

Tackling the digital skills gap? Look at the kiwi fruit industry

...Or, how to apply the classic product inventory management models and principles to the digital technology sector.



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"We need to know as much as we can about the size, scale and nature of the digital skills shortage in the digital technology sector, and across New Zealand."

Communications Minister Clare Curran

Measuring the kiwifruit inventory

A hypothetical situation, a country seems of be running out of the fruit. [The United States Parcel Service has these best-practice inventory management metrics](#): Inventory Turnover or Days on Hand, Average Days to Sell Inventory (DSI), Average Inventory, Inventory Holding Costs, Stock Out, Service Level, Lead Time, Rate of Return, Inventory Accuracy & Perfect Order Rate.

Generated from more than one system, the metrics would tell the quantitative part of the story.

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Consultation and dialogue with the full spectrum in the supply chain. From orchard to the table. This would include growers, pickers, packers, truckers, importers, shippers, cold chains, fumigators, suppliers, buyers, exporters, retail, customers and consumers of the Kiwifruit. If it were possible, even a chat with the fruit itself. But we know fruit can't talk, so for the moment we leave it at that. These would form the qualitative part of the story.

[And this would help form a picture of how many kiwi fruits were being grown](#), if new orchards were being planted, or existing ones uprooted, how many were being imported, how many were being sold, if the green ones were popular, or the gold ones, how many were being exported, how many were being pulped, how many were blighted or rotted, how much more tonnage was required for optimum stock level and importantly how many were being turned into puddings, cakes, tarts & pavlovas.

And finally, if there was a country producing Chinese gooseberries in large numbers, branding them, differentiating themselves, marketing them all over the world, successfully putting them at the top of the fruit loop, they would have some pointers too. There would be an argument to understanding what made them a success; and if China is a bridge too far, perhaps talk to those of Chinese origin who are familiar with it locally.

The model below outlines the gap between the current state and the desired future state, and help inform what needs to be done to address it. Done properly, one picture could potentially tell the whole story.

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Image

The 7 steps to measuring the digital skills inventory

Extrapolating these to understanding the state of the [Digital Skills Inventory](#), one would engage with all stakeholders in the ecosystem and supplement it with data from different systems to result in a total and holistic picture.

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1. Form a view of employers' HR related trends - the demand side

Obtain key hard and soft metrics such as current staff levels, vacant headcount, staff retention, staff turnover, staff attrition, redundancies in the past three years, hiring intentions, planned headcount next three years, average days to hire, training investment, number of training days, cost of not having skills. This provides the demand side of the skills inventory.

2. Get a perspective from a resource perspective – the supply side

By way of personal interviews and reports drawn from systems (more on that later), get an idea of how many skilled ICT workers are seeking work, the average number of days on bench, average time between projects or jobs, utilisation, realisation. This forms the supply side of the equation.

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3. Data, information, reports and systems

In addition to LinkedIn, generate insights from Seek and TradeMe; the reports will help form, test and validate hypotheses. Indicators should include numbers of jobs advertisements, number of job seekers, mismatch of demand and supply, average number of applicants per role, number of days to hire or fill a role, [hot skills & redundant skills](#).

4. Validate from the larger ecosystem, including imports

Consult with the larger ecosystem. These include training service providers, recruitment firms, student job placement organisations and immigration consultants among others. Cross check to validate investment in training, training days per organisation, hot skills, redundant skills, successful/unsuccessful intern placement, successful/unsuccessful skilled migrants placement, successful/unsuccessful local candidate placement. This complements the narrative and starts to round up the various views.

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5. Brain drain, look at exports

Investigate to see if there is any significant brain drain. Is the country losing ICT workers long-term to pursue opportunities overseas? Are students studying STEM in foreign universities? Crimson Consulting has a multi-million dollar valuation, at least partially based on this business. Understand IF it is leaking talent, and if so, get to the root, how big the issue is, why it is, and what needs to be done to address it. Find and talk to emigrants overseas.

6. Diversity in the workforce

[Get a picture of diversity in the ICT workforce by age, ethnicity, and sexual orientation in addition to gender](#) Supplement the

information relating to Pasifika, Maori and Asian ICT students to understand over and under representation. Why some groups have a higher propensity for STEM and ICT? Understand the age mix, and what happens to older ICT workers? Is there a case for pay parity? And are levels of responsibility in line with skills, qualifications & experience – or is under-utilisation an issue?

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7. Learn from successes

Understand why countries such as India, with their obvious disadvantages, have transformed to global tech super powers. Are there pointers in their education system or values? Start with talking with the many and successful, senior, well-connected ICT professionals from a wide variety of countries available locally.

And this will form the full picture, by all participants, with supporting data, [resulting in holistic solutions – the fruit of which we know will be good for all of us.](#)

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