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## The Issue: *Apprenticeship in the Knowledge Economy*

Building It's a concept that dates back to the Middle Ages. Helmet makers had them, fullers had them and – famously – sorcerers had them. Master craftsmen employed apprentices as a measure for preparing a new generation in the skills necessary to perpetuate a craft and ensure ongoing fulfillment of community need. In the industrial era, the apprenticeship system was revived by organized labour which strictly controlled the apprentice's course of study, the credential process, and even who would and who would not be admitted to the trade.

Apprenticeship continues to be a popular concept even in the 21<sup>st</sup> century. With the recent, highly publicized campaign to encourage young Canadians to enter skilled trades, apprenticeship programs and employer tax credits to encourage their use have become focuses of public policy. The Budget Plan 2006 set aside \$190 million for a new Apprenticeship Job Creation Tax Credit. The measure was explained this way:

The difficulty Canadian employers have in finding skilled trades people is becoming an impediment to economic growth. Meanwhile, many young Canadians find themselves stuck in low-paying work, and are either not encouraged to consider the trades or unable to do so because of financial barriers.

To encourage employers to hire new apprentices, Budget 2006 proposed a new Apprenticeship Job creation Tax Credit, effective May 2, 2006. As a result, eligible employers will receive a tax credit equal to 10 per cent of the wages paid to qualifying apprentices in the first two years of their contract, to a maximum credit of \$2,000 per apprentice per year.<sup>1</sup>

The same budget also created a provision for a \$1,000 apprenticeship grant payable to qualifying apprentices as a direct incentive to young Canadians to pursue careers in skilled trades. It is important to note that both measures apply only to Red Seal designated trades. The Red Seal program is a set of interprovincial standards designed to ensure worker mobility across all parts of Canada. The program covers 45 trades from "agriculture equipment technician" to "welder." None of the 45 trades cover any workers central to the information and communications technology industry or performing entry level ICT jobs in other sectors.



The Ontario Government has initiated a more inclusive approach to apprenticeship tax credits and incentives. Its Apprenticeship Training Tax Credit gives employers a refundable tax credit of 25 per cent on salaries for apprentices in more than 100 eligible trades. (Businesses with payroll smaller than \$400k qualify for 30 per cent.) These include the following trades not covered by the Red Seal program:

<sup>1</sup> The Budget Plan 2006; Focusing on Priorities, page 80.

Electronic Service Technician  
Microelectronics Manufacturer  
Network Cabling Specialist  
Technical Support Agent –  
Information Technology Contact Centre  
Inside Sales Agent –  
Information Technology Contact Centre  
Customer Care Agent –  
Information Technology Contact Centre

Ontario's apprenticeship tax credit is the most progressive in Canada. The inclusion of these additional job categories is a boon to the ICT industry, particularly Ontario's customer care and help desk industry. This program has been in place since 2004 and will sunset in 2008. In spite of the significant involvement of some companies in the ICT community in the job and curriculum definitions, the program is undersubscribed by ICT companies perhaps because it is not widely promoted. If you have operations in Ontario and have not explored this tax credit, I encourage you to do so. You can learn more at [www.trd.fin.gov.on.ca](http://www.trd.fin.gov.on.ca).

Ontario's program provides a sound blue print for how our current apprenticeship programs federally and in the other provinces may be expanded to drive strong economic benefit. The could, for example, go a long way to remove a serious obstacle to the adoption of productivity enhancing ICT tools, particularly in the small and medium business sector.

In October, ITAC released a study of the attitudes of small and medium business owners to ICT. The study found while business owners wholeheartedly believe that ICT use improves the productivity and competitiveness of their enterprises, they chose to invest in other areas such as labour, operating expenses and non-ICT capital. And even in the labour category, they under-invest in ICT specialists 50% of those surveyed cited lack of staffing as the most significant barrier impeding ICT adoption. IDC Canada, who conducted the study for us, believes that almost 50% of Canadian SMBs have two or less full-time equivalent ICT staff. Roughly 20% of SMBs reported they have no ICT staff.<sup>2</sup>

The under-adoption of ICT in the Canadian economy is frequently cited as a key explanation for the significant gap between Canadian and U.S. productivity. Given the size and significance of Canada's small and medium business sector under use of ICT, this is particularly troubling. It's clear from our study and others that SMB owners face

tremendous pressures in sustaining and growing their businesses. Any assistance that could help them overcome this staffing obstacle would have a positive impact on their ICT adoption and ultimately on their productivity and competitiveness. ITAC believes that expanding the national Apprenticeship Job Creation Tax Credit to include job categories such as "network support" or "network manager" would boost the number ICT workers in the SMB sector and have a positive impact on adoption of ICT and productivity. This is one of the factors behind our call expressed in our latest pre-budget submission (and reiterated in others such as the Canadian Federation of Independent Business<sup>3</sup>) to expand the federal program beyond the 45 Red Seal trades. This advocacy will accelerate with all levels of government for it is essential that other provinces besides Ontario recognize the importance of these ICT "trades" in all sectors of the economy and expand their tax credit programs accordingly. And even in the province of Ontario, it may be timely to seek further expansion beyond the six eligible job categories.

The transfer of knowledge – of craft – is required in all jobs and professions, even those demanding a high level of formal education prior to job entry. An entry level systems engineer may join a microelectronics firm with a freshly minted Ph.D., for example, and still require a substantial investment in tacit and formal learning before he or she can be considered business ready. This investment is made by the employee in the form of hard costs for training and opportunity costs associated with the workplace education of the novice by senior engineers. And this investment is undertaken with the full understanding that the employee being trained will move to another employer when this latter-day apprenticeship is complete.

Nevertheless, this kind of "post-doc" training is considered essential by knowledge-based employers. Douglas Barber and Jeffrey Crelinsten, in their study of 30 CEOs in knowledge intensive start-up firms, identified the lack of business-readiness of technology specialists as a critical barrier to success and growth. "In post-secondary institutions," they wrote, "there is a lack of learning related to the human relationship challenges in marketing, sales and management ..."<sup>4</sup> By default, the workplace must fill this gap in education. Employers comply with the full awareness that

<sup>2</sup> "Does ICT Matter to SMBs in Canada?" Executive Summary, IDC Canada, page 4.

<sup>3</sup> Harvessing Canada's Competitive Advantage: Small Business Has Big Plans," CFIB 2006, page 2.

<sup>4</sup> "Growing R&D Intensive Firms in Canada; Views of the CEOs in the Greenhouse," Dr. D. Barber, Dr. J. Crelinsten, page 1.

while they may not harvest their investment in entry level resources directly, they are making an important contribution to talent from which their whole industry can draw. Measures to support this activity by providing tax credits would enable knowledge-based employers to increase employment. In a knowledge-based venture, success is frequently based on the quality and quantity of the knowledge workers that can be marshalled to address a problem.

So ITAC's advocacy on this issue has three areas of focus. One, we will encourage the Federal Government to expand the Apprenticeship Job Creation Tax credit beyond the Red Seal trades. Two, we will encourage other provinces to see the wisdom of the Ontario Government approach. Three, we will encourage the Ontario Government to leverage its initiative by expanding the current list of eligible jobs to embrace a wider group of entry level ICT functions, potentially even in the deeply-knowledge intensive areas of our industry.

Our aim, in sum, is to advocate for a 21<sup>st</sup> century view of a very old idea. To be productive and competitive today, Canada may need welders, electricians and mechanics, but it needs networking technicians, and webmasters and help-desk managers and junior software developers just as urgently. Our economy doesn't have much call for sorcerers and necromancers any more. But their modern equivalents – those who can cast spells in code or convert knowledge into gold – are critical to our present and future success. Canada can create a meaningful competitive differentiator for itself by being among the first nations to update the time-honoured tradition of apprenticeship.



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