8.0%	52.0%	32.0%	8.0%
• Other (cultural fit, employee validation)	8.0%	8.0%	0.0%	84.0%
• Accomplishments	4.0%	48.0%	44.0%	4.0%

Do you check credentials and experience?

• Yes	92.0%
• No	0.0%
• Sometimes	8.0%

If you check credentials, who do you contact? (High + Moderate)

(Multiple answers means total exceeds 100%)

• Supplied References	100%
• Named Organizations	28.0%
• Named Educational Institutions	24.0%
• Credential Authority (e.g. WES, IQAS, ICES)	24.0%
• Other (previous supervisors & managers)	16.0%
• Outsourced Recruiter	8.0%
• "CV Detective"	4.0%

Do you research prospective employees on the Internet? (i.e. do you Google an applicant's name?)

- Yes 12.0%
- No 68.0%
- Sometimes 20.0%

‘Staff Development and Skills Inventory’ Survey Section

These questions related to the processes and technologies utilized in the surveyed companies management of staff development and were intended to gauge the current utilization of technology utilized in tracking employee’s skills and development.

Do you track employee development (i.e. utilize an employee skills inventory?)

- Yes 29.2%
- No 45.8%
- Sometimes 25.0%

Is there an employee career path management process?

- Yes 16.7%
- No 62.5%
- Sometimes 20.8%

Do employees follow a formal periodic goal setting and review process that includes skills development?

- Yes - Process is Mandatory 62.5%
- Yes - Process is Optional 33.3%
- No 4.2%

How closely is this goal setting and review process adhered to?

1. 16.7% (Rigidly)
2. 20.8%
3. 25.0%
4. 8.3%
5. 25.0% (Casually)
6. 4.2% (Not Applicable)

Do you have an employee Learning Management System, either standalone or as part of an HRIS or ERP system"

- Yes 20.8%
- No 70.8%
- Don't Know 8.3%

How important are project teams to your organization?

1. 20.8% (High)
2. 29.2%
3. 16.7%
4. 20.8%
5. 12.5% (Low)

Do you have a formal project recruitment process for internal resources?

- Yes 8.3%
- No 62.5%
- Not Required 29.2% (Do not use projects)

Are employees required to supply resumes and interview for projects?

- Yes 25.0%
- No 45.8%
- Not Required 29.2% (Do not use projects)

Is a 360 degree feedback process implemented within your organization?

- Yes 37.5%
- No 62.5%

Is employee remuneration (in whole or part) based on achieving specific individual objectives - including skills development?

- Yes 54.2%
- No 45.8%

Do employees utilize a centralized repository or database for skills or resume management?

- Yes 8.3%
- No 91.7%

Are employees required to keep a current resume or CV on file?

- Yes 12.5%
- No 87.5%

Are employee resumes provided to external clients as part of bidding or for selection on project work?

- Yes 12.5%
- No 87.5%

Work in Progress and Further Research

- Contact Sector Councils who have job banks
- Survey selected employers
- Extend survey invitation to additional professional organizations (e.g. CGA)
- Extend survey invitation to members of the Canadian Council of Human Resources Associations (CCHRA)
- Identify and interview selected regulatory bodies (e.g. CCPE)
- Investigate information possessed by the national and regional Human Resources professional associations

Living Inventory

Canada - Sector Councils

Sector Councils are treated as a special case, given their similarities.

Job Banks

A number of Sector Councils have established job banks to permit the matching of those seeking work with those seeking workers. The term "Job Bank" is another term for "electronic labour exchanges" (ELE).

Occupational Standards

The prime thrust of Sector Councils is the development of national occupational standards.

An occupational standard is simply a definition usually developed and accepted by industry of the knowledge and competencies required to successfully perform work-related functions within an occupation.⁹

⁹ Quoted from http://www.councils.org/1services/index_e.cfm

The following Sector Councils all had Job Banks or similar products.

Sector Council	Occupational Standards	Job Board	Job Matching?	Comments
The Aboriginal Human Resource Development Council of Canada (AHRDCC)	None found	The Inclusion Network www.inclusionnetwork.ca	Yes Resume Search Agents for Employers Job Search Agents for Candidates	Hosted by BrainHunter Resume pre-screening creates "A-Lists" and "B-List" of candidates
Biotechnology Human Resource Council	? "over 50 prepared biotechnology-specific job descriptions to help create an ad "	The PetriDish Career Portal www.bhrc.ca/career/petriDish/index.cfm	"Key word search" only	<ul style="list-style-type: none"> • View candidate CVs via key word search • 20,000 hits per day
Canadian Aquaculture Industry Alliance (CAIA)	Training Needs - Canadian Aquaculture Industry 1996	Portal page to several job sites, inside and outside Canada www.aquaculture.ca/EnglishWeb.html	Varied	
Canadian Aviation Maintenance Council (CAMC)	19	AvAero CareerLink careerlink.camc.ca/index.asp	"Key word search" only	
Canadian Electricity Association (CEA)	None found	www.canelect.ca/english/careers.html		Simple job postings
Canadian Professional Logistics Institute (CPLI)	None found	Job Postings www.Logixsource.com	No	A partner consulting company runs this service with CPLI's endorsement. The site has job postings, a place to upload resumes, and a "Candidate Spotlight".
Canadian Technology Human Resources Board (CTHRB) PROfile is a system developed for the Canadian	Y-extensive database of standards for technicians and technologists	PROfile www.cthrb.ca/Assessment/PROFile.htm	Y <i>"customized searches that drill down to employment requirements that include details in addition to those found in the National Technology</i>	PLAR feature to assess competencies against industry standards and/or best practices and a feature to record the education, experience, training, certification(s) and experiential learning upon completion of the assessment. Undergoing testing; soon to

			<i>Standards."</i>	<i>be released</i>
Canadian Tourism Human Resource Council (CTHRC)	50	Tourism Work Web (HOSPITALITY TALENT NETWORK) www.tourismworkweb.com/	Y automated emails ranked matches	emerit Learning Management System also linked to occupational standards
Construction Sector Council	Y	Skills Data Card Initiative (Smart Card Pilot) www.csc-ca.org/pdf/SmartCard_e.pdf	N	Researched and tested the use of smart cards to track work history and experience
Cultural Human Resources Council (CHRC)	Y "Competency Profiles"	CultureWorks www.culturalhrc.ca/jobs/index.asp	Search by occupation, language, or region. Automatic emails to job seekers registered for Job Alert	
Environmental Careers Organization (ECO Canada)	Y	EnviroJob Board www.eco.ca/portal/employer.aspx?display=recruitment	? not observed	Employer profiles Processes for employee PD New résumé tool with 8 professional areas, 100 occupational profiles and 5 self-assessed competency levels
Forum for International Trade Training (FITT)	No, but C.I.T.P certification	The FITT CareerSite www.fitt.ca/english/employment.asp	Y	Auto candidate pre-screening and sorting Automated Job Search Agents
Mining Industry Training and Adjustment Council-Canada (MITAC)	N Job Futures profiles	The CORE www.brainhunter.com/CareerSite/MITAC/CareerSiteeng.htm	Y	Hosted by BrainHunter
Motor Carrier Passenger Council of Canada (MCPCC)	Y (NOS)	Job Opportunities www.buscouncil.ca/content/jobs.php	N	Simple web page of job opportunities.
Software Human Resource Council (SHRC)	Y	No Job Board, but Occupational Skills Profile Model (OSPM) www.shrc.ca/ospm/index.html with associated tools: <ul style="list-style-type: none"> • Self-Assessment Tool • Job Profile Writer • Interview Builder 	No	HR reference tool
Textiles Human Resources Council (THRC)	Not observed	Textile Placement Network www.thrc-crhit.org/en/programs/tpn-en.asp	?	Applicant can submit personal profile and attach résumé

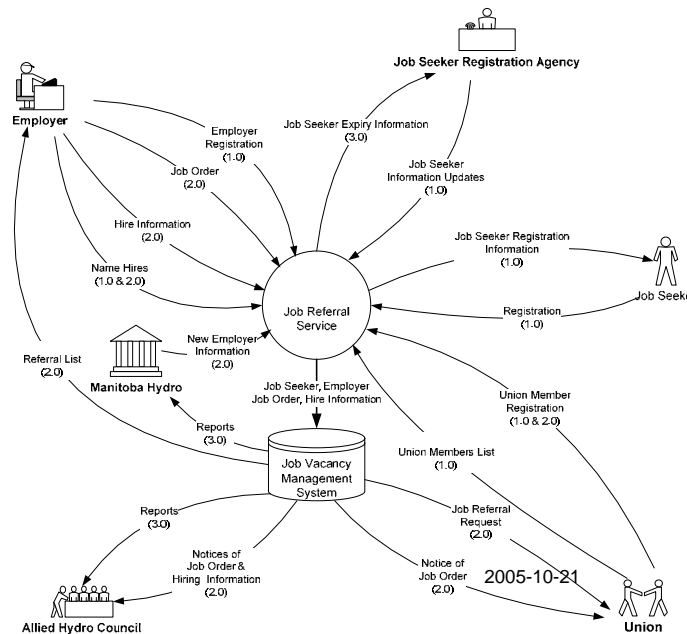
Other Job Banks and Job Boards

Job Board	Occupational Standards?	Features	Job Matching?	Comments
Brain Hunter www.brainhunter.com		Post job openings to multiple job boards In-house IT and Engineering staffing division Back office services for sector councils and other organizations Applicant Tracking Vendor Management System to track staffing agencies	Y	Strategic partnerships with over 100 professional associations representing 25 industries Fed/prov/municipal govt. partnerships Suppliers for AHRDC, MITAC
HRSDC's Job Bank	Y	Resume Builder Job Alert, Job Match (overlapping features?)	Y	Merged with Electronic Labour Exchange NOC-based Job Alert draws from several "Job Sources" such as: Job Bank, Federal Jobs, JobBoom, BCJobs, Manitoba government jobs, Emploi-Québec
mfgjobs.ca	N	Build or upload resumes	Search capabilities Job Alerts	Manufacturing sector Hosted by CLB Media, a publisher of trade magazines. Licensed from an American supplier www.mfgjobs.com
Monster www.monster.ca	?	Applicant Tracking Candidates Screening -using pre-qualification questions. Online Resume Mining Services Job Distributor -post jobs to multiple career sites. Company Profiles	Résumé search tools HR-XML	The only Job Bank found using HR-XML
Workopolis www.workopolis.com	Custom competency profiles	ScreeningRoom tools to manage the recruitment process, screen candidates for competencies and evaluate personality fit.	Y	Employers can match by Keyword, Résumé Date, Most recent job title, Career Focus Key Skills, Language Skills Education, Willingness to relocate, City, Location and Area Code, Contract/Permanent/Full/ Part-Time, Target Salary Range Preferred Working Country, Work Authorization ¹⁰

¹⁰ http://www.workopolis.com/content/recruiter/services/resume_database.html 20051020

Other ePortfolio-Related Initiatives Engaging Employers

Name of Initiative	Region	Employer	Description, Comments
Ontario Skills Passport	ON	Various	<p>Designed to track high school student internships and other work experience.</p> <ul style="list-style-type: none"> OSP database of skills and related tasks, listed by occupation the OSP work plan, which employers complete and sign workplace the OSP portfolio, maintained by passport holders <p>Based heavily on HRSDC's Essential Skills database, features 215 occupations, primarily at the C and D levels, with several at other levels most notably in the trades. Will grow as the ES database grows</p>
New Flyer Skills Passport	MB, MN	New Flyer (bus manufacturer) www.newflyer.com	Technical and non-technical skills are identified and employees are recognized for development of these skills using a company database. Used as a qualification tool for different work stations on the shop floor.
Job Vacancy Management System	MB	Manitoba Floodway Authority Manitoba Hydro	A custom job referral system developed for large scale construction projects in Manitoba. Intended to show transparency to the hiring process for equity groups and labour. Applicants register personal information and qualifications and qualified lists are sent to employers. Lacks PLAR and ongoing HCD.
New Flyer Skills Passport	MB, MN	New Flyer (bus manufacturer) www.newflyer.com	Technical and non-technical skills are identified and employees are recognized for development of these skills using a company database. Used as a qualification tool for different work stations on the shop floor.



FDT Skills - [Assessment]

Employee Number: 50 - Employee Name: Sylvia Panteley - Passport: PRODUCTION WORKER

Skills

- Core Technical Skills
- Essential Skills
- Inst: Certifications
- Cert

Assessment

Search & Filter

Reports

Certifications

Name: Sylvia Panteley Employee ID: 50

Position: PRODUCTION WORKER

CERTIFICATIONS:

Certification	Date Attained	Date Expired	Grade	Percent
Forklift	01 - Nov - 2004	01 - Nov - 2005	Certific	
WHMIS	28 - Oct - 2004	28 - Sep - 2005	Certific	

Add New Remove OK

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2 PDFManagement database simple row

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eRecruitment/Applicant Tracking Systems

Employee Performance Management Systems

The Performance Management Site
<http://www.performance-mngt.com/>

Halogen eAppraisal™ Healthcare helps Mount Sinai...

Corporate Renaissance Group emPerform/Great Plains
<http://www.crgroup.com/EmployeeAppraisals/>

Employee Relationship Management

Talent Management
http://www.technomedia.ca/en/htm/en_02_04_01.htm

Large Enterprise Resource Planning (ERP) Systems

SAP

SAP has a number of elements linked to Human Capital Management:

- mySAP ERP Human Capital Management¹¹
- SAP E-Recruiting

*The solution lets applicants and candidates register in a talent warehouse. Powerful talent relationship management (TRM) functions then help managers find the staff they need quickly and maintain long-term relationships with individuals registered in the warehouse. Full-fledged applicant tracking and reporting functions help organize the processing of job applications and monitor the effectiveness of the recruiting organization. A collaboration platform links SAP E-Recruiting to external systems such as job boards, recruiting service providers, and the company's internal systems. All these capabilities help align recruiting with corporate strategy, find top candidates, cut recruiting and sourcing costs, and improve employee retention.*¹²

- Workforce Analytics

*Strategic workforce planning and alignment ... The solution includes a Balanced Scorecard framework, with predefined workforce scorecards, that can be integrated into department and individual management-by-objective (MBO) documents, helping you to align employee goals with business strategies.*¹³

SAP cites a Gartner study of TransAlta, which "details how TransAlta used mySAP ERP HCM to lower costs and free its HR staff for strategic activities. The study projects a 10-year savings of CAD\$31 million."¹⁴ This application appears to track training courses and certifications. There is no mention of PLAR or competency frameworks.

Oracle (PeopleSoft, JDEdwards)

Oracle has four Human Capital Management (HCM) product lines, based on Oracle, PeopleSoft and JDEdwards technologies, focused on different business markets:¹⁵

- Oracle E-Business Suite "Human Resources Management" (Large to mid-size companies in all industries), with such modules as:

¹¹ <http://www.sap.com/solutions/business-suite/erp/hcm/index.epx> 20051020

¹² <http://www.sap.com/solutions/business-suite/erp/hcm/erecruiting.epx> 20051020

¹³ <http://www.sap.com/solutions/business-suite/erp/featuresfunctions/workforceanalysis.epx> 20051020

¹⁴ http://www.sap.com/solutions/business-suite/erp/hcm/pdf/CCS_Transalta.pdf 20051020

¹⁵ <http://www.oracle.com/applications/human-capital-management.html> 20051020

- **iRecruitment**
Manage open job vacancies, search for candidates, and manage the interview process, and extend recruiting functionality to managers. Leverage third-party integration for pre-screening and background checks (HireRight). Take advantage of powerful search functionality through Oracle RDBMS. Maintain profiles, search for and refer jobs to colleagues, and follow the recruitment process. Use integrated resume extraction capabilities (using Magnaware/Mohomine extraction engine) to search for potential candidates.
- **Learning Management**
Competency Management - Leverage a common, reusable framework for describing learning objectives. Define competencies attained by learner. Automatically update competency profiles. Create learning paths. Establish multiple, discrete sites on a single instance of the application.
- **PeopleSoft Enterprise Human Capital Management (Large to mid-size companies in all industries), with such modules as:**
 - **Talent Acquisition Manager**
 - *Self-service features allow managers and recruiters to:*
 - *Create and edit job requisitions online.*
 - *Search your entire applicant pool, including your internal talent pool, by using multilingual keyword search capabilities driven by the Verity search engine.*
 - *View references for each candidate.*
 - *Integration with third-party suppliers lets you:*
 - *Leverage integration with Recruit USA to post requisitions easily to more than 3,000 job boards, including consolidated billing.*
 - *Perform background checks, referral checks, drug testing, and behavioural assessment through our integrated supplier, HireRight.*
 - *Provide your recruiters with AIRS search tools, a comprehensive, integrated dashboard of more than 30 individual tools designed to scour the world's leading resume banks and locate passive candidates.*
 - *Connect to your vendors of choice with PeopleSoft open APIs.*
 - **eDevelopment**
Self-Service Competencies Management...enable employees and faculty to manage information about professional education, honours and awards, licenses and certificates, and professional training.
 - **Human Resources**
Competency, Career, and Succession Management...Identify and associate competencies with individuals, jobs, positions, and project teams.
- **JD Edwards EnterpriseOne Human Capital Management (Mid-size to small companies in all industries except government), with such modules as:**
 - **Human Resources Management, with such features as:**
 - *A database of employee skill sets and competencies as well as information on outside applicants.*
 - *Built-in competency gap analysis tools (to) help managers understand discrepancies between employees' expected and actual performance.*

Individual Contractors and Small Employers: Organizational Portfolios

www.qfst.com

sonicbids.com

ePortfolio for Skilled Immigrants:
SWOT Analysis and Inventory
September 2005

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Edmonton Mennonite Centre for Newcomers
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SWOT ANALYSIS - CONSULTATIONS WITH SKILLED IMMIGRANTS

Data from: - 50 EMCN clients and 38 non-clients – responses to the survey
 - Other interviews and consultations.

The purpose of the surveys and consultations was to elicit data and information that would indicate the reactions of skilled immigrants to the e-portfolio as a process and tool that could facilitate labour market access.

STRENGTHS

- 28% indicated that they were aware of the existence of the e-portfolio
- 2.5% have used e-portfolios “most often” when applying for jobs
- Another 2.5% have used portfolios and/or samples of their work
- 7.5% have used e-portfolios
- 30% see the e-portfolio as “most useful” when applying for employment
- 88% indicate that the e-portfolio has ‘as much or more’ value than a traditional resume.
- A very small number, of those contacted, indicated that the e-portfolio has ‘no value’ or utility in marketing oneself (applying for employment).

WEAKNESSES

- A significant number (and this is a “recurring sentiment”) indicated that they would attend a course/class on e-portfolio *if it were funded or free*.
- Some individuals indicated that they don’t know what information they should not make easily available or accessible in an e-portfolio (concerns around their rights in so far as “Access to Information”).
- The e-portfolio does not address the issue of English Language Competency, i.e. either the respondent did not feel competent enough to complete an e-portfolio or didn’t know how the e-portfolio could convey the fact that he/she is competent (has a high level of proficiency) in English.
- Some expressed concerns about the time they would need to build an e-portfolio
- Others felt that employers may not have the time or the technology to review all of the material in an e-portfolio

OPPORTUNITIES

- 25 – 30% want to know more about e-portfolios or indicated that they would like to create one.
- Our agency experience has shown us that a large number of ‘skilled immigrant’ clients have adequate computer skills. Some are very knowledgeable in computer applications and software.
- Government ministries are aware of e-portfolio
- Purchasing agents or brokers for post-secondary institutions in Alberta have already negotiated special contract rates from companies, like Nuventive, that supply e-portfolio templates and host e-portfolios in searchable databases.

THREATS

- Only 25% feel that employers would be able to process e-portfolios
- 40% indicated they were “uncertain” as to whether employers would be able to process e-portfolios.
- Others felt that employers may not have the time to review all of the material in an e-portfolio
- Some individuals indicated, in discussion, that they were worried that the e-portfolio could expose them to possible “identity theft” for criminal purposes.

SWOT ANALYSIS - CONSULTATIONS WITH IMMIGRANT SERVING AGENCY WORKERS

Data from: - 95 responses to the survey (56 tabulated)
- Other interviews and consultations.

* It is worth noting that a considerable number, possibly the majority, of ISA workers are immigrants (many of them “skilled” in areas other than career or settlement counseling).

The purpose of the surveys and consultations was to elicit data and information that would indicate the reactions of counselors and other workers in Alberta ISAs (who have contact with skilled immigrants) to the e-portfolio as a process and tool that could facilitate labour market access.

STRENGTHS

- 9% indicated that they already use e-portfolios to identify client educational attainment and skills.
- An additional 23% use portfolios and/or work samples
- 36% were aware of e-portfolio
- The overwhelming majority indicated that they were excited by the potential of e-portfolio as a tool that could reduce credentialist barriers and improve labour market access.

WEAKNESSES

- The majority of those who indicated that they were aware of the e-portfolio know it to be primarily an “electronic product”
- A number of respondents (to the survey and in other discussions) indicated that they were unsure about how the issue of English language proficiency could be addressed by the e-portfolio. Most saw this as a shortcoming in the e-portfolio.
- 46% of survey respondents indicated that “experience in a relevant field” is a more important consideration, or criterion, in the counseling process, than is education, formal and non-formal learning, or foreign credentials. N.B. This stems from the currently favoured employment counselling approach that deems it to be more important to get a skilled immigrant into relevant employment ‘at any level’ over seeking employment at a more “appropriate” level – just so they can have a “foot in the door”. It is accepted that upward mobility into a position roughly equivalent to the one they held in their home country can be made to happen later. It is our position that this was a useful approach when the focus was on helping clients to find employment, but today, with Alberta’s “hot” economy and the shortage of skilled workers, clients should be encouraged to seek more meaningful employment. Career counselors will have to be encouraged to think in

different ways and to try new methods (we've used the term "new paradigm"), like the e-portfolio approach.

OPPORTUNITIES

- 31% of survey respondents indicated that current tools, like resumes, are difficult to update.
- 45% indicated that currently used tools are not easily individualized or make it difficult to showcase achievements. E-portfolios can be easily individualized and are especially suited to showcasing achievement.
- 16% said that current tools can't provide enough information about a client
- 70% felt that a 'product e-portfolio' could provide useful information to an employer
- 63% felt that a combined (process and product) e-portfolio could be useful in presenting information about a client.
- Most ISA workers who were consulted indicated that they wanted more information about e-portfolios
- They wanted to know where they could get access to templates and portfolio building training
- A considerable number wanted to know how they could get, or create, their own e-portfolios.

THREATS

- 31% felt that there is a lack of technical support for current tools (so by extension, the situation would be worse for something new and more technologically demanding, like e-portfolio). There is a growing gap between larger ISAs and smaller ones – and also between ISAs and funded post-secondary institutions – in terms of technological capacity and expertise. This "digital divide" is widening rapidly as the demand for distance and e-learning increases – and traditionally under-funded, not-for-profit, ISAs struggle to keep pace with learner demands and technological advancement.
- 54% consider a client's language proficiency first (or as the most important factor) before determining the type of employment services they can offer him or her. The e-portfolio is apparently seen as a tool that can be employed once appropriate proficiency levels are attained. (Many employers of skilled immigrants have also indicated in other surveys that English language competency or proficiency is their first consideration also, before looking at education, skills and experience. This is problematic because we know that some employers hire workers who don't have adequate command of the English language if that worker has skills that the employer desperately needs. It is not uncommon to find groups of employees who use a language other than English in critical workplace communication – primarily in larger workplaces.

- The importance of English language proficiency should not be minimized, but neither should it be given paramount consideration.
- Only 32% felt that an e-portfolio could provide an employer with useful information about the worker/applicant.
 - Many survey respondents and other interviewees indicated that they had concerns about the cost of implementing e-portfolios. Also, that there would be a significant increase in their workloads and training needs.
 - Concerns about FOIP (“freedom of information”) and information security were also raised.
 - A considerable number made somewhat skeptical comments about employer acceptance of e-portfolios. They had concerns about the employers’ abilities and desire to access e-portfolios. Some wondered if employers were going to need training – or if they would even take advantage of opportunities to learn about e-portfolios. Others indicated that employers wouldn’t have the time to learn about e-portfolios and how to search for potential employees with e-portfolios.

Comments / Observations

Overall, it appears that both the skilled immigrants and the ISA workers who were consulted were positive about the potential of e-portfolios. Interestingly, the immigrants showed greater enthusiasm than did the ISA workers. This may be because, as individuals, they have experienced less frustration with labour market situations, and as a result, are more hopeful about the outcomes of e-portfolio usage.

When presented as “the new paradigm” for delivery of career development or employment services, the e-portfolio was accepted with greater enthusiasm. The major area of concern was around the issue of language proficiency – and its importance in the counseling and/or “reflective” process.

Information storage and security always came up in discussions, as did the issue of storage capacity, servers vs. personal web sites, and responsibility for maintenance of searchable databases over time. (“What happens if/when the service provider or “hosting” service decides they no longer wish to offer this service?”).

ISA workers were not hopeful about employer acceptance of e-portfolios. The feeling that was often conveyed was that employers appeared to be “fickle” in what they choose to accept and/or reject. Employer desire and capacity to use e-portfolio was also questioned - again more often by ISA workers than by the skilled immigrants.

While the majority of immigrants and ISA workers indicated that they believed e-portfolios were the “coming thing”, others were less positive and expressed sentiments to the effect that “I’ll believe it when I see it.”

Obviously, there is much work yet to be done in promoting the e-portfolio concept, but there is a rapidly emerging need to develop policies and strategies that will maximize the e-portfolio's potential within the context of career development services for skilled immigrants.

Online Literature Review of Current Status of ePortfolio for Skilled Immigrants and their Employers

Organization/ Initiator	Document title	Description	Author & Date of publication	Link	Additional links	Format	Provincial/ National/ Regional/ International
Introduction to ePortfolios							
Dr. Kathryn Chang Barker (FuturED) and Learning Innovations Forum	Introducing the ePortfolio, The New Management of Learning	ePortfolio for Human Capital. Management. ...For employers and skilled immigrants Interoperability (IMS) .	Dr. Kathryn Chang Barker (FuturED) and Learning Innovations Forum 04/11/04	http://www.futured.com/pdf/ePortfolio%20intro%20FuturEd.pdf		Presentation	
FuturED consulting Education Futurists	ePortfolio and HRD Policy Goals		Dr. Kathryn Chang Barker 09/2003	http://www.futured.com/pdf/ePortfolio%20HRD%20Wbite%20Paper.pdf		Published paper	Provincial, British Columbia
Research on Skilled Immigrants and e-Portfolios							
Canadian Association for Prior Learning Assessment	Going to Canada Online Portfolio Model	An Online Portfolio Development model for the Going to Canada Portal	HRSDC 06/2004	http://www.capla.ca/going_to_canada.php		Final Report	National
European Certificate of Basic Skills (EUCESB) <i>Funding: Leonardo Da Vinci Programme, European Commission,</i>	EUCESB Pathway to the European Market of Basic Skills	EUCESB e-portfolio is being used as an alternative...Adults with no formal qualifications, early schools leavers, immigrants from ...	Promoting organization: University of Edinburgh	http://www.eucebs.org/	http://webdbdev.ucs.ed.ac.uk/eucebs/site/presentations/bratislava.doc	Website, word document	Regional, European Union (Acceptance in Europe piloted in 8 European countries concurrently)

European Certificate of Basic Skills (EUCEBS)		Edinburgh's research and development of the ePortfolio - a UK perspective...immigrants, traveling persons, prisoners, job-seekers abroad	Presenter: Dave Tosh Hamish Macleod Jeff Haywood	www.eradc.org/papers/vancouver.ppt		PowerPoint presentation	
Okanogan: An Environmental Scan	Enhancing Labour Market Attachment of Skilled Immigrants within the Okanogan: An Environmental Scan	Development of a portfolio or e-portfolio for Okanogan skilled immigrants	34 organizations and five Skilled Immigrants participated	http://www.mcaws.gov.bc.ca/amip/iqp/resources/exp017a_possibility.pdf		Paper	International, US

e-Portfolio education for Skilled Immigrants

Miami Dade College and St. Thomas University <i>reporter: Miami Herald</i>	Migrants are learning the Language of computers	An 'ePortfolio' program has helped foreign-born students advance themselves	Erin Mallants Rodriguez 14/11/2004	http://www.mdc.edu/iac/learningResources/epf/events/herald.html		Newspaper article	International, US
La Guardia Community College	Making Connections with e-portfolio, Integrative Learning Project at LaGuardia Community College	What does it mean to undertake such a project at an urban community college? LaGuardia...more than 2/3 are immigrants;	Dr. Paul Arcario, Prof. J. Elizabeth Clark, Prof. Maureen Doyle, Dr. Bret Eynon, Prof. Nancy Gross, Nakiso Maodza	http://www.cfkeep.org/html/snapshot.php?id=70924239	http://www.cfkeep.org/uploads/la_guardia_integrative_learning_summary.doc	Website, Word Document	International, US
IQAS Employer Initiative Alberta learning	IQAS Employer Initiative	A stakeholder consultation regarding accessing the academic qualifications on internationally educated professionals	Keliedscope Consulting	http://www.advancededucation.gov.ab.ca/iqas/iqas.asp		Research paper	Provincial, Alberta

Benchmarking for Skilled Immigrants

FuturED consulting Education Futurists <i>submitted to BC ministry of community, aboriginal and women services</i>	Bridging program Benchmarks, Recommendations and Evaluation framework		Dr. Kathryn Chang Barker 28/5/2004	http://www.mcaaws.gov.bc.ca/amip/igp/resources/exp026_futured.pdf		Published paper	Provincial, British Columbia
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Digital Repositories

PublicTechnology.net <i>e-Government and Public Sector IT news</i>	4 million funding for digital information repositories across the UK		Editor 17/06/2005	http://www.publictechnology.net/modules.php?op=modload&name=News&file=article&sid=3085&mode=thead&order=0&thold=0		Article	International, UK
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ePortfolio Examples

Elisheba Muturi e-portfolio			Elisheba Muturi	http://www.slais.ubc.ca/courses/libr559f/04-05-wt2/portfolios/E_Muturi/Projects.htm		ePortfolio	International, Kenya
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Related Material

Pan Candian ePortfolio	Living Memorandum of Understanding for a Pan-Canadian ePortfolio Strategy		7/9/2004	http://216.138.231.102:8880/sienna			
FuturED	Dr. Barker on the Future of the ePortfolio at the World Future Society	FuturEd™ is a consulting firm based in Vancouver, Canada, and founded by Dr. Kathryn Barker in 1995. A virtual organization with associates and strategic alliances across Canada and around the world		http://www.futured.com/		Website	Provincial, BC

EuroPortfolio		EIFEL (European Institute for E-Learning) is a European professional association dedicated to the support of the continuing professional development.		http://www.eifel.org/portfolio		Website	International, EU
The REFLECT Initiative Researching Electronic portFolios: Learning, Engagement and Collaboration through Technology	White Paper		2005, Helen C. Barrett, Ph.D.	http://electronicportfolios.org/reflect/whitepaper.pdf		Online PDF	International, US
University of British Columbia		E-portfolio Blog		http://weblogs.elearning.ubc.ca/e-portfolios/		Website / Blog	Provincial, BC
THE UNIVERSITY OF IOWA College of Education	A WHITE PAPER ON PERFORMANCE ASSESSMENT IIN TEACHER EDUCATIION: The Iowa ePortfolio Model		John Achrazoglou; Rebecca Anthony; Moon-Kwon Jun; James Marshall; Gerald Roe	http://www.education.uiowa.edu/eportfolio/whitepaper.pdf		Online PDF	
OSP Portfolios	Open Source Portfolio Initiative	Opensource portfolio software		http://www.osportfolio.org/	http://groups.osportfolio.org/portal	Website	International