In this report I will cover the growing information technology (IT) skills shortage issue within New Zealand. The lack of skilled IT workers has become a real issue for local businesses. As technology is constantly developed, there is a growing need to employ capable workers. A skill shortage exists when there are not enough appropriately skilled people to meet the demand for labour within an industry, in this case, the IT industry.

Information about the range of IT roles has been omitted from this exemplar.

IT is one of New Zealand's growing industries and there is no possibility of expanding markets without capable workers. IT technology is used in most jobs these days, meaning the majority of New Zealand workers and consumers may be affected by the IT skills shortage.

"A growing digital skills shortage is sounding a warning bell to industry, government and the education sector, says New Zealand Digital Skills Forum chair Victoria MacLennan. A report commissioned by the forum released today showed the country had a significant and growing digital skills shortage, primarily due to the speed and scale of the increase in demand for tech skills. New Zealand was facing an 11 per cent annual increase in demand for software programmer jobs, the report said. More than 120,000 people were employed in the tech sector last year and about 14,000 new jobs were created. However, only 5,090 tech students graduated in 2015, and 5,500 tech visas were granted in same period, demonstrating a shortfall."[1]

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Using seek.co.nz (a job search website for New Zealanders) as an example, a search for "IT" shows over 6,700 results. I compared this to a search for the keyword "retail" and there were 1,700 results. There is a huge difference in job demand between the two industries. Xero, New Zealand's largest software development business, have 373 jobs available according to jobseeker.co.nz. With so many IT jobs to be filled at Xero, the company could fall behind its competitors and be unable to develop its output.

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The ICT, Electronics and Telecommunications category is on Immigration NZ's immediate skills shortage list[2] which means "there are no New Zealand citizens or residents available to take up the positions", and the long-term skills shortage list[3] which means "there is a sustained and on-going shortage of highly skilled workers both globally and throughout New Zealand".

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Information & Communications Technology workers are basically computer support jobs at all levels such as programmers, engineers, network security consultants, database managers, system administrators etc. There would be at least one ICT worker (not including teachers of ICT) in every school and large businesses and organisations could employ hundreds of these people. They are all jobs that need training, and usually qualifications as well. Businesses cannot function without these important workers so to not be able to hire suitable people would mean the businesses might not be able to operate effectively or at all. Without a system administrator of technician to help solve computer problems staff members in a school might get really frustrated and they might not be able to look up student timetables, for example. In a big business such as Spark or in a call centre a shortage of appropriate staff might mean that customers' needs cannot be met and they might go to a competitor. Another implication is that a lack of skilled workers can limit the amount of expansion/ innovation a company can undertake.

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An IT skills shortage can develop into a major problem for businesses in New Zealand as workplaces cannot find enough eligible workers to fill vacancies. A business that is affected by this issue usually only has two options to continue production. They could employ people who are under-skilled for the jobs – this will cost the business time while the workers are being trained and money for training them. Or, they could employ skilled workers from overseas, though this can lead to cross-cultural problems, miscommunication, etc.

A shortage of skilled workers increases a business's employment costs. The cost of locating and recruiting skilled workers is higher when there are fewer available candidates because a special effort must be made to

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1.   https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11961871
2.   http://skillshortages.immigration.govt.nz/immediate-skill-shortage-list.pdf
3.   http://skillshortages.immigration.govt.nz/long-term-skill-shortage-list.pdf

==find suitable people. If an employment agency is used the business will have to pay a fee to the agency. Average salaries could increase because the workers might need to be paid high salaries to take jobs, or bonuses might need to be paid to keep skilled workers and stop them from taking other IT jobs.==

James Corbett, recently employed by Xero after graduating last year, says, "There was a lot of employer interest. I didn't have to go searching and found a job quite easily. I was quite lucky in that I had a few opportunities offered to me." James is a prime example of a graduate who was in control over who he worked for, showing there is competition in the IT industry.[4] Someone like James is in high demand so could be tempted to go overseas to work, probably for more pay. When skilled workers leave New Zealand to use their skills or experience, this is known as the brain drain.

==Solution – use foreigners to perform the IT work==

==Outsourcing is a business practice where a business hires another business or an individual to perform tasks, handle operations or provide services that are either usually, or used to be, performed by the company's own employees. Outsourcing could involve contracting an overseas provider to do the work for the New Zealand based company. For example, a telecommunications company might have its call centre staff based in another country.==

An alternative is to hire IT specialists from foreign countries. Job advertisements would be placed on foreign recruitment websites, or recruitment agencies in other countries could be contracted to recruit staff for the New Zealand businesses. There can be numerous advantages to employing workers from overseas. These people may bring new ideas and an alternative perspective to the business. In addition, migrant workers are usually highly educated and aware of current and emerging industry trends from their experiences in overseas markets. Outsourcing IT workers is a short-term solution to providing businesses in New Zealand with workers.

Positives of Solution
- Cheaper costs – foreign workers might be so keen to get a working visa to New Zealand and eventually residency that they will accept working conditions that are worse than New Zealand workers demand.
- ==Foreign workers have an alternative perspective on work and business and could potentially provide some new and innovative ideas. Having a diverse workforce is highly valued by many large companies because it reflects global markets and is good for the image of the companies.==

Negatives of Solution
- Cross-cultural differences – foreign workers sometimes take time to understand the culture of the business and New Zealand. However, this is usually a short-term challenge.
- Outsourcing foreign workers will benefit businesses but will not fix the skills shortage from within New Zealand.

Solution – expose students to IT at school

If IT as a subject was more hyped at school I believe students would be more engaged and encouraged to study IT at tertiary level. If students knew exactly how many jobs were open in the IT industry in New Zealand, and what their salaries could amount to ($130,000+) they might study IT to degree level, get jobs in the IT field and help fix this human resource issue of having a lack of skilled IT workers. The only downside to this solution that I can think of is that this is not an immediate fix. However, it would be a work-in-progress which would be a solution to the long-term problem.

Conclusion

From my research and study of this topic, I believe that from the solutions outsourcing is the most suitable. Outsourcing would be a quick fix to Xero and other companies' problem of finding skilled workers in the IT field as it is quick and effective. In conclusion, the issue of skills shortage in IT, is a growing one as the possibility of finding workers is becoming worse. This could mean the only short-term solution is outsourcing.

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4   http://ww.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10871198