

# An exploratory survey of e-skills training supplied by small private training institutions in Gauteng

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## Abstract

*In the South African context, small private training institutions are arguably one of the crucial stakeholders supplying e-skills. However, researchers have devoted little attention in prior e-skills research to examine this stakeholder group. In particular, a description of the current e-skill training programmes and projects offered by these providers is almost non-existent. The purpose of this exploratory field study is to survey trends in e-skill training offered by small private providers in Gauteng. Findings from 72 training firms' show that e-Business, e-Literacy, and e-User related training are the most popular. The study also indicates that e-Practitioner courses are receiving only moderate attention, while e-Government and e-Participation offerings are almost non-existent. Training offered in the various skill categories do not vary greatly tending to be specialised vendor-specific training, many of which are organisational and not social in their focus. The paper concludes with some implications for the national e-skill action plan to address how these small training providers can assist in matching the training needs of a broader society.*

*Keywords: e-Skills Supply, e-Skill Programmes, e-Skill Projects, Small Training Providers*

## Introduction

Intensifying global competition and the increasing role that fast paced advances in information and communication technology (ICT) are playing in democratic processes for citizens, make it imperative that there is a steady supply of relevant e-skills in the workplace and in South Africa's broader society. Even though access and affordability to ICT services is less prohibitive these days, as the use of e-skills advances and become more complex, the absence of necessary skills will continue to marginalise the majority of South Africans. A number of studies have confirmed that e-skills are a prerequisite to realise benefits from access to ICTs (Lanvin and Passman, 2007, Ferro, Helbig, and Gil-Garcia, 2007). For example, a recent survey in 9 out of 17 African countries found that a large number of respondents, who do not currently use the Internet, identified their lack of computer knowledge and skills, as the most common reason for not adopting the Internet (Schmidt & Christoph, 2008).

In South Africa, Universities, Universities of Technologies, FET Colleges, and Private Training Institutions are crucial suppliers of e-skills. While policymakers are aware that understanding the supply dynamics of e-skills is important for future policy and rollout initiatives, very little is known about the supply prerogatives of small private training providers. The National e-Skills Action Plan (NeSPA) has spelt out the importance of leveraging off existing infrastructure and stakeholders and minimising the duplication of effort to achieve the nation's e-skill goals (NeSPA, 2010). Towards this end, understanding the supply of e-skills offered by small private firms can help e-skill interest groups to focus their e-skill priorities more effectively and in a more coordinated manner. Furthermore, studying the types of e-skills training small private training firms are offering may be a good indicator of the prevalent needs and also hint at some of the barriers to matching current and future skill gaps. This type of assessment is crucial to informing the development of a more focused and coordinated e-Skills strategy that is needed to support skills development more holistically.

According to the Information Systems, Electronics and Telecommunications Technologies Sector Education and Training Authority (ISETT SETA), approximately 86% of their accredited training providers can be characterised as small and micro enterprises (Isett Seta, 2010). The large number of small private e-skill training suppliers, their employment contribution, their competitive and distributed nature, and their preference for autonomous development of training products, suggest that there are deep complexities involved in overseeing these relationships (Isett Seta, 2011). Nevertheless, it is crucial that policymakers and other key participants are able to monitor, develop awareness, and foster alignment among this key stakeholder group. Moreover, there is an urgent need to understand the current training focus areas of small private training organisations.

Generally small training firms are facing growing scepticism from many of their customers about the effectiveness of their training programmes in improving job performance and producing measurable business results. A number of studies suggest that only 15 to 20% of trainees employ new capabilities in a way that is worthwhile for the organisation, lends support to these discouraging perceptions (Barrett and Connell, 2001; Tharenou, Saks, and Moore, 2007). Furthermore in today's tough economic climate, many organisations trapped by tighter budgeting constraints are attempting to stretch their resources thus compromising the quality of training interventions, and diminishing their impact. Consequently, many small training firms have to compromise on their array of programmes and focus their delivery on a few learning initiatives in order to survive. Despite favourable growth in the ICT sector, small firms providing e-skills are also vulnerable to these challenging market conditions.

However currently, very little is known about the types of e-skill training products these firms are offering. Identifying gaps and understanding the emphasis of small training providers has a number of implications for e-skill policies and action plans. In this regard, this paper contributes by developing an initial understanding of the supply of e-skills in one of South Africa's most economically active provinces. It reports on an exploratory survey of e-skills training products offered by small private training providers in the Gauteng Province. The next section provides a background to the e-skill challenges facing the nation and outlines some of the opportunities for collaborating with private training institutions. This is followed by a description of the research method adopted and a report of the key findings. Finally, some concluding remarks about the implications of these findings are made.

## **Literature Review**

Small training organisations are generally more suited to coping with the accelerating pace of technological change, are better able to adapt their training products, and offer more timely and relevant skills. For example many Universities offering e-skills take their lead from the Information Resources Management Association (IRMA) and the Data Administration Managers Association (DAMA) who only review their curriculum models every 5 years (Hsu, Kim and Stern, 2006). The "curriculum gap" which refers to the omission of skills required by practitioners, and the continuance of skills that are no longer required in practice that are still emphasised in the curricula, is also attributed to many educators being unable, unwilling or disinterested in addressing this issue, or not having the appropriate tools to teach students. Not surprisingly, while university programs continue to grapple with how to keep their curricula current and relevant, firms hiring ICT related graduates resort to in-house training which are sometimes outsourced to smaller training firms to equip graduates with the latest skills (Klaas and Gainey, 2003; Tyler, 2004).

Small training firms arguably also have better reach to many of the organisations and communities that are prone to accessibility challenges normally associated with larger supplier institutions. For example, African, Coloured and Indian population groups need to have greater access to skills if the ICT sector is to achieve its national occupational composition target of 85% for black personnel, in an effective manner. The actual percentage of black personnel currently in the Isett Sector is

approximately 54% (Isett Seta, 2011). Similar stagnant trends are evident for the female gender and people with disability. The reason for this stagnation is partly because those population groups who have always had jobs in ICT also have access to ICTs and can further their ICT skills. This implies that those without a job cannot afford access or usage and risk falling further behind (Schmidt & Christoph, 2008). In addition, the sector itself is comprised of some 2500 small and medium companies employing an estimated 48000 people (Isett Seta, 2011). Again perhaps, many of these firms are more likely to outsource their training needs to small private training institutions, than house the training internally or seek training from larger training suppliers. Even among the sectors 127 large companies employing some 96000 employees (Isett Seta, 2011), many would require specialist hardware and software skills, again possibly best provided by small specialist training firms.

Looking at the broader skills environment, only 8.9% of South Africans attain a tertiary qualification and the participation rates in higher education at approximately 16% is sharply low when compared to rates of 70% in America and Western Europe (Higher Education Monitor, 2009). Again, these participation rates based on population group is relatively high among whites (54%) and Indians (43%) but low among blacks and coloureds. This general imbalance among population groups eventually plays its way out as an indicator of basic e-skill competencies among the different population groups. After all, many undergraduate students receive some form of basic e-skill training at most Higher Education Institutions. Focusing on basic education, as many as 6% of children attending schools are orphans. This is exacerbated by problems of access to basic education in the rural areas. Generally, rates of completion of secondary school (Grade 12) are only around 44% (DBE, 2010). Of greater concern, approximately 5.5 million South African adults are either totally or functionally illiterate (StatsSA, 2010).

This implies that basic e-skills training will have minimal impact if it is not complemented with basic skills development such as language and numeracy. Meanwhile there is a growing trend in both basic and higher education that fields such as computer science and information systems are experiencing declining enrolment and graduation rates (CHE, 2010; Zhang, 2007). To benefit from accessing and using ICT enabled applications, a person must have the skills and the ability to comprehend, use, modify and create content and services. Unless the gap between those who have access to skills development and those who do not is addressed, the divide between those who reap the benefits of improved e-skills such as more competent employees, more effective citizenry and vigilant consumer participation, will continue to widen (Schmidt & Christoph, 2008). These indicators portray the enormity of the challenge of providing skilled ICT resources in South Africa's informal environment. More importantly it also points to the need for increasing cooperation with small training providers to address the e-skills challenge.

Despite the increasing importance of understanding the supply side of the e-skills value chain, there are a number of challenges involved in obtaining this kind of information. Some reports have suggested that non-cooperation by suppliers is one of the major issues (Alexander, Lotriet and Matthee, 2009; Isett Seta, 2011). This goal of this study is to provide a more detailed description of the e-skill training programmes and projects that are being offered by small private training firms. It aims to provide a more accurate profile of the e-skill training programmes and projects by e-skill categories so that the e-skills challenge facing the nation can be addressed in a more informed manner. The next section describes the research approach adopted in this study.

## Methods

### Questionnaire

The study adopted a largely quantitative, survey based approach. More specifically, a combination of an email, web and telephonic survey method was used since these data gathering techniques lend themselves especially well to exploratory issues, intending to provide a more lucid picture of e-skill training product profiles and activities among small training providers. These methods were also selected because it would rapidly reach a wide audience and thus enable the prospect of collecting larger volumes of data. They were also less expensive compared to other methods.

The questions asked in each of the survey distributions were identical to allow for comparative analysis. A parsimonious, 7 question survey was used. The questionnaire was divided into two parts. The first part focused on demographic characteristics about the training organisation such as the role of the respondent, location of the firm, the number of training branches that the firm comprised of as a proxy for firm size, and the role of the respondent.

In the second part, questions attempted to assess the following details:

- The temporal nature of the training programmes and projects
- The specific e-skill categories that were being addressed by these training programmes and projects
- The frequency at which these training programmes and projects were being offered
- Brief description of the programmes and projects

To establish an initial profile of the training products supplied, 7 categories of e-skills were reviewed. The included e-Literacy, e-Participation, e-Democracy, e-Government/Governance, e-Business, e-User and e-Practitioner skills (e-Skills Institute, 2010). e-Literacy was defined as skills aimed at employment readiness with emphasis on ICT literacy, particularly targeting unemployed and unskilled youth and rural society. e-Participation was defined as those skills that focus on enhancing citizen interactive engagement (primarily using ICT) with communities, local, provincial and national governance. e-Democracy was viewed as an extension of e-Participation with the unique ability to cast votes while e-Government/Governance skills focus on increasing public sector efficiency and productivity. e-Business skills were viewed as skills that aim to increase business efficiency and productivity. e-User skills were defined as skills that increased an individual's self-reliance, participation and community support in a socio-economic setting while e-Practitioner was viewed as specialist ICT skills designed to develop a person's proficiency in Information and Communications Technology related areas. e.g. Enterprise Resource Planning.

### Data Collection

We adopted what may be regarded as a blend of purposive yet convenient, pragmatic or opportunistic approach to conducting the fieldwork. This approach is becoming more and more acceptable among academic researchers (Buchanan and Bryman, 2007). Therefore, a convenience sampling approach was used to target small private training providers. The study was purposive in the manner in which suitable respondents who were knowledgeable about the topic were selected. Data was collected from Isett Seta's listing of accredited training providers in Gauteng. The Isett Seta's role is to develop strategic quality human capital in relation to the needs of the South African ICT Sector. It is also responsible for raising the levels, quality and relevance of education and training in the sector for the benefit employers, employees and the unemployed. Pre-survey quality assurance steps included the pretest and pilot of the survey research instrument to increase the validity and reliability of the results. The interviews were conducted between May and June 2011. Data collection was conducted by a

fully briefed, specialist marketing research company. Since only descriptive statistics were necessary, answers to structured questions and open-response questions were analysed by the author's using Microsoft Pivot Tables.

## Findings

The survey was part of a larger study by the Gauteng e-skills knowledge production and coordination hub which aimed to explore the current trends on e-Skills offering provided by the different types of training organisations in Gauteng. This study focuses on the insights of 72 small private Isett Seat training providers. The majority of these providers (83%, n=60) who responded had only one branch in Gauteng. The findings in the study are therefore more applicable to smaller providers. Many of the respondents were in the capacity of company owners, directors or training personnel, who should have had a reasonable level of insight about the training projects and programmes their firm offered.

### Temporal nature of e-skills training

Training projects referred to short-term training while programme refers to long-term training. A little more than 60% of the respondents (n=44) offer e-skill training projects while only 40% of the respondents offered more long terms e-skill training programmes. This short term opportunistic approach is perhaps not surprising, given that smaller institutions are better equipped to offer shorter courses compared to universities and larger training providers who are more geared to offering programmes. Long term programmes are not viable for many small firms.

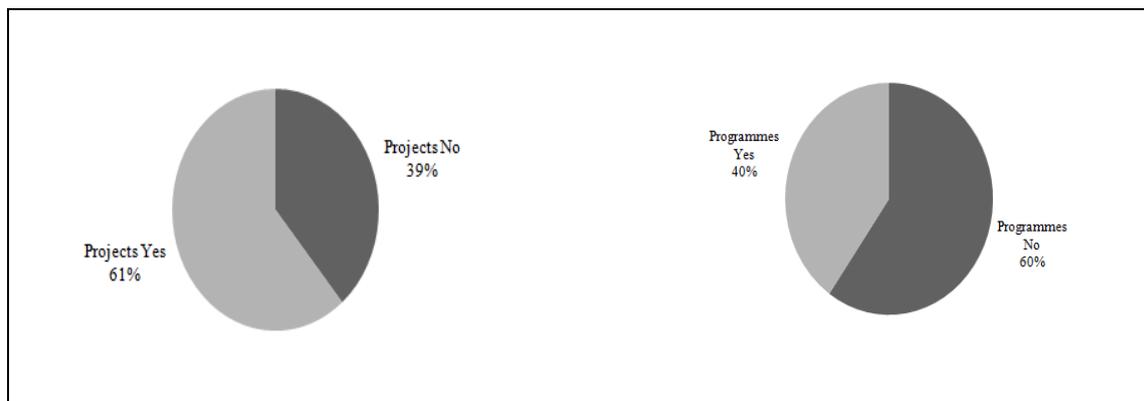


Figure 1. Comparison of e-Skills Programmes and Projects Offered

The preference among small providers for projects over programmes may also point to the nimbleness with which small providers are willing to adapt and change their offerings depending on what they deem clients may need. The dynamic nature is typical of small firms and is regarded as being critical to economic growth and the emergence of new and innovative industries in what the economist Joseph Schumpeter popularised as creative destruction (Schumpeter, 1950). Small providers are more willing to change and adapt their courses for what suits the market rather than attempting to make market suit the skills being produced. The implications of the dynamic nature of small providers compared to the bigger providers points to the importance of any national e-skills strategy to deliberately include small private providers.

Surprisingly, a large number of respondents did not perceive that their offerings could be defined under any of the e-skill categories defined. Perhaps this points to a lack of awareness of e-skills

among the majority of providers whose narrow perspective of their vendor related training could not be contextualised within the broader e-skills milieu.

### **Matching market needs**

One of the unknowns is the relationship between e-skills and the market needs of the labour force. Are all skills equally important for employers and employees? Or are there some e-skills that increase the probability of employment more than others? Of the respondents who reported offering courses within an e-skill programme, the majority appear to focus on e-User, e-Literacy and e-Business courses (See Table 1). Respondents reported a similar focus to their e-skill projects i.e. a focus on e-User, e-Literacy and e-Business courses. Not surprisingly, the frequency of courses share a similar pattern. In other words, e-User, e-Literacy and e-Business courses are generally provided more frequently than the other e-skills courses considered. However it was noticeable that e-business courses are scheduled more frequently than e-literacy and e-user courses. Perhaps this is not surprising since business related e-skills courses with higher demand are typically stimulated by the market needs of employers, the employed and prospective employees. Certainly, trainees may have a preference for training from more “practical” and experienced e-practitioners. The findings therefore speak to the important role that small providers play in the South African e-skills market by providing e-skills that are market oriented.

### **A dis-interest in e-government and e-democracy?**

It was also apparent that respondents reported lower offerings and frequency for skills related to e-participation and e-government. It appears that these broader civic engagement goals may lack similar investments in training claimed by business or organisational related e-skill courses. First, this may be a function of the employment market’s needs. Second, it may be a function of training providers not being aware of the demand for courses seeking to achieve broader e-skill goals. Third, this may also be a function of training providers with limited skilled resources focusing on courses that command greater market demand. While respondents reported limited offerings around e-participation and e-government, one respondent offered training on the Gauteng portal, applications and services. Similarly, another respondent mentioned offering courses on e-learning and e-health.

e-Skill Category	Programmes (n=29)	Projects (n=44)
1 e-User	28.95%	28.57%
2 e-Literacy	26.32%	25.40%
3 e-Business	23.68%	20.63%
4 e-Practitioner	10.53%	17.46%
5 e-Government	5.26%	6.35%
6 e-Participation	2.63%	1.59%
7 e-Democracy	2.63%	0.00%

*Table 1. Mix of e-skill category training programme and project priorities*

### **A vendor bias**

Respondents were also asked to briefly describe their short term as well as long term offerings (See Table 2). Content analysis suggests that both e-skill programmes and projects tend to focus on offering similar course content. It may be that the duration and depth of the training material covered differ. Vendor specific courses are understandably popular. Many respondents offer courses on Microsoft applications as part of the different e-skill category offerings in e-literacy, e-user and e-business. E-Business skills are functionally specific. For instance, they can include specialised training on archival management for business professionals and system design skills such as the

unified modelling language (UML) for technical professionals. E-Practitioner skills are more specialised in their orientation.

e-Skill Category	Course Description
E-Literacy Skills	Basic computer skills, E-mail, Internet, PowerPoint, Excel, Publisher, Typing skills, MS Word. Fundamentals of Microsoft Office. Basic Touch Typing.
e-User Skill	Word, Excel, PowerPoint, Outlook and Internet Explorer
e-Business Skill	Archival Management Systems, UML Short courses, bookkeeping software
e-Practitioner	SAP, Java web design

*Table 2. Summary of Project Offerings by major e-skill category*

E-Practitioner skills can include training on Enterprise Resource Planning (ERP) packages such as SAP for business users on the one hand and specialised software programming training using object-oriented languages such as Java for more technically oriented practitioners, on the other. The demand for specialised courses may be a reflection of ICT vendor influences in setting the e-skills agenda. ICT vendor courses are in most instances packaged for training and are ready to be offered by the small providers who may not have sufficient resources to create new training material. The implications points to the necessity for the e-skills programme to develop training material that can easily be transferred to the small providers.

## **Implications**

This study was useful in providing general e-skill trends in the Gauteng region. The findings suggest that e-Skills offerings being provided by small private training providers are still largely underdeveloped. While e-Business, e-Literacy, and e-User courses are the most popular among the various training programmes and training projects offered, e-Practitioner courses are receiving only moderate attention from small training providers, and e-Government and e-Participation offerings are almost non-existent. Many of the courses offered tend to have a short term focus suggesting missed opportunities for continuous education and narrowly designed vendor specific course offerings omitting complementary skills associated with ICT use. On the other hand, this also suggests that the South African market may not be responding to non-vendor specific courses. Training providers that are mainly guided by the ICT vendors may also be unaware of vendor agnostic e-skills training typically associated with e-Government and e-Participation skills. While market demands compel small private training firms to maintain their focus on the needs of employing organisations, incentives are needed for them to promote the production of courses aimed at broader civic engagement. Next, developing a taxonomy of e-skill offerings with concrete categories may simplify the prioritisation and focus given to courses. For instance if e-entrepreneurship is a specific type of e-business course, identifying such courses at the appropriate level of detail can provide measurable visibility and focus to stakeholders who need to prioritise and expend resources in the development of e-skill initiatives to ensure that the right competencies are being developed. The content analysis suggests that in certain e-skill categories, current offerings may be narrowly focused. Future research should consider benchmarking these courses to international offerings. Small training providers that appear to be guided by the needs of employers and ICT vendors may be unaware of vendor agnostic and broader e-skills training typically associated with e-Government and e-Participation projects and programmes. Training programmes and projects that target the unemployed, unskilled youth and rural society including entrepreneurial courses for small business needs appear to require more attention devoted to them.

## Conclusion

This initial exploratory survey of small private e-skills training providers in Gauteng indicate that these providers need to be made more aware about the broad spectrum of e-skills that should be made available in South Africa to meet broader societal and economic needs. It also appears that small vendors need package more generic e-skills training with the more popular vendor specific training to develop a more complementary and uniform e-skills curriculum. Benchmarking course offerings by small training providers in the various e-skill categories to international offerings may also reveal broader opportunities for improving the quality of e-skills initiatives and accreditation of small training partners. A taxonomy of offerings with concrete categories may simplify the process of monitoring, prioritising and emphasis given to certain e-skill courses. It is also evident that better incentives are needed to reward small training providers for offering e-skill programmes and projects that address the broader development of the countries burgeoning informal sector. Finally, stakeholders need to ensure more active collaboration and coordination with small private training e-skills partners to reach the critical mass of South Africans with the necessary skills to develop a more modern social, democratic and economic formation.

## Future research

Generalising the results of a convenience sample that stems from cross-sectional, self-reporting data which are restricted to small training firms in one region must be undertaken with caution. One of the limitations of self-reported perception measures is that they are potentially imprecise reflections of what is actually happening in practice. For instance, despite the use of the interview guide and fully briefed interviewers, the study was vulnerable to different interpretations of the different e-skill categories. Potential overlaps among the different categories may have been unavoidable. Future research should aim at developing more concise operational definitions for the different e-skill categories to minimise ambiguity in future quantitative studies. The current exploratory research is indicative of trends among Isett Seta training providers. Future research should aim at obtaining information more evenly from other training providers. Qualitative research could provide richer insights into the specifics of the course offerings and challenges facing training providers. For instance it is not clear to what extent the training covers the business content relevant to the use of a Microsoft application (e.g. prepare a budget in excel). Using desk research approaches and secondary data from authorised sources can be used to complement survey research, to develop a more complete picture of the e-skill training trends.

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