# A skills-based wine workforce <br> Wine Marlborough 

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## Executive summary

Business and Economic Research Limited (BERL) was commissioned by Wine Marlborough, in partnership with New Zealand Winegrowers and the Ministry of Business, Innovation and Employment, to assist with gathering data on current and future workforce needs. The aim of the research was to define the roles and skills that make up the wine industry (from vineyard to market). In turn, better data will improve the wine industry's ability to identify gaps and career pathways, and to forecast future workforce needs across roles and business types.

The findings of this report are based on two pieces of evidence. Firstly, a national industry survey was conducted with results received from wine companies, growers, and industry suppliers in wine regions throughout New Zealand. Almost 200 (199) businesses began the survey, with 47 businesses completing the full survey. The use of Lightcast as a resource was always planned for this project, and analysed wine and viticulture job advertisements in the New Zealand and Australian wine sector over the past 10 years. Together these two information sources provide the insights provided in the report.

## Industry overview

The wine industry represents a significant sector in New Zealand's economy, characterised by diverse product offerings and a complex supply chain. The industry encompasses a wide range of activities, from viticulture and winemaking to marketing, sales, and tourism. As consumer preferences evolve and global markets expand, the industry faces both opportunities and challenges. These include adapting to technological advancements, meeting sustainability goals, and addressing workforce needs amidst changing labour dynamics.

## Wine industry job roles can be grouped into job clusters and job families

## Job clusters are groups of occupations that share skill sets

The research categorised wine industry job roles into various job clusters, reflecting the diverse skill sets and expertise required across different segments of the industry. Job clusters are defined based on the similarity of skills demanded by employers across various occupations, organising these occupations into clusters that share skill sets. This approach is particularly useful for understanding the broader landscape of job opportunities and how individuals might move between related roles within a cluster, considering the portability of skills across different occupations within an industry. The focus of job clusters is on the skills and capabilities that are transferable and valuable across a range of jobs, aiding career mobility and adaptability in a changing job market.

The seven job clusters are:

1. The Artisans
2. The Generators
3. The Informers
4. The Technologists
5. The Coordinators
6. The Carers
7. The Designers.

Each job cluster has its own unique set of core and technical skills, underscoring the need for targeted training and development programmes to meet the industry's diverse workforce requirements.

## Job families are groups of occupations that involve similar types of work

Job families are groups of occupations that involve similar types of work and require similar training, skills, knowledge, and expertise. This classification helps in understanding the various roles within an industry and the specific skill sets they require, facilitating targeted career development and recruitment strategies. Job families also provide a framework for analysing market trends and skills gaps. There are eighteen job families, all represented to varying degrees in the wine industry.

## Skills across the wine industry

The data analysis provides valuable insights into the current state of the wine industry's labour market, highlighting the demand for specific skills across various job clusters and families. Key findings include:

- Core skills are vital: Across all job families, core skills such as communication, teamwork, and leadership are highly valued, indicating the need for well-rounded professionals.
- High demand for technical skills: There is a significant demand for technical skills such as forklift operation, machinery operation, viticulture practices, and winemaking techniques, as well as customer service, sales, stakeholder management, and project management.


## In-demand core skills are foundational across roles

The core skills identified as most in-demand in the wine industry are foundational across a wide range of roles within the wine industry, from vineyard operations to winemaking, laboratory analysis, and management positions. Lightcast and survey data showed strong agreement on the most common core skills across job roles in the wine industry. These core skills include:

1. Communication: Essential for almost every role, ensuring effective teamwork, clear instructions, and successful stakeholder relationships
2. Planning and organising: Including problem-solving, time management, attention to detail, and decision-making. Critical for managing operational, logistical, and strategic aspects of wine production and vineyard management
3. Teamwork: Important for fostering a collaborative work environment, crucial in roles ranging from machinery operation to laboratory analysis and management positions. Leadership is also highlighted as important for roles involving managing teams, driving projects, and leading operations within the vineyard and winery.

## Technical skill requirements are diverse and evolving

While core skills are universally valued across the wine industry, the emphasis on specific technical skills varies significantly across job families, highlighting the need for targeted skill development strategies tailored to the unique demands of each role. The analysis of Lightcast and survey data reveals a nuanced landscape of technical skills critical to the operational efficiency, innovation, and competitiveness of businesses within the sector

In the areas of viticulture and winemaking, technical skills such as irrigation management, forklift operation, and tractor driving are highlighted as essential. These skills ensure the effective and efficient management of vineyard and winery operations, contributing to the quality of the wine produced.

The data also underscores the significance of technical skills tailored to specific job families. For instance, customer service is a technical skill shared across many job families, including the Hospitality, Food, and Tourism job family. However, cooking and bartending are the top two technical skills for this family, and are not found elsewhere. Likewise, fermentation and wine processing emerge as key technical skills for the Manufacturing and Production job family, which includes winemakers and wine technicians, cellar hands, and bottling operators, but are not in the top ten for any other job family.

Using both Lightcast and survey data together gives a snapshot at a national industry level of the jobs and roles. The findings from both datasets illustrate the need for continuous learning and skill development to meet the demands of a dynamic global market. The findings also indicate a general lack of clarity in job descriptions that may be a barrier to meeting labour market demand.

## Additional survey findings

This research also delves into the potential opportunities and risks facing the wine industry in the coming years. Opportunities include the growing emphasis on upskilling staff, embracing automation and technology, and increasing commitment to sustainability. Conversely, risks are identified in the form of challenges related to housing affordability for workers, which could impact recruitment efforts and contribute to higher turnover rates.

The survey data also provides insights into business operations within the wine industry, highlighting the use of exit interviews as a tool for understanding employee turnover. The data suggests a disparity in the adoption of exit interviews across different business types, with industry providers and wineries more likely to undertake them compared to growers. This section also notes the creation of new job roles in individual businesses in the past three years, indicating a shift towards more specialised positions in areas such as sustainability and information technology,

These findings highlight the dynamic nature of the wine industry's workforce, pointing to the need for continuous adaptation and investment in human capital to navigate future challenges and leverage emerging opportunities.

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## 1 Introduction

Business and Economic Research Limited (BERL) was commissioned by Wine Marlborough, in partnership with New Zealand Winegrowers and the Ministry of Business, Innovation and Employment, to assist with gathering data on current and future workforce needs. The aim of the research was to define the roles and skills that make up the wine industry (from vineyard to market). In turn, better data will improve the wine industry's ability to identify gaps and career pathways, and to forecast future workforce needs across roles and business types.

This report focuses on a "whole-of-industry" approach, looking broader than grape growing and winemaking, and exploring roles across the industry. This includes understanding the role of skills in addressing the labour market challenges the wine industry faces. Rather than focusing on job titles, valuing, and developing skills and competencies that can be transferred through different roles and responsibilities is key to facing workforce shortages and skill gaps. When workers can more easily transition between roles and projects because of the portability and transferability of their skillsets, businesses will have greater flexibility and agility to respond to changing business needs and environments. Businesses can allocate resources more efficiently by matching workers with the skills required for specific tasks. By leveraging a diverse range of skillsets, innovation and problem-solving are more likely to increase.

The report covers:

- Job clusters and families - A way of organising job tasks
- Job description elements - Core skills, technical skills, aptitudes, knowledge, experience, and qualifications, and the differences between these elements
- The most in-demand core skills, and which core and technical skills are likely to grow in demand
- Survey responses from wine industry businesses on the skills they need to operate, the opportunities they see for their businesses and for the wine industry, and other business operations concerns.


## 2 Building a skills-based wine industry workforce

The wine industry operates within dynamic value chains that adapt to local and global trends, consumer preferences, and regulatory changes. These shifts influence the skills required by businesses from their workforce.

Workforce planning in the wine industry involves mapping out the diverse roles and skill sets required, which may evolve over time due to technological advancements and market demands. Wine businesses are continually adapting to changing environments, necessitating the adoption of new practices and structures to remain competitive in the market. Advancements like automation have transformed wine production, leading to a broader range of skills beyond traditional onvineyard roles.

Addressing the challenges the wine industry faces, such as workforce shortages, technological changes, and supply chain complexities, requires strategic planning and adaptation at all levels. Understanding the challenges and drivers of change is crucial for developing effective strategies and ensuring the availability of skilled professionals to meet industry needs.

### 2.1 Job clusters and families

This section provides an overview of job clusters and job families, and what these groupings look like in the wine industry. The difference between job clusters and job families primarily lies in the basis of their grouping and their intended use or focus within workforce development and career planning. Job clusters are based on shared skills in demand across occupations, facilitating career mobility and adaptability, while job families group occupations according to inherent characteristics, like nature of work and qualifications, aiding in career path organisation and recruitment strategies.

The concept of job clusters comes from a research series, New Work Order, by the Foundation for Young Australians. ${ }^{1}$ In this research, 2.7 million Australian job advertisements were analysed to reveal seven clusters of work. By examining the intensity and similarity of approximately 4,600 unique skills requested by employers, occupations were then grouped based on whether employers demand similar skills from applicants.

A clustering algorithm was used to identify groups of occupations that share common skills, thereby forming distinct job clusters. This approach provided a data-driven understanding of how jobs are related in terms of the skills they require. It also allowed for the identification of clusters of work within the economy, making it easier for people to understand the landscape of job opportunities and how they might move between related roles within a cluster.

Job clusters group occupations based on shared skills
Job clusters are defined based on the similarity of skills demanded by employers across various occupations and by organising these occupations into clusters that share skill sets. This approach is particularly useful for understanding the broader landscape of job opportunities and how

[^0]individuals might move between related roles within a cluster, considering the portability of skills across different occupations within an industry. The focus is on the skills and capabilities that are transferable and valuable across a range of jobs, aiding career mobility and adaptability in a changing job market.

Job families group occupations based on similar work, training, and qualifications
On the other hand, job families group occupations based on similar work performed, skills, education, training, and credentials. This classification is more about the inherent characteristics of the jobs themselves, including the nature of the work, the required qualifications, and the sector or industry context. Job families are used to organise and manage career paths within organisations or industries, making it easier to understand progression paths, training needs, and recruitment strategies. This grouping helps identify related jobs that might suit an individual's skills and career aspirations, enabling more strategic career planning and development within specific areas of expertise.

### 2.1.1 Job clusters in the wine industry

Figure 2.1 Job clusters in the wine industry


The seven job clusters are:

1. The Artisans: The Artisans cluster includes jobs that require skill in manual tasks related to construction, production, maintenance, or technical customer service. The Artisans are characterised by their focus on generic manual functions and the application of technical skills in various physical environments.
2. The Carers: The Carers cluster includes jobs that seek to improve the mental or physical health or well-being of others, including medical, care, and personal support services.
3. The Coordinators: The Coordinators cluster includes jobs that involve repetitive administrative and behind-the-scenes processes or service tasks. This includes roles that require organisational skills and customer service, such as time management, digital literacy, communication skills, teamwork, and customer service.
4. The Designers: The Designers cluster includes jobs that involve deploying skills and knowledge of science, mathematics, and design to construct or engineer products, buildings, or digital services.
5. The Generators: The Generators cluster focuses on generating sales and providing front-ofhouse retail or hospitality services. This includes roles that are centred around business development, sales support, managing sales relationships, customer relationship management, and contract management.
6. The Informers: The Informers cluster includes jobs that involve professionals providing information, education, or business services. These roles often require skills in communication, problem-solving, detail orientation, and the ability to convey information effectively to various audiences.
7. The Technologists: The Technologists cluster includes jobs that require skilled understanding and manipulation of digital technology. This cluster is characterised by its focus on the development, implementation, and maintenance of technology and digital solutions.

The Lightcast data showed all seven clusters were represented in the wine industry (refer to Appendix C Job clusters, job families, and occupations for comprehensive groupings of job titles and roles). ${ }^{2}$ While it was out of scope to quantify the number of people employed in each cluster, some clusters were clearly more represented in the data.

### 2.1.2 Job families in wine

Job families, also known as occupational families, are groups of occupations based upon work performed, skills, education, training, and credentials. They organise occupations that involve similar types of work and require similar training, skills, knowledge, and expertise. The Lightcast data is categorised into various job families based on shared characteristics, skills, and responsibilities.

The job families in the wine industry include:

- Agriculture, Horticulture, and Outdoors
- Business Management and Operations
- Clerical and Administrative

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- Community and Social Services
- Customer and Client Support
- Design, Media, and Writing
- Engineering
- Finance
- Hospitality, Food, and Tourism
- Human Resources
- Law, Compliance, and Public Safety
- Maintenance, Repair, and Installation
- Manufacturing and Production
- Marketing and Public Relations
- Planning and Analysis
- Sales
- Science and Research
- Transport.

These job families provide a framework for analysing labour market trends and skill gaps within the wine industry, and for forming workforce development strategies.

### 2.2 Job description elements

Across both the Lightcast and survey data, the research revealed widespread inconsistencies in job descriptions across the wine industry. This indicates a lack of clarity by employers that may be affecting how the current and potential workforce perceives the industry.

When employers are seeking to recruit, frequently job descriptions are the foundation for job advertisements, portraying the job role that is on offer. Job descriptions are the foundation for the legal agreement between employers and employees in respect of their job tasks and responsibilities, defining the job requirements. They also ensure the job aligns with organisational needs, showing reporting lines, any financial delegations, potential career development pathways, and areas of business responsibility. In the worst-case scenario of employer-employee relationships, job descriptions provide a framework for performance management.

Key elements of a job description essential for creating a skill-based workforce
There are several key elements of a job description that are relevant to developing a skill-based workforce, and this section defines these elements:

- Skills are the learned abilities to perform tasks
- Aptitudes are natural talents influencing skill acquisition
- Knowledge is the theoretical or practical understanding gained through learning
- Experience is the practical application of skills over time
- Qualifications are formal recognitions of one's skills and knowledge.

In the following definitions, a vineyard manager will be used as a practical example of how to apply these concepts to a job description and advertisement.

## Core and technical skills

Core skills are non-specialist skills gained through both life experience and formal education, such as the ability to work unsupervised, teamwork, problem solving, the ability to delegate, read, and interpret instructions, and effective work planning. Sometimes these skills are called "soft skills" or "enterprise skills."

Core skills are defined as key skills that are essential within a job cluster, enabling individuals to enter, succeed, and move around within that cluster. They are transferable skills that enable people to engage with a complex world and navigate challenges, while technical skills are specific to particular jobs or tasks. Many core skills appear across multiple occupations within a job cluster or job family, and are not just specific to a single job. Identifying core skills that are highly demanded across a range of jobs within a cluster, eases the movement of workers across different roles and into the unknown jobs of the future within that cluster.

Core skills for a vineyard manager include communication skills, computer literacy, organisational skills, such as planning and time management, and teamwork/collaboration.

Technical skills are specialist skills needed for that specific position, and may include knowing how to use specialised technology or tools. These skills include undertaking laboratory operations and analysis, explaining technical product information to customers, using specific equipment, and transporting crops or finished products.

Technical skills for a vineyard manager may include tractor driving or forklift operation, use of farm or horticulture equipment (e.g., irrigation systems), and using specific types of yield software.

## Aptitudes, knowledge, experience, and qualifications

Aptitudes are natural talents, abilities, or capacities for learning and proficiency in specific areas or tasks. They represent a person's inherent or acquired potential to perform certain types of activities. Aptitudes can include a wide range of areas, from verbal and numerical reasoning to artistic creativity and physical coordination. However, unlike skills, which can be developed over time through education and practice, aptitudes are often considered more innate, influencing how easily and quickly a person can learn or develop skills in a particular domain.

Aptitudes for a vineyard manager may include being detail-oriented, a common aptitude used as a proxy for problem-solving skills.

Knowledge refers to the information and understanding that a person has gained through experience or education, and encompasses facts, descriptions, and awareness acquired through observation, learning, or instruction. Knowledge can be theoretical or practical, covering a wide range of fields or areas of study. It enables individuals to understand the world around them, make informed decisions, and apply their learning to solve problems or achieve goals. Knowledge can be categorised into different types, such as explicit knowledge (which can be easily communicated and documented) and tacit knowledge (which is personal and harder to formalise or share).

> Knowledge for a vineyard manager will include knowing grape varieties, harvesting methods, and disease management.

Experience refers to the knowledge, skills, and competencies that an individual acquires through performing tasks in a job over a period of time, covering both the practical application of skills in real-world settings, as well as the insights gained from dealing with various situations, challenges, and successes in a professional environment. Work experience contributes to an individual's ability to perform tasks efficiently, solve problems, and adapt to new roles or responsibilities. It is often a critical factor in hiring decisions, as it provides evidence of a person's capability and potential for contributing to an organisation.

Experience is an easier element to define; vineyard managers may need a specific period of time (e.g., five years' experience), a specific type of grape (e.g., experience with pinot noir), or exposure to a specific type of climate or weather condition.

Qualifications are the formal certification of a person's skills and knowledge, typically achieved through education, training, or experience, which is recognised and often standardised by regulatory bodies or educational institutions. These can include degrees, diplomas, certificates, professional licences, and apprenticeships. Qualifications serve as a measure of an individual's competency in a specific field or profession, and they are often used by employers to assess the suitability of candidates for specific roles or tasks.

> Qualifications are also relatively easy to define, and in the case of a vineyard manager, may include a tractor and/or forklift endorsement on their driver's licence, or the New Zealand Certificate in Horticulture - Wine Growing.

### 2.3 The value of clarity in job descriptions

One of the key findings from the research across both Lightcast and survey data, is that businesses are unclear about the difference between skills, aptitudes, knowledge, experience, and qualifications. Job advertisements and job descriptions across both of these sources often confuse them, however, they are all distinct concepts that collectively contribute to a person's capability to perform tasks and succeed in various roles.

Understanding the difference between skills, aptitudes, knowledge, experience, and qualifications is crucial for employers across locations and business sizes

1. Improved recruitment and selection: Recognising these differences helps employers create more accurate job descriptions, identify the most suitable candidates for a position, and set clear expectations, regardless of the business size. For instance, while qualifications and experience can demonstrate a candidate's background and achievements, aptitudes can indicate their potential for future growth and adaptability in the role. Skills and knowledge, on the other hand, are direct indicators of a candidate's current capability to perform specific job tasks.
2. Effective workforce development: Employers who understand these distinctions can better plan for workforce development and training. Knowing whether an employee needs to enhance their skills, gain more experience, or acquire additional knowledge for advancement allows for targeted development programs. This can lead to more effective training outcomes and a more competent workforce.
3. Strategic career path and succession planning: By differentiating between these elements, employers can more strategically plan career paths for their employees and succession plans for critical roles. Understanding an employee's aptitudes and experiences, in addition to their skills and qualifications, can help in identifying potential future leaders and in planning for the long-term development of these individuals.
4. Enhanced employee engagement and retention: Employers who recognise and value the comprehensive range of their employees' attributes (including their skills, knowledge, aptitudes, and experiences) are better positioned to engage and retain top talent. By aligning employees' roles with their strengths and providing opportunities for growth that consider all these aspects, employers can improve job satisfaction and reduce turnover. While this is crucial in businesses of all sizes, smaller businesses can be more impacted by staff leaving, so reducing turnover is vital.
5. Adaptability to future workforce needs: The future of work is characterised by rapid changes in technology and job roles. Employers who understand the portability of skills and the value of aptitudes and experiences are better equipped to adapt their workforce to meet future demands. This understanding allows for more flexible and dynamic workforce planning, ensuring that the organisation remains competitive and resilient in the face of change.

Recognising the differences between skills, aptitudes, knowledge, experience, and qualifications enables employers to make more informed decisions regarding hiring, training, career development, and workforce planning, ultimately contributing to the organisation's success and sustainability.

## 3 Lightcast data on wine industry skills

Lightcast data refers to the comprehensive labour market data collected and analysed by Lightcast (Appendix B Methodology). This data is derived from a vast array of online job postings and is used to provide insights into job market trends, skill demand, and the evolving landscape of employment. The search criteria was tightly defined to ensure only applicable wine industry jobs were included. By analysing thousands of job advertisements across New Zealand and Australia from 2013 to 2023, we were able to identify the specific skills wine industry employers have been seeking. This information is crucial for understanding current labour market demand, forecasting future trends, and informing educational and workforce development strategies.

### 3.1 Job postings by job cluster and job families

We analysed Lightcast data from 2013 to 2023, covering thousands of job postings in the wine industry, and sorted them by job cluster (Table 3.1). The Generator job cluster, covering a range of sales and hospitality jobs, was by far the largest job cluster at 15,068 job postings. The next largest job cluster, Coordinators, which includes many office, administrative, and operational roles, had 4,067 job postings. Artisans, with vineyard and production roles, round out the largest three clusters with 3,550 job postings. At the other end of the spectrum, Designer and Technologist job clusters had less than 400 postings in the same time period.

Table 3.1 Lightcast data, job postings by job cluster, 2013-2023

| Job cluster | Job postings |
| :--- | ---: |
| Generator | 15,068 |
| Coordinator | 4,067 |
| Artisan | 3,550 |
| Informer | 1,842 |
| Carer | 595 |
| Technologist | 396 |
| Designer | 361 |
| Total | 25,879 |

Source: Lightcast data, BERL analysis
We also sorted the job postings by job family (Table 3.2). The largest job family was Hospitality, Food, and Tourism, with 11,953 job postings, or 46.2 percent of all wine industry job postings analysed. ${ }^{3}$ Almost all roles in this family are in the Generator cluster, as are roles in the second largest family, Sales. Rounding out the top three is the Manufacturing and Production job family, and most of these roles are in the Artisan cluster.

[^2]Table 3.2 Lightcast data, job postings by job family, 2013-2023

| Job family | Job postings |
| :--- | ---: |
| Hospitality, Food, and Tourism | 11,953 |
| Sales | 2,965 |
| Manufacturing and Production | 2,311 |
| Business Management and Operations | 1,510 |
| Clerical and Administrative | 965 |
| Agriculture, Horticulture, and Outdoors | 945 |
| Maintenance, Repair, and Installation | 900 |
| Finance | 773 |
| Marketing and Public Relations | 746 |
| Human Resources | 493 |
| Customer and Client Support | 451 |
| Science and Research | 407 |
| Planning and Analysis | 347 |
| Community and Social Services | 344 |
| Engineering | 341 |
| Transport | 162 |
| Law, Compliance, and Public Safety | 152 |
| Design, Media, and Writing | 114 |
| Total | 25,879 |

Source: Lightcast data, BERL analysis

### 3.2 Most in demand core skills in the wine industry

Table 3.3 shows the most in-demand core skills across this time period, with a count of the number of job advertisements that mentioned that skill. Some of these core skills, however, are better described as aptitudes (creativity, detail-oriented, positive disposition), while others can be considered more work conditions (physical demand). We have kept Microsoft Excel, Microsoft Office, and computer literacy in the data, given how many employers have asked for, and considered, these skills to be core skills. They are, however, technical skills.

Across these skills, three key areas emerge:

- Communication skills, including written, verbal/oral, and presentation skills
- Organisational skills, including planning, multitasking, problem-solving, time management, and troubleshooting
- Relational skills, including teamwork and collaboration, leadership, building effective relationships, mentoring, and people management.

Table 3.3 Most in-demand core skills, 2013-2023 ${ }^{4}$

| Core skills | Count |
| :---: | :---: |
| Communication skills | 8,739 |
| Detail-orientated | 4,825 |
| Planning | 3,614 |
| Organisational skills | 3,507 |
| Creativity | 3,076 |
| Time management | 2,039 |
| Problem solving | 1,939 |
| Energetic | 1,537 |
| Leadership | 1,284 |
| Positive disposition | 1,180 |
| Building effective relationships | 1,167 |
| Multi-tasking | 1,069 |
| Microsoft Excel | 858 |
| Microsoft Office | 846 |
| Computer literacy | 808 |
| English | 386 |
| Written communication | 368 |
| Research | 351 |
| Verbal / oral communication | 280 |
| Writing | 260 |
| Mentoring | 257 |
| Meeting deadlines | 253 |
| Troubleshooting | 244 |
| Analytical skills | 238 |
| Presentation skills | 214 |
| Preventive maintenance | 198 |
| Typing | 119 |
| Physical demand | 107 |
| People management | 104 |

Source: Lightcast data, BERL analysis

[^3]Lightcast data on wine industry skills

### 3.3 Top skills by job family

### 3.3.1 Agriculture, Horticulture, and Outdoors skills

All Agriculture, Horticulture, and Outdoor roles are in the Artisan job cluster, and include forklift operators, irrigation technicians and managers, tractor drivers, vineyard workers and managers, viticulturists, and other on-vineyard manual workers.

Communication skills, planning, and organisational skills are the top core skills, while irrigation, forklift operating, and tractor driving are the top technical skills for this job family (Table 3.4). Detail-oriented has been coded as a core skill, it is more an aptitude than a skill, as is having a positive disposition or being energetic. To reframe being detail-oriented as a skill, it should be more closely related to the task being detail-oriented is required for, e.g., problem solving or analytical thinking. Physical demand is also a work condition rather than a skill, and could be phrased more around efficiency in completing physical tasks quickly and accurately.

Table 3.4 Top skills for Agriculture, Horticulture, and Outdoors job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 100 | Irrigation | 164 |
| Detail-orientated* | 86 | Forklift operation | 147 |
| Planning | 71 | Tractor driving | 56 |
| Organisational skills | 40 | Irrigation systems | 52 |
| Computer literacy | 33 | Budgeting | 47 |
| Teamwork / collaboration | 32 | Farm management | 46 |
| Positive disposition* | 30 | Fencing | 41 |
| Physical demand** | 24 | Herbicides | 39 |
| Energetic* | 23 | Record keeping | 33 |
| People management | 19 | Customer service | 30 |
| Aptur |  |  |  |

* Aptitude rather than skill.
** Work condition/environment rather than skill.


### 3.3.2 Business Management and Operations job family

The Business Management and Operations job family is a larger job family, with roles predominately in the Coordinator cluster, across operations, procurement and purchasing, inventory, facilities, liaison, and management. These roles are usually more senior business administration and operational roles.

Communication skills are the top core skill category, alongside planning, and teamwork/collaboration (Table 3.5). These skills are all vital in the behind-the-scenes administrative and management work that weaves many elements of business operations together. It's therefore understandable that the top technical skills are focused on customers (customer service, stakeholder management, and customer contact) and operations (project management, budgeting, operations management, scheduling, logistics, and data entry). Forklift operation is in the top five technical skills, and a potential skills pathway between the Agriculture, Horticulture, and Outdoors job family.

Table 3.5 Top skills for Business Management and Operations job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 1,056 | Customer service | 575 |
| Planning | 632 | Project management | 349 |
| Teamwork / collaboration | 524 | Budgeting | 343 |
| Problem solving | 456 | Stakeholder management | 309 |
| Organisational skills | 440 | Forklift operation | 297 |
| Building effective relationships | 348 | Logistics | 191 |
| Creativity* | 294 | Operations management | 173 |
| Computer literacy | 237 | Scheduling | 114 |
| Time management | 228 | Data entry | 103 |
| Microsoft Office | 215 | Customer contact | 99 |
| * Aptitude rather |  |  |  |

* Aptitude rather than skill.


### 3.3.3 Clerical and Administrative job family

The Clerical and Administrative job family is also predominately in the Coordinator cluster, with more supportive roles and functions, including administrators, office managers, receptionists, and executive assistants. They are frequently supporting roles in the Business Management and Operations job family, and consequently have some overlap in both skill categories, particularly in communication and organisational skills, teamwork/collaboration, and time management, as well as customer service, data entry, and scheduling (Table 3.6). These roles have less people focus, however, and more computer literacy focus, as can be seen by the presence of Microsoft Office and Excel, and a range of administrative skills.

Table 3.6 Top skills for Clerical and Administrative job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | :---: | :--- | ---: |
| Communication skills | 459 | Administrative support | 366 |
| Microsoft Office | 252 | Customer service | 157 |
| Detail-orientated* | 244 | Data entry | 100 |
| Organisational skills | 237 | Scheduling | 89 |
| Microsoft Excel | 158 | Business administration | 72 |
| Teamwork / collaboration | 131 | Administrative functions | 50 |
| Time management | 120 | Spreadsheets | 50 |
| Computer literacy | 118 | Secretarial skills | 37 |
| Problem solving | 117 | Office management | 34 |
| Planning | 92 | Travel arrangements | 30 |

* Aptitude rather than skill.


### 3.3.4 Community and Social Service job family

One of the smaller job families, roles in the Community and Social Service job family are all in the Carer cluster and in counselling, pastoral care, and social worker roles. These roles have less overlap in skills with other clusters, and with the other job family within the Carer cluster (Hospitality, Food, and Tourism, in cleaning and housekeeping roles). A variety of communication and computer literacy skills are the top core skills, in common with many of the job families (Table
3.7). The technical skills, however, are where this job family is unique. These skills are very specialised, and include working with mental health and trauma, social work and case management, and other health care technical skills. Due to this specialisation, it is more likely that these skills will be developed through qualification and training pathways.

Table 3.7 Top skills for Community and Social Service job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 162 | Working with mental health | 146 |
| Planning | 95 | Social work | 140 |
| Computer literacy | 70 | Working with trauma | 88 |
| Research | 70 | Case management | 81 |
| Written communication | 50 | Psychology | 76 |
| Mentoring | 49 | Clinical experience | 74 |
| Problem solving | 40 | Occupational therapy | 60 |
| Writing | 37 | Palliative care | 51 |
| Microsoft Office | 30 | Data entry | 37 |
| Critical thinking | 29 | Conflict management | 36 |

### 3.3.5 Customer and Client Support job family

The Customer and Client Support job family is another small job family, with all roles in the Generator cluster, and in customer service roles. While customer service, the top technical skill, is a commonality with the Business Management and Operations and Clerical and Administrative job families, and sales skills are common with the Sales job family, most of the other technical skills are not of a high enough posting volume to state they could be considered a pathway between job families or clusters (Table 3.8). As with the Clerical and Administrative job family, the top core skills focus on communication and organisational skills, problem solving, time management, and teamwork and collaboration. Computer literacy skills are also key core skills.

Table 3.8 Top skills for Customer and Client Support job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | :---: | :--- | ---: |
| Communication skills | 208 | Customer service | 382 |
| Detail-orientated* | 143 | Customer contact | 70 |
| Problem solving | 92 | E-commerce | 35 |
| Time management | 90 | Sales | 32 |
| Teamwork / collaboration | 83 | Salesforce | 30 |
| Microsoft Office | 79 | Order and invoice processing | 27 |
| Microsoft Excel | 78 | Travel industry knowledge | 26 |
| Written communication | 55 | Front office | 24 |
| Computer literacy | 54 | Product management | 24 |
| Verbal / oral communication | 50 | Project management | 9 |

* Aptitude rather than skill.


### 3.3.6 Design, Media, and Writing job family

The smallest job family within the wine industry, roles in the Design, Media, and Writing job family can be found in both Designer and Technologist job clusters, which are also the smallest clusters. These roles include digital content production and design, graphic design, packaging design, and industrial design. Therefore, most of the technical skills are specific to these types of roles, including graphic design and digital design, with little overlap between other families and clusters (Table 3.9). The technical skills bridges here are social media and e-commerce, which are also found in the Marketing and Public Relations job family and the Informer job cluster. Creativity is the top core skill, although this could be considered an aptitude. Creative thinking, however, is a skill.

Table 3.9 Top skills for Design, Media, and Writing job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | :---: | :--- | ---: |
| Creativity* | 68 | Graphic design | 67 |
| Communication skills | 43 | Social media | 32 |
| Teamwork / collaboration | 34 | Digital design | 26 |
| Detail-orientated* | 34 | Typesetting | 18 |
| Organisational skills | 22 | E-commerce | 17 |
| Meeting deadlines | 19 | Content management | 16 |
| Time management | 19 | Prototyping | 15 |
| Problem solving | 12 | UX wireframes | 11 |
| Presentation skills | 11 | Video editing | 9 |
| Research | 11 | Stakeholder management | 8 |
| * Aptituderather |  |  |  |

* Aptitude rather than skill.


### 3.3.7 Engineering job family

Table 3.10 Top skills for Engineering job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :---: | :---: | :---: | :---: |
| Communication skills | 82 | Project management | 68 |
| Problem solving | 81 | Mechanical engineering | 55 |
| Teamwork / collaboration | 74 | Budgeting | 47 |
| Planning | 69 | Stakeholder management | 39 |
| Creativity* | 44 | Due diligence | 37 |
| Mentoring | 32 | Engineering management | 28 |
| Building effective relationships | 29 | Civil engineering | 25 |
| Organisational skills | 25 | Commissioning | 24 |
| Detail-orientated* | 23 | Software development | 20 |
| Leadership** | 22 | Software engineering | 18 |

[^4]** While leadership is a skill, it is also an umbrella term for a range of other skills.

The Engineering job family is also found in the Designer job cluster, although there is little technical skill overlap with the Design, Media, and Writing job family (Table 3.10). Unsurprisingly, most of the technical skills for this job family revolve around engineering, although there are also management skills (including project and stakeholder management). The top core skills are very focused on effective communication and relationship management, as well as organisational skills.

### 3.3.8 Finance job family

The Finance job family is found in the Coordinator cluster, in accounts payable and receivable, finance manager, and payroll roles, as well as in the Informer cluster, where the roles are more analytical, such as accountant and finance analyst. As with the Engineering job family, the technical skills are very specific to the type of role, with accounting and account reconciliations, budgeting, financial analysis, reporting, and accounting, and balance sheets being some of the top technical skills (Table 3.11). The top core skills more closely match the pattern of the Clerical and Administrative job family, so there may be opportunity for technical upskilling for roles from that family.

Table 3.11 Top skills for Finance job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 307 | Accounting | 425 |
| Microsoft Excel | 266 | Budgeting | 256 |
| Detail-orientated* | 259 | Finance | 220 |
| Teamwork / collaboration | 170 | Financial analysis | 145 |
| Problem solving | 120 | Account reconciliation | 141 |
| Planning | 115 | Financial reporting | 121 |
| Organisational skills | 94 | Balance sheet | 106 |
| Microsoft Office | 73 | Financial accounting | 75 |
| Time management | 65 | Stakeholder management | 64 |
| Creativity* | 57 | Payroll processing | 61 |

* Aptitude rather than skill.


### 3.3.9 Hospitality, Food, and Tourism job family

The Hospitality, Food, and Tourism job family is the largest grouping in the wine industry, and the majority of these roles are in the Generator job cluster. They include chefs, event and venue managers, bar staff, restaurant and food service staff, sommeliers, and winery managers. The top technical skills therefore stem from these roles, with the majority being food and beverage service related, like cooking, bartending, customer service, sales, and food safety (Table 3.12). Management skills are also sought after, with restaurant and staff management, budgeting, and cost control in the top ten.

Table 3.12 Top skills for Hospitality, Food, and Tourism job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 3,477 | Cooking | 2,333 |
| Detail-orientated | 1,975 | Bartending | 2,069 |
| Teamwork / collaboration | 1,611 | Customer service | 1,749 |
| Organisational skills | 1,559 | Restaurant management | 1,540 |
| Creativity* | 1,498 | Budgeting | 869 |
| Planning | 1,416 | Staff management | 535 |
| Energetic* | 1,097 | Cost control | 466 |
| Time management | 950 | Sales | 427 |
| Positive disposition* | 791 | Food safety | 394 |
| Leadership | 779 | Stock control | 378 |

* Aptitude rather than skill.

The top core skills have much in common with other front-facing roles, around communication and organisational skills, and teamwork and collaboration. Three of the top ten are aptitudes rather than skills, and more clarity may be helpful in defining the skills that sit behind those assumptions. For example, rather than a positive disposition, problem-solving skills are helpful in finding solutions to challenging situations and support good customer service skills. Additionally, rather than asking for someone who is energetic, someone with time management and organisational skills can be developed to manage tasks efficiently and allocate energy effectively.

### 3.3.10 Human Resources job family

Table 3.13 Top skills for Human Resources job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 177 | Onboarding | 77 |
| Building effective relationships | 110 | Talent acquisition | 70 |
| Organisational skills | 107 | Stakeholder management | 64 |
| Detail-orientated* | 101 | Customer service | 40 |
| Teamwork / collaboration | 82 | Candidate sourcing | 32 |
| Creativity* | 71 | Performance management | 30 |
| Problem solving | 62 | Human resource management | 25 |
| Time management | 39 | Business development | 22 |
| Microsoft Office | 35 | Sales | 22 |
| Microsoft Excel | 32 | Employee relations | 21 |

* Aptitude rather than skill.

The Human Resources job family is around a quarter of the Informer cluster, with roles in people, culture, training and development, and recruitment. Correspondingly, the top technical skills are largely specific to these roles (onboarding, talent acquisition, candidate sourcing, human resources management, and employee relations) (Table 3.13). There is overlap with other job family and cluster roles, however, with stakeholder management, customer service, sales, and business development. The top core skills are focused on communication, interpersonal relationships, and organisational skills, which strongly correlate with the front-facing nature of many human resource roles.

### 3.3.11 Law, Compliance, and Public Safety job family

The Law, Compliance, and Public Safety job family is also in the Informer cluster, and is the secondsmallest job family after Design, Media, and Writing. Within this job family are environmental advisor and compliance roles, and health and safety advisor and manager roles. The technical skills are what you would expect from this level of seniority and responsibility, covering a broad spectrum of safety, compliance, and legal skills (Table 3.14). Pathways from other job families are likely to be limited, with the exception of the Science and Research job family (environmental science). The top core skills are more typical of Informer cluster roles, with a wide range of communication and organisational skills present.

Table 3.14 Top skills for Law, Compliance, and Public Safety job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | :---: | :--- | ---: |
| Communication skills | 88 | Due diligence | 53 |
| Planning | 37 | Environmental management | 43 |
| Writing | 31 | Occupational health and safety | 32 |
| Time management | 25 | Stakeholder management | 30 |
| Creativity* | 23 | Project management | 22 |
| Initiative* | 19 | Environmental science | 19 |
| Microsoft Office | 16 | Legal compliance | 19 |
| Teamwork / collaboration | 15 | Environmental compliance | 17 |
| Research | 15 | Environmental management systems | 13 |
| Detail-orientated | 12 | Iso 9001 standards | 10 |
| * Aptitude rather than skill. |  |  |  |

### 3.3.12 Maintenance, Repair, and Installation job family

Table 3.15 Top skills for Maintenance, Repair, and Installation job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :---: | :---: | :---: | :---: |
| Communication skills | 297 | Forklift operation | 185 |
| Computer literacy | 153 | Predictive / preventative maintenance | 180 |
| Planning | 149 | Electrical work | 133 |
| Teamwork / collaboration | 133 | Scheduling | 105 |
| Problem solving | 125 | SAP | 94 |
| Detail-orientated* | 120 | Budgeting | 46 |
| Troubleshooting | 79 | Maintenance scheduling | 40 |
| Organisational skills | 66 | Welding | 31 |
| Microsoft Office | 62 | Industrial engineering expertise | 29 |
| Time management | 17 | Repair | 29 |

* Aptitude rather than skill.

The Maintenance, Repair, and Installation job family is a trade-based grouping in the Artisan job cluster, and includes carpenters, joiners, electricians, maintenance technicians and fitters, and other service and repair roles. Because of the variety of technical trade skills across these roles, those in the top ten are wide ranging (Table 3.15). Forklift operation is a technical skill in common with many in the Artisan cluster, and scheduling and budgeting are found in a number of other job
families. Core skills reflect the technical elements of this job family, with many being focused on planning skills. Computer literacy is also a top core skill, supported by Microsoft Office as a core skill, and SAP software as a technical skill.

### 3.3.13 Manufacturing and Production job family

Table 3.16 Top skills for Manufacturing and Production job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | :---: | :--- | ---: |
| Communication skills | 717 | Forklift operation | 758 |
| Teamwork / collaboration | 441 | Fermentation | 172 |
| Detail-orientated* | 419 | Wine processing | 171 |
| Planning | 231 | Irrigation | 170 |
| Problem solving | 210 | Quality assurance and control | 147 |
| Organisational skills | 177 | Alcoholic beverage industry knowledge | 109 |
| Time management | 174 | Record keeping | 100 |
| Computer literacy | 149 | Scheduling | 78 |
| Leadership | 101 | Machine operation | 66 |
| Multi-tasking* | 91 | Production management | 57 |

* Aptitude rather than skill.

The largest job family in the Artisan cluster, roles in the Manufacturing and Production job family include winemakers and wine technicians, cellar hands, bottling operators, plant and production operators, supervisors, and managers. Forklift operation is the top technical skill by far, in common with many of the roles in the Agriculture, Horticulture, and Outdoors job family in this cluster, in addition to irrigation (Table 3.16). These two skills could be pathways between job families. Alcoholic beverage industry knowledge, while more knowledge than skill, is shared with the Science and Research job family. The other top technical skills are unique to this job family. Core skills are varied across the three key areas of communication skills, planning, and organising, and teamwork, as well as computer literacy for some roles.

### 3.3.14 Marketing and Public Relations job family

Marketing and Public Relations job family roles are split across the Coordinator job cluster (communications, e-commerce, marketing, and brand specialists and managers) and the Informer job cluster (digital marketing, public relations, social media, and wine education). The difference in the clusters is centred on whether the role is more administrative or more informative, and some businesses may combine the two functions. This flexibility may provide workers within this job family with more pathways within the clusters.

Top technical skills include marketing, social media, stakeholder management, budgeting, and digital marketing (Table 3.17). There is some overlap with the Customer and Client Support job family (ecommerce and product management), as well as the Design, Media, and Writing job family (also ecommerce and social media). The top three core skills are the same as that job family too, with a few more overlaps in the top ten. Additional core skills include planning, building relationships, writing, and presentation skills, highlighting the different focuses across the two job families.

Table 3.17 Top skills for Marketing and Public Relations job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Creativity* | 436 | Marketing | 390 |
| Communication skills | 372 | Social media | 240 |
| Teamwork / collaboration | 310 | Stakeholder management | 196 |
| Planning | 215 | Budgeting | 172 |
| Detail-orientated* | 209 | Marketing management | 128 |
| Organisational skills | 143 | Digital marketing | 112 |
| Problem solving | 132 | Product management | 87 |
| Writing | 116 | Project management | 73 |
| Building effective relationships | 99 | E-commerce | 72 |
| Time management | 95 | Brand planning | 58 |

* Aptitude rather than skill.


### 3.3.15 Planning and Analysis job family

Another smaller job family, Planning and Analysis roles are across the Technologist (data, business, and sustainability analysts, and sustainability managers) and Informer (change management) job clusters. The top technical skills reflect this specialisation, with only stakeholder management and project management in common with other job families (Table 3.18). Top core skills reflect the technical focus of these roles as well, with Microsoft Excel, problem solving, research, and planning all top skills. Additionally, only this job family and the Science and Research job family have analytical skills as a top ten skill.

Table 3.18 Top skills for Planning and Analysis job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 150 | Data analysis | 74 |
| Microsoft Excel | 96 | Stakeholder management | 71 |
| Teamwork / collaboration | 93 | Microsoft Power BI | 65 |
| Creativity* | 81 | Business analysis | 64 |
| Problem solving | 81 | SQL | 54 |
| Planning | 77 | Tableau | 40 |
| Detail-orientated* | 72 | Project management | 34 |
| Research | 39 | Optimisation | 31 |
| Analytical skills | 33 | Business process | 29 |
| Building effective relationships | 29 | Change management | 29 |
| A Aptude rather |  |  |  |

* Aptitude rather than skill.


### 3.3.16 Sales job family

Although far smaller than the Hospitality, Food, and Tourism job family, the Sales job family is the second largest, and is also in the Generator job cluster. Roles in this job family include account and territory managers, business development managers, cellar door hosts and attendants, merchandisers, product demonstrators, and a range of retail and sales roles. Consequently, the top ten technical skills are very focused on the skills necessary for this environment, including sales, business development, retail operations, customer service, and sales, account, and store
management (Table 3.19). Core skills are largely focused on communication, organisation, and teamwork/collaboration, however, like the Hospitality, Food, and Tourism job family, there are a number of aptitudes as proxies for skills in the top ten.

Table 3.19 Top skills for Sales job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 1,103 | Sales | 1,495 |
| Organisational skills | 552 | Sales management | 509 |
| Teamwork / collaboration | 531 | Business development | 425 |
| Detail-orientated** | 497 | Budgeting | 369 |
| Building effective relationships | 467 | Customer service | 345 |
| Planning | 430 | Sales goals | 307 |
| Creativity* | 418 | Store management | 254 |
| Energetic* | 288 | Merchandising | 220 |
| Problem solving | 220 | Account management | 219 |
| Time management | 212 | Product knowledge | 176 |

* Aptitude rather than skill.


### 3.3.17 Science and Research job family

Table 3.20 Top skills for Science and Research job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Communication skills | 179 | Data entry | 64 |
| Detail-orientated* | 158 | Customer service | 51 |
| Problem solving | 82 | Laboratory equipment | 48 |
| Teamwork / collaboration | 82 | Calibration | 46 |
| Planning | 53 | Plant pathology | 45 |
| Analytical skills | 48 | Environmental science | 35 |
| Meeting deadlines | 43 | Resource management | 29 |
| Organisational skills | 39 | Alcoholic beverage industry knowledge** | 28 |
| Time management | 37 | Quality assurance and control | 27 |
| Computer literacy | 36 | Environmental management | 17 |

* Aptitude rather than skill.
** Knowledge rather than technical skill.
The Science and Research job family is largely part of the Informer job cluster (scientists, technologists and technicians, researchers, laboratory staff, and horticultural entomologists), with research and laboratory management roles in the Coordinator job cluster. A smaller job family, Science and Research is another of the more specialised job families with only small overlaps in technical skills, including data entry, customer service, quality assurance and control, and environmental management (Table 3.20). Otherwise, top technical skills are varied across laboratory research, calibration, environmental science, and pathology. Core skills are in line with those needed for analytical roles, however, teamwork and collaboration indicate interpersonal skills are still highly valued in these technical roles.


### 3.3.18 Transport job family

Table 3.21 Top skills for Transport job family, 2013-2023

| Top 10 core skills | Job postings | Top 10 technical skills | Job postings |
| :--- | ---: | :--- | ---: |
| Detail-orientated* | 83 | Customer service | 58 |
| Communication skills | 64 | Forklift operation | 56 |
| Physical demand** | 55 | Passenger transport | 28 |
| Organisational skills | 52 | Bus driving | 27 |
| Teamwork / collaboration | 35 | Health and safety standards | 21 |
| Positive disposition* | 32 | Customer contact | 12 |
| Creativity* | 23 | Sales | 12 |
| Planning | 23 | Scheduling | 10 |
| Time management | 23 | Ethanol | 9 |
| Written communication | 13 | Fertilisers | 3 |
| * Aptitude rather than skill. |  |  |  |
| ** Work condition/environment rather than skill. |  |  |  |

The Transport job family is the smallest in the wine industry, with driving roles part of the Coordinator job cluster. As with other clusters, there are aptitudes acting as proxies for core skills, although the three main areas of communication, teamwork, and organisation are covered (Table 3.21). Technical skills are either customer- or task-focused, and qualifications are inferred by some of these.

### 3.4 Interactive dashboard

Using the Lightcast data, we developed an interactive dashboard highlighting the top 20 core skills and top 20 technical skills from 2013 to 2023, and mapped these across the seven job clusters. There is a drop-down menu to isolate skills for a particular cluster. Figure 3.1 is a screenshot of the core skills area of the dashboard.

Because of the diversity of job roles and tasks, these technical skills range from:

- Customer service and sales - Top technical skills overall, and top two for the Generator and Carer clusters
- Forklift operation - Top technical skill for the Artisan and Coordination clusters
- Accounting - Top technical skill for the Informer cluster
- Project management - Top technical skill for the Designer cluster
- Stakeholder management - Top technical skill for the Technologist cluster.

This dashboard can be found at the New Zealand Winegrowers and Wine Marlborough websites.

## Time series of skill growth

Using the growth rates in both core and technical skills listed in job advertisements from 2013 to 2023, we forecast growth rates through to 2030 for the 40 skills mapped on the dashboard. The prevalence of the top skills is unlikely to change substantially, and the focus should be on "soft" core skills, particularly in communication. For example, communication skills are both foundational and complementary skills for customer service and sales technical skills, enhancing customer interactions and engagement, enabling empathy, and improving the ability to provide tailored solutions. Organisational skills also contribute to these technical skills, as well as accounting, project management, and stakeholder management, and are crucial for the attention to detail and time management, needed for forklift operations.

Figure 3.1 Screenshot of dashboard, core skills


## 4 Survey data on wine industry skills

We undertook an extensive survey of wine industry employers (Appendix B Methodology). The section on skills and training was the most substantial in the survey, and was intended to be the backbone of mapping the skills needed for current and future wine industry activities. In particular, it was designed to help map the range of duties and skills across the wine industry, from growers to labour supply to support services to wineries, and provide a baseline for what jobs make up the wine workforce.

Survey respondents were asked to use the position descriptions of their workers directly engaged in wine industry activities, as well as a list of support employees, e.g., human resources and finance roles. Workers directly engaged in wine industry activities include vineyard and winery workers, as well as laboratory technicians, mechanical engineers, machine operators, growers, bottling and logistics specialists, wine marketers, and anyone who has specialised viticulture skills and experience.

Insufficient responses were provided in this section, however, for the intended mapping to take place. Additionally, some job titles did not have any skills listed, and the majority had aptitudes, experience, knowledge, and qualifications listed for the requested core and technical skill fields. Therefore, transitions between job families and clusters with overlapping skills cannot be fully understood with this survey data. The survey data should be interpreted with caution due to its low response rate.

The data is helpful for a high-level overview of what employers are looking for, though. Some of the key areas reported by survey respondents that are crucial for various roles within the wine industry, ranging from vineyard operations to winemaking and laboratory analysis, include:

- Practical winery and vineyard experience, including a strong technical background in a production-based business environment and knowledge of winemaking equipment
- Understanding of vine physiology, phenology, pest management, and general knowledge of farming and horticultural systems
- Competence in laboratory procedures relating to wine, with a strong knowledge of winemaking science and practices
- Commercial business acumen, computer literacy, and a focus on quality with meticulous attention to detail
- Experience in cellar work, vineyard operations management, and a demonstrated understanding of wine quality management systems
- Technical winemaking knowledge, experience with bottling and packing machinery, and understanding of physical and mechanical processes
- Operational planning experience, client relationship management, and a strong understanding of winemaking processes, including legislation and compliance
- Proficiency in machinery management, people management skills, and effective communication and planning skills
- Knowledge and experience in sustainable practices, pest and disease monitoring, and the ability to perform crop estimates and set up laboratory trials
- Regulatory knowledge, including an understanding of legislation (New Zealand and overseas), and the ability to conduct accurate lab analysis and trials.


### 4.1 Job clusters and families represented in wine industry survey

A total of 506 job roles were provided by survey respondents, with at least one core and/or technical skill provided to enable analysis of 430 job roles. The job roles were then organised by job cluster (Table 4.1) and job family (Table 4.2) for both Marlborough and the rest of the country.

The Artisan job cluster had the highest representation in the survey responses, a different representation from the Lightcast data representation, where the Generator cluster was highest (Table 3.1). Artisan job cluster roles represented 70.7 percent of the job data provided in Marlborough and 74.4 percent for the rest of the country. This is likely to have to do with the profiles of the business types that completed the survey (Table 6.1). The Coordinator job cluster was the next highest, with 57 job roles overall, or 12.3 percent of Marlborough job roles and 9.3 percent of job roles from the rest of the country. Skill data for Carer, Technologist, and Designer job clusters was minimal in the survey.

Table 4.1 Number of roles in survey, by job cluster

| Job cluster | Marlborough | Rest of country |
| :---: | ---: | ---: |
| Artisan | 236 | 128 |
| Carer | 1 | 2 |
| Coordinator | 41 | 16 |
| Designer | 8 | 3 |
| Generator | 22 | 13 |
| Informer | 24 | 9 |
| Technologist | 2 | 1 |
| Total | 334 | 172 |

With the Artisan job cluster so highly represented in the survey skill data, it makes sense that the Agriculture, Horticulture, and Outdoors job family was also the top job family, with 200 job roles providing information on skills. One third of Marlborough job roles ( 33.5 percent) and half of job roles from the rest of the country ( 51.2 percent) are represented in the survey data. This is a very different picture from the Lightcast data, where the Agriculture, Horticulture, and Outdoors job family was not as well represented in job postings (Table 3.2).

The second highest number of roles was in the Manufacturing and Production job family, which was the third highest in the Lightcast data. Skill data on this family was provided by 120 job roles, representing 27.5 percent of Marlborough and 16.3 percent of the rest of the country. As with job clustering, some job families have minimal representation in the survey data, including single-digit responses for a number of job families.

Table 4.2 Number of roles in survey, by job family

| Job family | Marlborough | Rest of country |
| :--- | ---: | ---: |
| Agriculture, Horticulture, and Outdoors | 112 | 88 |
| Business Management and Operations | 35 | 13 |
| Clerical and Administrative |  | 1 |
| Community and Social Services | 3 | 1 |
| Customer and Client Support | 8 | 1 |
| Engineering | 11 | 3 |
| Finance | 2 | 1 |
| Hospitality, Food, and Tourism | 1 | 2 |
| Human Resources | 34 |  |
| Law, Compliance, and Public Safety | 92 | 13 |
| Maintenance, Repair, and Installation | 2 | 28 |
| Manufacturing and Production | 2 | 1 |
| Marketing and Public Relations | 11 | 1 |
| Planning and Analysis | 21 | 11 |
| Sales | 334 | 8 |
| Science and Research |  | 172 |
| Total |  |  |

### 4.2 Core skills from wine industry survey

The most common core skills across job roles in the wine industry, according to the survey data, include:

1. Communication: Essential for almost every role, from winemaking to vineyard management, ensuring effective teamwork, clear instructions, and successful stakeholder relationships.
2. Planning and organising, including problem solving, time management, attention to detail, and decision making: Critical for managing the various operational, logistical, and strategic aspects of wine production and vineyard management; for meeting the seasonal and operational deadlines that are critical in the wine industry, ensuring that tasks are completed efficiently; and for ensuring the quality of wine through vineyard management, winemaking processes, and laboratory analysis.
3. Teamwork: Important for fostering a collaborative work environment, crucial in roles ranging from machinery operation to laboratory analysis and management positions. Leadership is also important for roles that involve managing teams, driving projects, and leading operations within the vineyard and winery.

This data supports the findings from the Lightcast data, and shows these skills are foundational across a wide range of roles within the wine industry, reflecting the diverse and complex nature of wine production and sales.

### 4.2.1 Regional analysis of core skills

The top four core skills noted across Marlborough (Table 4.3) and the rest of the country (Table 4.4) are identical: communication skills, teamwork and collaboration, organisational skills, and planning. There are a few variations in the rest of the top ten, although the small number of job titles provided for roles outside of Marlborough means that making generalisations may not be helpful.

Table 4.3 Top 10 core skills from survey, Marlborough

| Core skills | Times skill noted in survey |
| :--- | ---: |
| Communication skills | 92 |
| Teamwork / collaboration | 80 |
| Organisational skills | 43 |
| Planning | 40 |
| Time management | 37 |
| Problem solving | 34 |
| Computer literacy | 33 |
| People management | 32 |
| Leadership | 31 |
| Decision making | 19 |

Table 4.4 Top 10 core skills from survey, rest of country

| Core skills | Times skill noted in survey |
| :--- | ---: |
| Communication skills | 52 |
| Teamwork / collaboration | 30 |
| Organisational skills | 23 |
| Planning | 19 |
| People management | 15 |
| Computer literacy | 14 |
| Time management | 12 |
| Physical demand* | 9 |
| Decision making | 8 |
| Literacy | 8 |
| ** Work condition/environment rather than skill. |  |

### 4.3 Technical skills from wine industry survey

The ten most common technical skills across job roles in the wine industry from the survey responses are:

1. Machinery operation: Proficiency in operating various machinery, including tractors, harvesters, and specialised winery equipment
2. Computer literacy: Skills in using computers, including software like Excel, Word, Outlook, and industry-specific software for data management and reporting
3. Viticulture practices: Understanding the vineyard lifecycle, pest, and disease monitoring, pruning, and canopy management
4. Winemaking techniques: Proficiency in all aspects of winemaking, from fermentation to bottling, including quality control and wine tasting
5. Lab analysis: Ability to conduct laboratory work, including chemical and microbiological analyses, to ensure wine quality
6. Technical expertise with vineyard and winery equipment: Knowledge of and ability to operate, maintain, and repair vineyard and winery equipment
7. Health and safety: Understanding of health and safety regulations, including hygiene standards in food and beverage production
8. Quality control and assurance: Skills in quality management systems, environmental protection, and pollution prevention, ensuring product meets set standards
9. Engineering and maintenance: Skills in structural repairs, maintenance, fabrication, and understanding of engineering principles applicable to winery operations
10. Digital competence: Ability to manage databases, systems, and digital tools for efficient operation and communication within the industry.

These technical skills are crucial for the efficient operation of vineyards and wineries, and for the practical aspects of wine production and quality control, ensuring the production of high-quality wine and the sustainable management of resources.

### 4.3.1 Regional analysis of technical skills

There is more regional variation in technical skills between Marlborough (Table 4.5) and the rest of the country (Table 4.6), although again, with a small number of detailed responses from outside of Marlborough. Machine operation is the top technical skill nationwide, with wine processing second in Marlborough (and nationwide overall) and tenth in the rest of the country. Occupational health and safety is also third in Marlborough (and nationwide overall), and sixth in the rest of the country. Oenology is listed as a technical skill in many job descriptions, and comes in fifth overall, but it could be considered technical knowledge, rather than a skill developed from application of that knowledge.

Table 4.5 Top 10 technical skills from survey, Marlborough

| Technical skills | Times skill noted in survey |
| :--- | ---: |
| Machine operation | 47 |
| Wine processing | 30 |
| Occupational health and safety | 29 |
| Operations management | 21 |
| Oenology | 14 |
| Laboratory testing | 12 |
| Customer service | 11 |
| Farm management | 11 |
| Forklift operation | 10 |
| Quality assurance and control | 10 |

Table 4.6 Top 10 technical skills from survey, rest of country

| Technical skills | Times skill noted in survey |
| :--- | ---: |
| Machine operation | 28 |
| Oenology | 10 |
| Customer service | 8 |
| Operations management | 8 |
| Predictive / preventative maintenance | 8 |
| Occupational health and safety | 7 |
| Business systems | 6 |
| Laboratory testing | 6 |
| Tractor driving | 6 |
| Wine processing | 6 |

## 5 Survey responses on future workforce opportunities and risks

Survey respondents were asked to identify potential workforce opportunities and workforce risks for their business and for the wine industry in the next three to five years. These questions were open-text fields, which meant respondents could write freely. This section of the report outlines a summary of these opportunities and risks (Table 5.1).

Table 5.1 Summary of future workforce opportunities and risks

|  | For businesses | For industry |
| :---: | :---: | :---: |
| Workforce opportunities | - Growing, attracting, upskilling staff <br> - Embracing automation and technology <br> - Increasing commitment to sustainability <br> Expanding into new areas | - Workforce skill and capability development <br> - Increasing automation to improve productivity <br> - More sustainable production practices |
| Workforce risks | - Seasonal workforce challenges <br> - Training not aligned with future skill needs <br> - Adapting to new ways of operating. | - Skilled and RSE staff shortages <br> - Competition in labour market <br> - Rising costs and overheads |

### 5.1 Potential workforce opportunities

### 5.1.1 For businesses

Workforce opportunities identified by businesses fall into three broad and overlapping themes:

- Labour opportunities
- Workforce development
- Business growth and strategies.


## Labour opportunities

There is a growing focus on various roles, including vineyard jobs, sales and marketing, wine tourism, and winery jobs, reflecting the diverse needs of the wine industry. Businesses are looking to shift towards employing in-house workers for tasks, like pruning and harvesting, aiming to upskill existing staff, and attracting young talent to settle in the region. Initiatives offering incentives and rewards are being implemented to attract and retain talent, and are likely to increase.

## Workforce development

Businesses are embracing automation, artificial intelligence (AI), and technological advancements to streamline processes, reduce labour requirements, and create new, more technical roles. This trend is driving a need for hiring digitally skilled staff. Higher-skilled roles and remote workforce opportunities are part of this picture. Talent development is being prioritised, leading to the evolution of existing roles into higher-value positions driven by technological advancements and automation.

Increasing emphasis is being placed on productivity enhancement, online learning platforms, and creating year-round workflow, along with exploring collaborative work opportunities for increased efficiency. There's also potential for creating new positions with environmental responsibilities, such as roles in regenerative viticulture, due to climate change.

## Business growth and strategies

Businesses anticipate growth and expansion plans into new territories, including Australia, which calls for additional staffing. They are also intensifying sales efforts and targeting new clientele to drive growth.

Environmental responsibilities are being integrated into specific roles, reflecting a commitment to sustainability, and reducing the carbon footprint. Technology is increasingly being leveraged for sales growth and enhancing customer interactions.

### 5.1.2 For the wine industry

Potential workforce opportunities for the wine industry are focused on:

- Optimising labour
- Changing practices within the industry.


## Labour optimisation

Businesses see labour optimisation as presenting significant opportunities for the wine industry to address workforce challenges and enhance productivity. Leveraging initiatives, like the Recognised Seasonal Employer (RSE) scheme, and attracting backpackers are seen as opportunities to provide a reliable source of seasonal labour.

Aligning industry training programmes with the required future skills and capabilities ensures a skilled workforce ready to meet evolving industry needs. Additionally, attracting skills from different regions or overseas, and introducing new skill sets can foster innovation and enrich the industry's talent pool.

Businesses also see an increased focus on automation for vineyard tasks as not only improving efficiency, but also creating higher-skilled jobs, replacing manual labour and administrative roles. Introducing new roles, particularly in automation, is seen as a way of further enhancing productivity, enabling the industry to adapt to technological advancements.

## Changing wine industry practices

The wine industry is undergoing transformative changes by adopting innovative practices to enhance efficiency, sustainability, and appeal. Embracing robotics, genetics, AI, and automation in vineyard and winery operations are ways businesses see productivity improving while minimising environmental impact. Practices such as composting grape marc and reducing waste contribute to sustainability efforts. There are opportunities to take a greater lead as an industry in decarbonisation, waste reduction, ethical employment, capability building, and setting standards for sustainability.

This emphasis on environmental considerations and sustainable practices underscores the industry's commitment to responsible production. These evolving practices signify a dynamic shift towards a more efficient, sustainable, and environmentally conscious wine industry. Additionally, expanding winemaking styles, techniques, and varieties, coupled with global marketing expertise, are seen as opportunities to attract a younger workforce and remain competitive.

### 5.2 Potential workforce risks

### 5.2.1 For businesses

Workforce risks identified by businesses include:

- Labour constraints
- A lack of skill development and training initiatives
- Operating challenges.


## Labour constraints

Challenges in obtaining seasonal workers persist, particularly in roles such as machinery operators, irrigation technicians, and vineyard operators, which highlights a significant shortage in these areas. Businesses expressed concerns regarding reliance on the RSE scheme and backpackers. Complexity within the RSE scheme poses potential risks for smaller operators, potentially excluding them from the scheme. Businesses suggest that scheme expansion and accommodation of other industries are proposed to mitigate these risks. Embracing modern, sustainable practices and environmentally friendly solutions, and diversifying operations are highlighted as strategies to attract a younger workforce.

## Skill development and training initiatives

Businesses perceive that there is a lack of strategies to attract skills from other regions or overseas, and that training is not aligned with their future skill needs. Businesses also express a need for new skills in regenerative roles, Power BI experts, and water management. Initiatives such as education subsidies for wine studies, organising work expos and open days, and focusing on skill enhancement through new roles and automation are offered as ways to address skill development needs.

## Operating challenges

Businesses are facing challenges related to the integration of robotics, genetics, and AI/technology for automation, waste reduction, and efficiency improvement within their operations. Prioritisation of compliance, advocacy, climate adaptation and decarbonisation, ethical employment, and water management are among the key business challenges identified by businesses.

### 5.2.2 For the wine industry

Potential workforce risks for the wine industry are also largely focused on labour constraints, with some concern about operational economic risks (e.g., potential threats to financial stability and performance).

## Labour constraints

Labour constraints pose significant workforce risks for the wine industry. There is a lack of experienced vineyard and machinery operators, as well as managers (due to retirements). This is coupled with complications in equipment maintenance and repair due to the shortage of trained staff.

Businesses think challenges in attracting both skilled and unskilled labour will persist due to low interest in the industry and fierce competition for talent within and outside the industry. The potential inability of employees to adapt to new technology may further exacerbate labour constraints, along with high turnover rates within the workforce.

Businesses also see risks associated with any reduction or restriction in the number of RSE workers allowed into New Zealand, leading to potentially escalating costs of RSE labour on top of heavy reliance on this scheme for essential labour.

## Operational economic risks

Operational economic risks pose significant challenges for the workforce in the wine industry. Rising labour costs, encompassing wages and overheads, along with escalating industry expenses, are squeezing profitability. This situation is exacerbated by inflation and excise tax increases, further straining the financial viability of wine industry businesses, and impacting their ability to retain and attract skilled workers. There are also ongoing localised issues related to accommodation and housing shortages for the wine workforce, with no clear solution in sight given that housing is a nationwide issue. This not only affects the well-being of workers, but also hinders recruitment efforts and may lead to increased turnover rates within the industry.

## 6 Survey responses on business operations

### 6.1 Turnover

This section of the survey asked about employee turnover. While there is no specific data to benchmark these survey responses against for the wine industry, exit interviews are considered valuable tools for understanding employee turnover - why employees leave and where they go and improving organisational practices.

Figure 6.1 shows the percentage of survey respondents who did and did not undertake exit interviews, by business type. Growers are the least likely to be undertaking exit interviews ( 31.2 percent yes), while industry providers ( 71.4 percent), wineries ( 66.7 percent), and winegrowers ( 60.0 percent) regularly use exit interviews.

Figure 6.1 Does your business undertake exit interviews with members of staff who leave the business?


In terms of the number of exit interviews, growers undertook 14, wineries 28 , industry providers 104, and winegrowers 112 interviews in the previous 12 months. This is a total of 258 exit interviews across respondents. For permanent staff members leaving the business, the main reasons for leaving were provided in 42 of these interviews. The reasons given for leaving the wine industry, included:

- Dissatisfaction with their role, team, or manager; lack of career advancement opportunities or location
- Lifestyle changes, including leaving the region or country; family or personal reasons; retiring; or health reasons
- Seeking opportunities outside the industry, including a better salary package, or wanting a change of industry
- Other career changes include studying or buying a business.

Respondents were also asked how many permanent staff members they were aware of who exited the industry in the last 12 months (Figure 6.2). The figures range from five for industry providers, 11 for growers, 12 for wineries, and 27 for winegrowers. Wineries also reported 46 non-permanent staff leaving the industry in the last 12 months, while growers counted 163 non-permanent staff leaving. Hospitality, fast-moving consumer goods, administration, and agriculture were all mentioned as destinations for non-permanent staff, although moving overseas was the dominant destination.

Figure 6.2 How many permanent staff are you aware of exited the industry?
For


Businesses were also asked what percentage of their seasonal staff from previous years returned to their business this year. Answers ranged from 0 to 100 percent, with the average being 27.8 percent and the median being 14.5 percent. The low median and average indicate a lower rate of return for many seasonal workers.

Respondents were also asked about the impact on their business operations of vacancies. While some businesses said there was no impact, and others said workforce shortages had existed for as long as they had been in the industry, vacancies in the workforce had significant consequences on business operations for others. In particular, increased workloads and the need for staff to work extra hours and overtime are common, leading to decreased productivity and potential burnout among existing employees. Delays in tasks and maintenance due to increased workload and responsibility for other roles can affect the overall performance and output of the business.

Some businesses feel the reliance on contractors to fill the gaps in the workforce can result in additional expenses and potential quality control issues. Additionally, the recruitment process itself can be time-consuming and costly, further impacting operational efficiency. On the whole, workforce vacancies are not only straining existing staff but also hindering businesses' ability to meet customer expectations, pursue new opportunities, and maintain operational excellence.

### 6.2 Succession planning

A succession plan is a record of a strategic process that identifies how key leadership positions will be filled in an organisation, to ensure capable staff can step into crucial roles when needed. While it is often thought of as being for owners of family-run businesses, it's vital for all businesses to be proactive in developing leadership potential in their organisation. Succession plans ensure continuity by facilitating talent development and recognising future leaders, while also strengthening organisational resilience and mitigating risks from key personnel departures. More winegrowers have a succession plan in place or in development ( 78.9 percent), while fewer growers do (53.3 percent) (Figure 6.3). Only one of the industry goods and service provider respondents does not have a succession plan, while all wineries do.

Figure 6.3 Does your business have a succession plan?


### 6.3 Leave liability

Leave liability is the dollar value of leave that is paid to an employee at their final pay, usually the accumulated balance of annual leave, alternative leave, and leave accrued for working a public holiday. Accumulated leave liability can strain a business's cashflow, and managing employee leave entitlements effectively is associated with employee wellbeing and engagement, and operational continuity. Survey respondents were asked about their concern with leave liability to better understand if anecdotes about staff not being able to take leave were borne out. While most respondents are not concerned with the level of leave liability in their business, there was variation across the business types (Figure 6.4). Overall, a third of respondents ( 37.0 percent) are concerned about their leave liability.

Figure 6.4 Is your business concerned with its current level of leave liability?


### 6.4 New business roles

Two-thirds of survey respondents have created new job roles in the last three years, particularly winegrowers (Figure 6.5).

Figure 6.5 Has your business created any new job roles in the last three years?


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New job roles created by individual businesses in the last three years can be categorised as follows:

- Leadership and management roles across:
- Safety
- People, including culture, recruitment and mobility, and workforce planning and partnerships
- Finance
- Business, including key account managers
- Brand, including marketing and events
- Information Technology
- Sustainability
- Winemaking
- Viticulture and Vineyard, including assistant manager roles
- Co-ordination roles:
- Health and safety
- People and culture advisors and coordinators
- Viticulture and vineyard operations:
- Operators, including Autonomous Vineyard Tractor (AVT) operator
- Technicians
- Machinery trainers
- Regenerative viticulturist
- Precision viticulture advisor
- Winery operations:
- Cellar supervisor
- Cellar hand
- Production winemaking
- Logistics and business operations:
- Logistics
- Administrator
- Finance and payroll administration
- Finance business partner
- Digital marketing specialist.


## Appendix A Survey responses on business demographics

This section includes a range of business demographics, including:

- Location of operations (Table 6.1)
- Wineries (including contract winemakers) - Number of litres produced per year (Table 6.2)
- Vineyards - Number of hectares currently in production (Table 6.3)
- Provider of support services to the wine industry - An estimate of the percentage of business by time generated from the wine industry (Table 6.4)
- All businesses - Headcount of direct employees by type (e.g., full-time, and part-time employees, seasonal workers, casual workers) (Table 6.5 and Table 6.6).

Some of the businesses have multiple locations, so the total counts in Table 6.1, Table 6.2, and Table 6.3 add up to more than the 199 businesses responding to the survey.

Table 6.1 Regional representation of survey, by business type

| Regions | Types of Business | Count |
| :--- | :--- | :---: |
| Auckland and Northland | Grower | 1 |
| Auckland and Northland | Winery | 1 |
| Auckland and Northland | Winegrower | 16 |
| Auckland and Northland | Industry provider | 3 |
| Hawke's Bay | Grower | 6 |
| Hawke's Bay | Winery | 3 |
| Hawke's Bay | Winegrower | 17 |
| Hawke's Bay | Industry provider | 6 |
| Rest of the North Island | Grower | 4 |
| Rest of the North Island | Winegrower | 14 |
| Rest of the North Island | Industry provider | 2 |
| Marlborough | Grower | 36 |
| Marlborough | Winery | 16 |
| Marlborough | Winegrower | 49 |
| Marlborough | Industry provider | 21 |
| Rest of the South Island | Grower | 6 |
| Rest of the South Island | Winery | 4 |
| Rest of the South Island | Winegrower | 29 |
| Rest of the South Island | Industry provider | 3 |

Table 6.2 Wineries (including contract winemakers), by number of litres produced per year, represented in survey

| Types of Business | Litres of Wine | Count |
| :--- | :--- | :---: |
| Winery | Category I | 5 |
| Winery | Category II | 4 |
| Winery | Category III | 5 |
| Winery | Contract Winemaker | 4 |
| Winegrower | Category I | 20 |
| Winegrower | Category II | 18 |
| Winegrower | Category III | 25 |

Table 6.3 Vineyards, by number of hectares currently in production, represented in survey

| Types of Business | Vineyards | Count |
| :--- | :--- | :---: |
| Grower | Less than 5 hectares | 9 |
| Grower | 5 to 20 hectares | 17 |
| Grower | 21 to 50 hectares | 8 |
| Grower | 51 to 200 hectares | 14 |
| Grower | More than 200 hectares | 5 |
| Winegrower | Less than 5 hectares | 5 |
| Winegrower | 5 to 20 hectares | 7 |
| Winegrower | 21 to 50 hectares | 10 |
| Winegrower | 51 to 200 hectares | 12 |
| Winegrower | More than 200 hectares | 28 |

Table 6.4 Breakdown of business activity of industry goods and services providers represented in survey ${ }^{5}$

| Main business activity | Marlborough | Rest of country |
| :--- | :--- | :--- |
| Vineyard management | 8 |  |
| Labour supply | 4 |  |
| Machinery / equipment supply or servicing | 6 |  |
| Engineering | 4 |  |
| Water | 1 |  |
| Training | 1 |  |
| Transport | 5 |  |
| Logistics and storage | 2 |  |
| Bottling | 3 |  |
| Research and development | 1 |  |
| Other services | 5 |  |

[^5]Table 6.5 Number of current employees directly employed by survey respondents, by region and employment type

| Regions | Full-time <br> permanent | Part-time <br> permanent | Full- <br> time <br> contractor | Part-time <br> contractor | Seasonal <br> RSE | Seasonal <br> backpacker | Seasonal <br> other | Casual |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | Other

Table 6.6 Number of employees directly employed by survey respondents in last 12 months, by region and employment type

| Regions | Fulltime permanent | Parttime permanent | Fulltime contractor | Part-time contractor | Seasonal RSE | Seasonal backpacker | Seasonal other | Casual | Other |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Auckland and Northland | 377 | 26 | 0 | 0 | 0 | 0 | 0 | 26 | 45 |
| Hawke's Bay | 238 | 45 | 0 | 0 | 1,215 | 0 | 416 | 32 | 33 |
| Rest of the North Island | 48 | 14 | 0 | 0 | 10 | 0 | 42 | 38 | 28 |
| Marlborough | 1,327 | 74 | 0 | 0 | 847 | 0 | 780 | 279 | 230 |
| Rest of the South Island | 264 | 57 | 0 | 0 | 88 | 0 | 95 | 224 | 2 |

## Appendix B Methodology

## Lightcast data

Lightcast (formerly Burning Glass Technologies) is a labour market analytics company that provides real-time data on job market trends, skill demand, and workforce development insights. The Lightcast dataset, sourced from millions of online job postings, provides detailed information on job requirements, including industry codes, location, posting date, employer name, education, professional experience, and skills, enabling granular analyses across occupations, sectors, and locations, and enabling earlier detection of emerging trends. Lightcast analyses job vacancy text to identify necessary skills, standardising information by removing duplicates and spelling differences, except for British versus US English and acronyms.

This results in a list of keywords, which are then translated to skills required to perform certain jobs. These keywords include core and technical skills (e.g., "analytical skills"), as well as knowledge (e.g., "food safety" or "environmental policy"), and aptitudes (e.g., "detail-oriented"). A preliminary assessment suggests that skill keywords primarily capture all the conceptual elements noted in Section 2.2). Some job postings have no skill requirement information (stable across the years at approximately 10 percent). While it is possible that the requirements of some jobs are implicitly conveyed through the job title, qualification, or education requirements, it may also be a further indication of the need for capability development in writing job descriptions and job advertisements.

For this project, we analysed labour insights data through the Lightcast platform, using keyword searches on viticulture, vineyard, and wine-related terms, as well as searching under the Australian and New Zealand Standard Classification of Occupations (ANZSCO) classifications and Lightcast's own job family classifications.

The first step was to allocate job titles, and their associated job families, to job clusters. We evaluated the job titles, families, and clusters with a working group. Once the final categorisation was confirmed by the working group (Appendix C Job clusters, job families, and occupations), data on all relevant job advertisements from 2013 to 2023 was downloaded. Core skills and technical skills were identified and categorised, both according to the job titles and the job clusters.

This analysis was used to identify the most in demand core and technical skills, and to develop the dashboard (Section 2.3). We have also provided Wine Marlborough with data on the top skills, qualifications, and experience requirements for wine industry jobs by job title and job family.

## Survey of wine industry businesses

From 4 September to 6 November 2023, Wine Marlborough conducted an online survey. Business and Economic Research Limited (BERL) designed and conducted the survey, analysed findings, and authored this report.

We undertook a pilot phase in Marlborough with businesses representative of the wine industry, before rolling out the survey nationally. The pilot survey enabled us to test the survey and gain feedback on the survey process and questions.

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Quantitative and administrative data from survey responses was analysed using statistical analysis techniques, and the open text responses were analysed using narrative thematic analysis. The data was disaggregated by business segments to enable comparisons.

A total of 199 respondents started the survey, with 47 completing the entire survey. In the report, percentages have been rounded to whole numbers and may not add up to 100 percent. Percentages may add up to more than 100 percent, where respondents could select more than one answer. The data provided by respondents is reported in the combined results.

## Appendix C Job clusters, job families, and occupations

| Cluster | Job title | Alternative title | Alternative title | Alternative title | Job family |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Artisan | Farm / Nursery / Greenhouse Worker | Nursery/grafting | General Farm Worker |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Farm Hand | Farm Work | Cropping Farm Hand | Mixed Crop and Livestock Farm Worker | Agriculture, Horticulture, and Outdoors |
| Artisan | Farm Manager | Assistant Manager | Assistant Farming Manager |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Forklift Driver | Forklift Operator | Forklift / Pallet Jack Operator |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Irrigation Technician | Irrigation Manager |  |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Landscaping / Groundskeeping Worker | Gardener | Grounds Person |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Tractor Driver | Tractor Operator | Machinery Operator | Heavy Equipment Operator | Agriculture, Horticulture, and Outdoors |
| Artisan | Vineyard Manager |  |  |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Vineyard Worker | Labour Contractor | Vineyard Operator | Grape Pickers | Agriculture, Horticulture, and Outdoors |
| Artisan | Viticulture Manager | Assistant Viticulture Manager |  |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Viticulturist | Assistant Viticulturalist |  |  | Agriculture, Horticulture, and Outdoors |
| Artisan | Packager | Pick Packer | Warehouse Packer |  | Business Management and Operations |
| Artisan | Quality Control Systems Manager | Quality Manager | Operations Quality Manager |  | Business Management and Operations |
| Artisan | Carpenter | Leading Hand | Joiner | Cellar Leading Hand | Maintenance, Repair, and Installation |
| Artisan | Diesel Mechanic | Agricultural Heavy Diesel Technician | Diesel Fitter Mechanic | Diesel Motor Mechanic | Maintenance, Repair, and Installation |
| Artisan | Electrician | Electrician | Maintenance Electrician |  | Maintenance, Repair, and Installation |
| Artisan | Fitter / Turner | Maintenance Fitter | Welder / Fabricator | Industrial Mechanic | Maintenance, Repair, and Installation |
| Artisan | Maintenance / Service Supervisor | Maintenance Manager | Maintenance Planner | Maintenance Supervisor | Maintenance, Repair, and Installation |
| Artisan | Maintenance Technician | Maintenance Handyman | Technical Officer |  | Maintenance, Repair, and Installation |
| Artisan | Repair / Service Technician | Service Technician | Technician |  | Maintenance, Repair, and Installation |
| Artisan | Assistant Winemaker |  |  |  | Manufacturing and Production |
| Artisan | Cellar Hand | Cellar Supervisor / Leading Hand | Cellar Master | Cellar Worker | Manufacturing and Production |
| Artisan | Plant Operator | Production Operator |  |  | Manufacturing and Production |
| Artisan | Production Plant Manager | Production Manager | Production Coordinator | Production Supervisor | Manufacturing and Production |
| Artisan | Bottling Operator | Production Worker | Works Operator | Operator | Manufacturing and Production |
| Artisan | Wine Packaging Technician | Manufacturing Machine Operator | Production Filler Operator | Packaging Line Operator | Manufacturing and Production |
| Artisan | Winemaker | Winemaking Director | Oenologist |  | Manufacturing and Production |
| Artisan | Winemaker Planner | Wine Technician |  |  | Manufacturing and Production |


| Cluster | Job title | Alternative title | Alternative title | Alternative title | Job family |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Carer | Counsellor |  |  |  | Community and Social Services |
| Carer | Pastoral Care Worker | Personal Support Workers |  |  | Community and Social Services |
| Carer | Social Services Manager | Social Worker | Social Worker Integrated Care |  | Community and Social Services |
| Carer | Housekeeper | Housekeeping Attendant | Room Attendant |  | Hospitality, Food, and Tourism |
| Carer | Janitor / Cleaner | Cleaner |  |  | Hospitality, Food, and Tourism |
| Coordinator | Buyer / Purchasing Agent | Purchasing Officer | Assistant Wine Buyer | Procurement Analyst | Business Management and Operations |
| Coordinator | Chief Executive Officer | Chief Executive | Managing Director | Executive Director | Business Management and Operations |
| Coordinator | Client Liaison (contract winemaking) |  |  |  | Business Management and Operations |
| Coordinator | Contract Administrator | Procurement And Contracts Officer | Senior Contract Officer | Contract Administration And Customer Relations Coordinator | Business Management and Operations |
| Coordinator | Facilities Manager | Project Manager |  |  | Business Management and Operations |
| Coordinator | General Manager | Assistant Manager | Commercial Manager |  | Business Management and Operations |
| Coordinator | Grower Liaison Officer | Vintage Grower Liaison Officer |  |  | Business Management and Operations |
| Coordinator | Inventory / Supply Specialist | Inventory Controller | Inventory Officer |  | Business Management and Operations |
| Coordinator | Logistics / Supply Chain Analyst | Supply Chain Administrator | Export Operator | Supply Project Specialist | Business Management and Operations |
| Coordinator | Operations Manager | Operations Director | Head of Operations |  | Business Management and Operations |
| Coordinator | Procurement Manager | Assistant Category Buying Manager | Sourcing Manager |  | Business Management and Operations |
| Coordinator | Programme Manager |  |  |  | Business Management and Operations |
| Coordinator | Project Manager | Senior Project Manager | Project Coordinator |  | Business Management and Operations |
| Coordinator | Property / Real Estate / Community Manager | Property Development Manager | Property Manager |  | Business Management and Operations |
| Coordinator | Safety Specialist / Coordinator | Health And Safety Coordinator | Work Health And Safety Coordinator | Wellbeing Health and Safety | Business Management and Operations |
| Coordinator | Scheduler / Operations Coordinator | Production Assistant | Production Line Assistant | Scheduler | Business Management and Operations |
| Coordinator | Supply Chain / Logistics Manager | Logistics Coordinator | Logistics Manager | Training Logistics Coordinator | Business Management and Operations |
| Coordinator | Viticulture Planning Coordinator / Analyst | Production Planner | Demand Planner | Planning Supervisor | Business Management and Operations |
| Coordinator | Warehouse / Distribution Supervisor | Warehouse Team Leader | Warehouse Coordinator | Warehouse Manager | Business Management and Operations |
| Coordinator | Warehouse / Inventory Associate | Store person | Warehouse Assistant | Warehouse Store Person | Business Management and Operations |
| Coordinator | Administrative Manager | Administrator | Administration Manager |  | Clerical and Administrative |


| Cluster | Job title | Alternative title | Alternative title | Alternative title | Job family |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Coordinator | Administrative Supervisor | Front Office Supervisor | Customer Success Manager | Team Administrator | Clerical and Administrative |
| Coordinator | Executive Assistant | Executive Assistant Manager |  |  | Clerical and Administrative |
| Coordinator | Office / Administrative Assistant | Administration Officer | Administration Assistant | Administrative Assistant | Clerical and Administrative |
| Coordinator | Office Manager | Practice Manager |  |  | Clerical and Administrative |
| Coordinator | Receptionist | Front Office Receptionist |  |  | Clerical and Administrative |
| Coordinator | Accounts Payable / Receivable Manager | Accounts Payable Officer | Accounts Receivable Officer | Revenue Officer | Finance |
| Coordinator | Bookkeeper / Accounting Clerk | Bookkeeper | Accounts Administrator | Accounts Officer | Finance |
| Coordinator | Financial Manager | Chief Financial Officer | Commercial Finance Manager | Manager Financial Services | Finance |
| Coordinator | Payroll Specialist | Payroll Officer | Payroll And Finance Coordinator |  | Finance |
| Coordinator | Winery Manager | Winery Operations Manager | General Manager Winery Operations |  | Hospitality, Food, and Tourism |
| Coordinator | Communications / Public Relations Manager | Communications Manager | Campaign Manager |  | Marketing and Public Relations |
| Coordinator | Communications Coordinator | Communications Specialist | Communications Assistant | Digital Communications Officer | Marketing and Public Relations |
| Coordinator | E-Commerce Analyst | Digital Product Manager | E-Commerce Executive | E-Commerce Manager | Marketing and Public Relations |
| Coordinator | Marketing Specialist | Digital Marketing Specialist | Marketing Specialist | Campaign Analyst | Marketing and Public Relations |
| Coordinator | Product Manager | Assistant Brand Manager | Senior Brand Manager |  | Marketing and Public Relations |
| Coordinator | Research and Development Manager | Laboratory Manager |  |  | Science and Research |
| Coordinator | Delivery Driver | Long Distance Driver | Van Driver |  | Transport |
| Coordinator | Truck Driver | Heavy Vehicle Driver | Heavy Rigid Driver | HC Driver | Transport |
|  |  |  |  |  |  |
| Designer | Digital Producer | Digital Content Producer | Producer |  | Design, Media, and Writing |
| Designer | Engineering Manager | Site Reliability Engineer | Principal Engineer |  | Engineering |
| Designer | Industrial Engineer | Senior Engineer | Project Engineer - Foundations |  | Engineering |
| Designer | Mechanical Engineer | Senior Mechanical Engineer | Project Engineer - Mechanical |  | Engineering |
|  |  |  |  |  |  |
| Generator | Customer Service Manager | Service Manager | Customer Experience Consultant | Experience Manager | Customer and Client Support |
| Generator | Customer Service Representative | Customer Service Officer | Customer Service Agent |  | Customer and Client Support |
| Generator | Bartender | Bar Staff | Bar Attendant |  | Hospitality, Food, and Tourism |
| Generator | Chef | Chef/Cook | Head Chef |  | Hospitality, Food, and Tourism |
| Generator | Event Planner | Venue Manager | Assistant Venue Manager | Event Manager | Hospitality, Food, and Tourism |


| Cluster | Job title | Alternative title | Alternative title | Alternative title | Job family |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Generator | Restaurant / Food Service Manager | Restaurant Manager | Bar Manager | Food And Beverage Manager | Hospitality, Food, and Tourism |
| Generator | Restaurant / Food Service Supervisor | Restaurant Supervisor | Food And Beverage Supervisor | Duty Manager | Hospitality, Food, and Tourism |
| Generator | Sommelier | Wine Waiter | Wine Steward | Waiter / Waitress | Hospitality, Food, and Tourism |
| Generator | Account Executive | Key Account Executive | National Account Executive | Territory Manager | Sales |
| Generator | Account Manager / Representative | Account Manager | National Account Manager | Key Account Manager | Sales |
| Generator | Business Development / Sales Manager | Business Development Manager | Sales Manager | Business Development Executive | Sales |
| Generator | Cellar Door Attendant | Cellar Door Sales | Tasting Room Attendant | Cellar Door Host | Sales |
| Generator | Cellar Door Manager | Restaurant / Food Service Manager | Cellar Door and Bar Manager | Cellar Door Sales Manager | Sales |
| Generator | Merchandising Specialist | Merchandiser | Activation Merchandiser | Merchandiser/Promotional Wine Taster | Sales |
| Generator | Product Demonstrator | Brand Ambassador | Wine Brand Ambassador | Brand Home Manager | Sales |
| Generator | Retail Sales Associate | Floor Staff | Retail Assistant | Food Retail Assistant | Sales |
| Generator | Retail Store Manager / Supervisor | Store Manager | Assistant Store Manager | Store Manager - Vintage Cellars | Sales |
| Generator | Sales Manager | Sales Supervisor | Sales Broker |  | Sales |
| Generator | Sales Representative | Sales Assistant |  |  | Sales |
| Informer | Accountant | Finance Business Partner | Financial Accountant |  | Finance |
| Informer | Financial Analyst | Senior Finance Analyst | Business Analyst | Finance Analyst | Finance |
| Informer | Human Resources / Labour Relations Specialist | Human Resources Advisor | Human Resources Advisor/Recruitment Consultant |  | Human Resources |
| Informer | Human Resources Assistant | Human Resources Coordinator | Human Resources Officer | Human Resources Generalist | Human Resources |
| Informer | Human Resources Manager | Human Resources And Business Operations Manager | Human Resources Business Partner |  | Human Resources |
| Informer | Kaitakawaenga Māori Cultural Advisor | People And Culture Advisor |  |  | Human Resources |
| Informer | Recruiter | Recruitment Consultant | Talent Acquisition Specialist |  | Human Resources |
| Informer | Training and Development Specialist | Learning Manager | Health, Safety And Training Manager | Inclusive And Diverse Learning Coordinator | Human Resources |
| Informer | Environmental Compliance Specialist | Environmental Advisor | Environmental Manager | Senior Environmental Advisor | Law, Compliance, and Public Safety |
| Informer | Safety Manager | Regional Safety Advisor | Health And Safety Advisor | HSE Advisor | Law, Compliance, and Public Safety |
| Informer | Marketing Coordinator / Assistant | Marketing Coordinator | Digital Marketing Coordinator | Marketing Assistant | Marketing and Public Relations |


| Cluster | Job title | Alternative title | Alternative title | Alternative title | Job family |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Informer | Marketing Manager | Public Relations Manager | Digital Marketing Manager | Sales And Marketing Manager | Marketing and Public Relations |
| Informer | Social Media Strategist / Specialist | Social Media Marketer | Communications And Social Media Advisor Vid | Digital Campaign Manager | Marketing and Public Relations |
| Informer | Wine Educator | Wine Trainer |  |  | Marketing and Public Relations |
| Informer | Business / Management Analyst | Business Improvement Officer | Change Manager | Redevelopment Change Manager | Planning and Analysis |
| Informer | Environmental Scientist / Specialist | Environmental Protection Officer | Environmental Consultant | Environmental <br> Scientist/Engineer | Science and Research |
| Informer | Food and Agricultural Scientist / <br> Technologist | Agricultural Consultant | Horticulturist Entomology |  | Science and Research |
| Informer | Food and Wine Researcher | Oenology Researcher |  |  | Science and Research |
| Informer | Vintage Laboratory Technician | Laboratory Technician | Laboratory Assistant | Food and Wine Scientists | Science and Research |
| Technologist | IT Manager | IT Project Manager | Director of Information Technology |  | Business Management and Operations |
| Technologist | Graphic Designer / Desktop Publisher | Graphic Designer | Digital Designer |  | Design, Media, and Writing |
| Technologist | Industrial Designer | Senior Product Designer | Packaging Designer | Product Designer UX/Ui | Design, Media, and Writing |
| Technologist | Data / Data Mining Analyst | Data Analyst | Data Statistician |  | Planning and Analysis |
| Technologist | Operations Analyst | Business Analyst | Senior Business Analyst | Senior Commercial Analyst | Planning and Analysis |
| Technologist | Sustainability Specialist | Sustainability Manager | Sustainability Analyst |  | Planning and Analysis |


[^0]:    ${ }^{1}$ https://www.fya.org.au/resource/new-work-order-research/

[^1]:    ${ }^{2}$ Lightcast offers real-time job market data, sourced from millions of online job postings. It provides detailed information on job requirements, enabling granular analyses across occupations and sectors.

[^2]:    ${ }^{3}$ The churn in the Hospitality, Food, and Tourism may be higher than other job families, which will influence the number of roles.

[^3]:    ${ }^{4}$ Only skills listed in 100 or more job postings are listed.

[^4]:    * Aptitude rather than skill.

[^5]:    ${ }^{5}$ Industry providers could select more than one business activity.

