Validating Future-Ready Capability Requirements for Networks and Information Technology: A Case Study

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Abstract

Many businesses are struggling to attract and retain competent employees, which, in turn, has resulted in a skills gap in the workforce. This is because resumes and transcripts do not reflect the true potential of a prospective employee, making it challenging for employers to identify appropriate candidates. This paper reports on the recognition of human mindsets (known as capabilities) via psychometric questionnaire and correlates them with high-quality worker performance for Telstra, a major Australian telecommunication organisation. The findings of this research paper report not only the capabilities that correlate to high performance but also their level (Foundation, Advanced or Mastery) and range (capability only as mindset or capability as demonstrated on a daily basis via work roles and responsibilities). This paper is a case study of how Telstra determined which capabilities are the most indicative of high performance and future potential to accelerate employee recruitment and retention.

Keywords: Capability, Human Capability Standards, Talent Mobility, Micro-credentials, Human Capital, Employability, Future Ready

1. Introduction

To retain a competitive advantage in today's tumultuous world, organisations need to invest in the right talent and hire employees who can deliver at expected standards. However, many industries are struggling to attract or even retain competent and trained employees. Many businesses are now seeing a talent gap within their own organisations, especially in terms of high-skilled roles, and low-skilled workers are often retained to fulfil crucial duties at the administrative level. To address this skills gap, Telstra invested in training and upskilling its employees in recognised competitive advantage talent segments (CATS), including security, software engineering, data/analytics, and product management. In addition to CATS, Telstra also promoted the use of credential-based training by delivering seven micro-credentials to develop skills. In contrast to lengthy traditional university-based (or similar degree programs) education, micro-credentials are globally recognised qualifications that can be obtained in a shorter time span (six to eight weeks).

In 2021, Telstra introduced the T25 strategy to improve its product offerings, replace legacy systems with digital platforms, improve customer experience and enhance value for shareholders and stakeholders. However, a strategy designed to improve essential operational aspects would not be possible without investing in future-ready policies for employees to weather potential disruptions (e.g., COVID-19, technological advances, etc.) while being leaders in the market. Hence, Telstra launched the Future Ready program to develop employee capabilities via learning/development programs, mentoring by leaders (supervisors) and on-the-job experiences. The program is comprehensive and allows employees to choose which of their abilities they want to develop. Telstra, to ensure make its employees are 'future ready' and thus drive the T25 strategy, recognised seven key capabilities to be developed: informed decision-maker; leads the way; adapts and grows; collaborates and influences; innovates and improves; customer focused; and team performer.

Telstra recognised the capabilities required for development via a validated profiling questionnaire called the Future Ready Insights Questionnaire (FRIQ), which consisted of psychometric questions that provided insight into the respondent's potential against key capabilities. The FRIQ also informed the respondents on their need for personal development and the work-based support required to acquire a credential recognising capability attainment. Three different levels of proficiency were identified – Foundation, Advanced and Mastery – and two ranges, where Range 1 denoted early development and Range 2 denoted higher potential for any given capability.

Based on a single graduate cohort (70 graduates), a correlational research study was conducted to find the relationship between successful performance at the workplace with the respondent's capability (level and range). Past research into capabilities in future work suggested that three Telstra future-ready capabilities (i.e., informed decision-maker, adapts and grows, and collaborates and influences), when identified in employees working in new and emerging digital-technology work, are enduring core capabilities that no robot can replicate and that drive high task performance (George et al., 2021). With this in mind, the present study conducts correlational analysis of the graduate scores on the FRIQ with the performance ratings of their supervisors. The strongest capabilities that emerge from the correlational analysis are highlighted.

2. Future-Ready Capabilities

Telstra is Australia's leading telecommunications and technology company, offering a full range of communication services and competing in all telecommunications markets. In Australia, the organisation provides 18.8 million retail mobile services, 3.8 million retail fixed bundles and standalone data services and 960,000 retail fixed standalone voice services. The company has an international presence spanning over 20 countries, employing approximately 25,000 people.

Telstra's T25 strategy focuses on building a connected future so everyone can thrive. The strategy encapsulates Telstra's belief that people give purpose to technology. Similar to competitor organisations, Telstra has been challenged by exponential change in the telecommunications industry; it must constantly adapt and respond to customer demands. At the end of a significant period of transformation, Telstra now has an ambitious 2025 growth agenda expressed via the T25 strategy, and the workforce needs to be supported and developed to achieve that agenda.

2.1 Capability-Based Approach

A capability-based approach is integral to systems-level strategies addressing workforce needs. Capability frameworks provide organisations with a systems-level whole-workforce skills overlay and technical/job-competency models (Bowles & Schoenheimer, 2009). As the demand for specific technical skills can change rapidly, the shelf life for discipline-related competencies is too short to adequately predict future needs or skill development (Snell et al., 2016). Instead, the focus is on workforce needs or on isolating the few core capabilities that will span functions and underpin enduring employability.

Telstra's FRIQ assesses personal dimensions/traits that are framed as 'mindsets' associated with personal dispositions and mental models. Under the integrated hierarchy of terms, skills are the smallest building blocks, which form tasks and activities; these tasks and activities then form the competencies required to achieve job-related vocational or behavioural outcomes, which are linked to the overall capacity of the workforce or profession (Bowles et al., 2019).

3. Practical Application: The Telstra Future-Ready Strategy

3.1 Next-Generation Capability Strategy: What and Why?

The T25 strategy is guided by questions related to moving from current states to future states. These questions include (Telstra, 2022):

How do we:

- Ensure our employees have the capabilities to deliver on our transformation and growth strategies?
- Target development of our workforce on the most important enduring capabilities?
- Provide employees with the development and capability they need to be successful throughout their career?
- Recognise our employees to a globally recognised standard? So that we can:
- Deliver on our market commitments and increase customer and shareholder value;
- Help our people fulfil their potential while knowing we have the capabilities we need;
- Retain and re-train our people to increase internal mobility and reduce regret attrition;
- Provide employees with a return on investment for time spent on development;
- Support employees to prioritise the learning and critical experiences for their career needs and Telstra's strategic objectives.

The challenge, as outlined above, requires a unique learning strategy. Global discovery research conducted with best-in-class corporations, educational institutions and credential-issuing bodies emphasised several critical considerations that underpin Telstra's T25 strategy:

- **Reimagining the concept of a 'job':** The concept of a job is so volatile that it is no longer a reliable basis for development or career planning.
- The race for talent was tightening: As with most global technology companies, Telstra competes for talent and relies on accessing the right people with the right skills required to drive its digital transformation and growth.
- **Finding hidden talent**: More must be done to source talent internally. This requires looking beyond employees' ability to perform in their current role and identifying core capabilities that can be leveraged across the business.
- **Developing a person's full potential**: It is increasingly apparent that the old adage of 'recruit for attitude and cultural fit over skills' is substantiated by global research (Deloitte, 2019). Through a greater emphasis on a person's innate disposition and traits, employers gain insight into an employee's potential and are able to offer more personalised development planning and employee experiences.
- **Capability as the currency:** Capability frameworks are strategic. Research examining leading businesses confirms that the strongest lever in the employee lifecycle to deliver a future-ready workforce is not an array of technical competencies. Rather, it is a few (typically five to 10) non-technical capabilities that drive the attainment of strategic goals and company values.

4. Critical Talent Shortages

Telstra identified nine CATS that are essential for its T25 strategy to be successful. Research has identified that it is not enough to select talent based solely on technical skillsets. Thus, the current paper examines Telstra's future-ready capabilities to identify those that are the most strongly correlated with performance and success. In doing so, this article can provide a framework for enhancing talent-hiring services or identifying internal talent in CATS. 4.1 Results: Building A Future-Ready Flexible Workforce

By contextualising enduring core human capabilities into strategic and cultural imperatives, Telstra identified seven future-ready capabilities. These future-ready capabilities apply to everyone at Telstra, where learning and credentialing are initially available at three levels to support career progression. In alignment with the concept of a T-shaped career (see figure 1 below), the future-ready capabilities form global standards that apply across all roles and thereby ensure high-level performances are maintained, while domain-specific technical skills and competencies ensure the delivery of expertise relevant to specific roles and vocations. With rigorously applied levels of proficiency translated from the HCS, all skills, knowledge bases and mindsets (dispositions and cognitive attributes) can be identified based on work classifications as well as on the Australian Qualifications Framework (AQF). Determining levels of capability for each employee can be aggregated to provide an overall future-ready index confirming the human capital available to deliver the capacity required to underpin Telstra's competitive advantage.

In Figure 1, Telstra's seven future-ready capabilities form the cross-function transversal focal point for the top of the 'T'. These capabilities can be managed, measured and developed with enduring influence on employees, behaviours, performance, and competitive advantage. The vertical stem of the 'T' represents the domain-specific requirements. These capabilities are typically expressed as technical competencies or skills specific to a job, area of professional practice or occupation. Typically, they are not Telstra specific; they originate in professional, vendor, competency-based training, technical or industry frameworks that are tied to vocational outcomes. With a skills taxonomy numbering in the thousands, and with just one technical area having 120 competencies, the level of control required, and the reduced shelf life are major difficulties that must be addressed when developing a future workforce (Malik & Garg, 2017).



Figure 1. Telstra's future-ready capabilities and a T-shaped career model.

5. Methodology

For this research study, the 2019 network and information technology (N&IT) graduate cohort was selected, which consisted of 70 individuals who completed the FRIQ. Out of the 70 participants, 67 were invited to participate in the current study to share their results, 48 of which agreed (17 females and 31 males). The FRIQ outputs were a level (Foundation, Advanced or Mastery) and range (1 or 2) against each capability, e.g., Mastery 1, Advanced 2, etc. Hence, a method was developed to codify and produce aggregate capability level scores (ACLS) for correlational analysis. The ACLS allowed for the comparison of graduates' capability levels by yielding a six-digit number, reflecting a simplified count of the skill level across all seven capabilities.

For example, a graduate with seven capabilities at Foundation 1 will be assigned a score of 000007 (=7) and a graduate with seven capabilities at Mastery 2 will be assigned a score of 700,000 (=700,000).

Separately, Telstra rated the performance of its N&IT graduate cohort for the 2021/22 financial year after a performance review (based on quarterly conversations with the participants). Figure 2 shows the performance-rating framework.



Figure 2. Telstra performance-rating framework.

In this paper, the ACLS value is the independent variable, and the performance rating is the dependent variable. Both variables generated a numerical score, which was used for correlational analysis.

4.2 Hypothesis

To determine if future-ready capabilities are a strong signal of talent performance and retention. To determine the propose selecting the N&IT 2019 graduate cohort, to identify if a similar correlation applies to this Telstra group.

A number of research questions were outlined based on the hypothesis:

- Do the FRIQ results show any correlation between performance ratings against levels of capability for graduates?
- What is the level of potential (difference between capability rating and current level of performance) indicated by each graduate?
- What does the data tell us about the largest capability gaps? Which capabilities showed the lowest potential?
- What does the data tell us about the highest potential? Which capabilities showed the highest potential?
- Which capabilities should be focused on first?
- How do the seven future-ready capabilities rate in terms of highest potential and lowest potential?
- Can any capability conclusions be drawn from these insights?
- Is the hypothesis true or false based on the data? Why/why not?
- Is there any correlation between rating and level (e.g., Rating 3 = Advanced)?

4.1 Design

While using different capability titles, previous studies suggest that people who are very career focused on technology, computing and digital networks are strong in the following three Telstra future-ready capabilities (George et al., 2021; Bowles, 2020): informed decision-maker; adapts and grows; and

collaborates and influences.

These capabilities respectively cover the areas of critical thinking/problem solving with data, adaptive mindsets, and collaboration. They have a high positive correlation with enduring relevance to work beyond the automation of tasks (George et al., 2021) and in the improved employability of recruits in specific technology-and computing-related occupations (Bowles, Ghosh & Thomas, 2020). This research assumed the prior existence of both technical competency and the 'digital acumen' capability, thereby covering computer and data-handling skills at the required level of proficiency.

The 2019 N&IT graduate cohort was selected to examine whether a similar correlation can be identified in their responses to the FRIQ. This will provide each participant with valid and reliable insights into their performance and development potential against each of the seven Telstra future-ready capabilities (Leaser & Farrell, 2021).

Participants in the study included 70 graduates of the 2019 N&IT graduate cohort.

Each participant completed a standard journey through the assessment and capability development journey. Preparation of those being surveyed included:

- Each team member and their leader attended a webinar information session;
- The cohort completed the FRIQ and worked closely with their leader to understand the results so as to develop a learning pathway;
- Each participant could complete learning and credential application for nominated capabilities (either Advanced or Mastery);
- Telstra collected and examined the data.



Figure 3. Graduate experience.

6. Results

Based on the correlation analysis, the future-ready capabilities varied according to where the cut off was placed for high performers in the 2019 N&IT graduate cohort: top 50%, top 25%, and top 10%. Figure 4 shows the ACLS for high performers.



Figure 4. Aggregate capability level scores for high performers.

A deeper analysis of Figure 4 revealed that the majority (i.e., 25 people in top 50%) of high-performing graduates (ratings > 4) showed the strongest correlation with the following capabilities and levels: collaborates and influences (Advanced 2); leads the way (Advanced 2); informed decision-maker (Advanced 2); and innovates and improves (Mastery 2).

This is shown in Figure 5.

Current Band	Capability_numberedString	Foundation 1 L	Foundation 2 N	Advanced 1 w	Advanced 2 b	Mastery1 G	Mastery 2 0	Grand Total
2	1 Adapts and Grows				100.00%			100.00%
	2. Collaborates and Influences				100.00%			100.00%
	3. Customer Focussed				100.00%			100.00%
	4. Innovates and Improves					100.00%		100.00%
	5. Leads the Way				100.00%			100.00%
	6. Team Performer			100.00%				100.00%
	7. Informed Decision Maker			100.00%				100.00%
31	1 Adapts and Grows		4.17%	12.50%	25.00%	33.33%	25.00%	100.00%
	2. Collaborates and Influences			4.17%	45.83%		25.00%	100.00%
	3. Customer Focussed			8.33%	25.00%	37.50%	29.17%	100.00%
	4. Innovates and Improves				20.83%	37.50%	41.67%	100.00%
	5. Leads the Way	4.17%		8.33%	45.83%	25.00%	16.67%	100.00%
	6. Team Performer			12.50%	29.17%	37.50%	20.83%	100.00%
	7. Informed Decision Maker			8.33%	41.67%	25.00%		100.00%
Grand Tota	1	0.57%	0.57%	8.57%	34.29%	30.86%	25.14%	100.00%

Figure 5. Heat map showing correlation between future-ready capabilities of high performers.

As depicted in Figure 6, the top 25% (i.e., 14 people in the top 50%) of high-performing graduates showed the strongest correlation with the following capabilities and levels: team performer (Mastery 1); customer focused (Mastery 2); and innovates and improves (Mastery 2).



Figure 6. Heat map showing future-ready capabilities of top 25% of high performers.

As depicted in Figure 7, the top 10% (i.e., 6 people in the top 50%) of high-performing graduates showed the strongest correlation with the following capabilities and levels: collaborates and influences (Mastery 1); customer focused (Mastery 2); and innovates and improves (Mastery 2).



Figure 7. Heat map showing future-ready capabilities of top 10% of high performers.

7. Discussion

7.1 Advantages of Identifying Capabilities that Lead to High Work Performance

Similar research undertaken by Telstra (Bowles, Bowes & Wilson, 2019) revealed that high workplace performance is correlated to the following future-ready capabilities: adapts and grows; collaborates and influences; and customer focused. However, in this study, it was found that, for more than 50% of the graduates, high performance correlated to not only 'collaborates and influences' but to three other capabilities: (i) leads the way, followed by (ii) informed decision-maker and (iii) innovates and improves.

This research, despite only using a small population, provides early indications for the top three capabilities for N&IT high performers, and thus it provides general insights into which capabilities are more relevant for quickly hiring candidates in a short amount of time, and who have a high potential for promotion in the future. Research has extended to include a larger population group (11,200 Telstra employees) to confirm ranking of Telstra future-ready capabilities that indicate those able to perform in or succeed into roles classified as areas of critical talent shortage (Wilson & Bowles, 2022).

Consistent with previous research in early career recruits working in emerging roles in digital work that have critical talent shortages, those assessed as possessing the potential to acquire 'collaborates and influences' and 'customer focused' to advanced and mastery levels of proficiency, perform to higher levels and are advancing earlier that those not rating as well. However, in the present study, 'adapts and grows' was not confirmed as a top-three capability. Rather, 'innovates and improves' was the more likely candidate for top-three capability for the 2019 N&IT graduate cohort.

'Adapts and grows' has a strong emphasis on the cognitive aspects of work. Recent advances in neuroscience reveal an employee's ability to learn, engage with others, adapt and perform depends on how well their brain regulates emotion (Rock, 2010). The ability 'adapts and grows' emphasises self-awareness, curiosity, and persistence, especially in difficult or uncertain environments. The counterpoint to this capability is the 'innovates and improves' capability, which reflects working in an agile manner and the systematic use of processes and tools to make connections between disparate ideas, thinking or practices (Araujo, 2013).

'Leads the way' and 'team performer' were identified as two of the four most essential human capabilities indicating leadership potential (Bowles et al., 2016; Bowles, 2019). Further research is required to examine whether high-performance employees also have leadership abilities or whether they assume leadership roles early on in their career.

'Informed decision-maker' is not a top indicator of performance for the 2019 N&IT graduate cohort. However, it has previously been identified as an essential human capability in information technology and finance organisations, especially for work roles related to business intelligence, security, and data analysis.

This research confirms Telstra can practically use the FRIQ to look for graduates with strong potential across (at least) four or five of the capabilities. In particular, Telstra should focus on recruiting customer-focused employees who have a strong ability to collaborate and influence.

This research has also improved past research findings by identifying not only the capabilities that correlate with high work performance but also the level and range required. The 2019 N&IT graduates generally typified the abilities outlined in the FRIQ but also demonstrated them at work on a daily basis. This identifies training requirements which can be catered to individual needs of the individual, thus, saving the organisation's time and resources that are usually invested in upskilling staff without the required data.

7.2 Redefining Talent-Acquisition Models

Employers around the world are questioning the talent-acquisition models adopted by human-resource departments to source employees, e.g., interviewing, reviewing resumes/qualifications and assessment (Wilson, Kurzweil & Alamuddin, 2018). Resumes and transcripts issued by academic institutions are unemotive. This can be addressed by using questionnaires such as the FRIQ to add emotional content, which can be recognised by employers and stakeholders as a currency for hiring the correct talent.

7.3 Gaps in Capability

Overall, the capability of 'leads the way' (Mastery 2) had the weakest correlation with high performance at the workplace. This result was expected, since the dataset consisted of graduates who are relatively new to the workforce and thus have limited or negligible experience of leadership roles. As a result, the graduates not only lacked the mindset but also the opportunity or position to demonstrate their capabilities through workplace roles and responsibilities. However, unlike formal university transcripts, which are tied to curriculums approved by accreditors, the graduates may use the credential report generated by the FRIQ to demonstrate an interest to address the gaps in their capability. This provides freedom for the graduates, who then have the choice to conform to existing curriculum, as promoted by formal academic institutions, or piece together individual learning needs (Willis, Strunk & Hardtner, 2016) and approach recognised training providers. Such targeted training may address the capability gaps of graduates in a cost- and time-effective way.

7.4 Changes in Workplace Performance Assessment

For this research, assessment of workplace performance was carried out through conversations with supervisors who determined authentic achievement by the graduates through tasks and roles carried out. The validity of such assessments was recognised when high performers (in the top 50%) demonstrated capabilities at the Mastery level. This indicated a transformative change in how employee performance may be appraised, and evidence collected towards it to identify how value may be created using the existing workforce employed by the organisations. This information-driven transformation of performance assessment is one of the ways credentials will transcend conventional and traditional human-resource practices, leading to an inundation of innovation.

7.5 Sampling Considerations and Response Rate

The sampling technique used in this research was based on convenience sampling, which relies on opportunity and participant accessibility. Thus, the participants for this research paper were sourced from the 2019 N&IT graduate cohort from Telstra, which consisted of 70 people. To be sure, only 48 graduates agreed to participate, but, regardless, the findings are considered to be significant. This is because past research (Suresh & Chandrashekara, 2012; Lodico, Spaulding & Voegtle, 2010; Blondy, 2007; Graziano & Raulin, 2000; Ghosh et al., 2020) has indicated that, in correlational research, the coefficients that estimate how useful the relationship between the dependent and independent variables might be a prediction (and is a measure of effect size) and should be considered significant only if the minimum sample size is 30. This research, thus, exceeded the recommended minimum sample size.

8. Conclusion and Future Research

This paper reports on the application of future-ready capabilities underpinning the workforce capacity required by Telstra to deliver its strategic direction and values. This study sought to establish a baseline to develop the levels of capability for both individual employees seeking entry or advancement within N&IT job roles/workforce. In this case study, capability was evidenced through learning and applied performance specified in a set of capabilities that can be packaged into stack of micro credentials that confirm readiness not only for future job roles, but also optional entry into a higher education qualification through credit-entry scores attached to each credential. This case study demonstrates that an organisation can improve the availability of talent by confidently investing in hiring decisions and rapid development though non-traditional, work-based approaches to learning.

Looking at an employee's capability beyond their current role will not only increase the visibility and mobility of once-hidden internal talent but also improve the value of available human capital as a latent capacity that can be developed to meet future workforce demands.

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