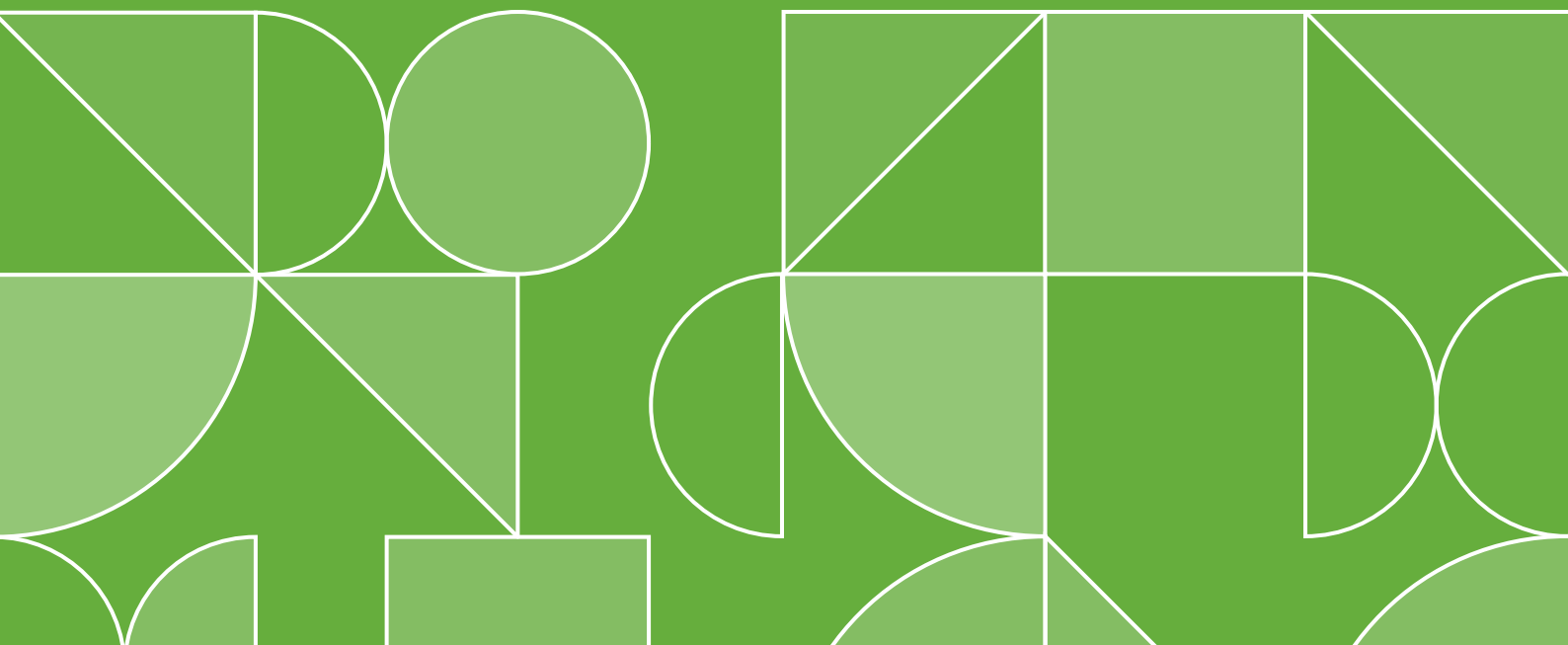


2024

# Mpumalanga's List of Occupations in High Demand

A Technical Research Report



higher education  
& training  
Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA





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2024

# Mpumalanga's List of Occupations in High Demand

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A Technical Research Report





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## Acronyms and Abbreviations

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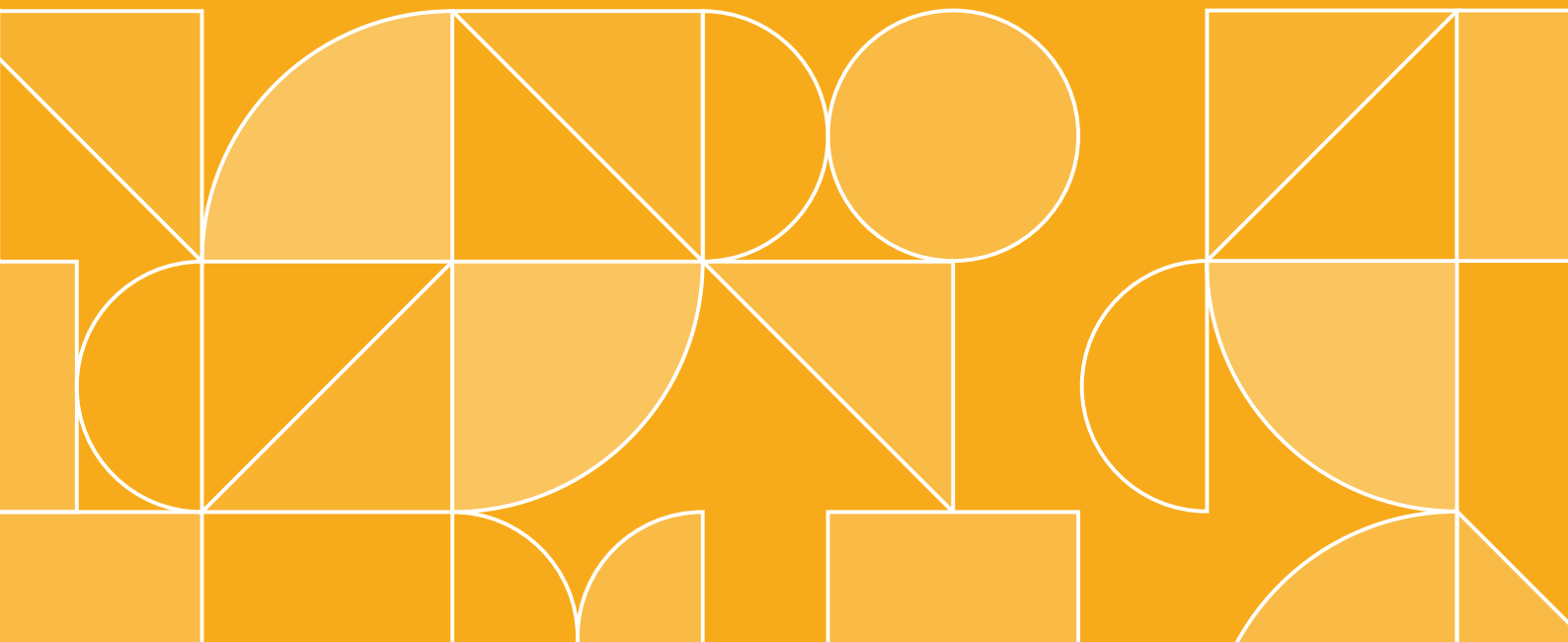
ACRONYM/ABBREVIATION	TERM/DEFINITION
CFE	Call for evidence
DHET	Department of Higher Education and Training
GDP	Gross domestic product
JIPSA	Joint Initiative for Priority Skills Acquisition
JOI	Job Opportunity Index
LMDS	Labour Market Dynamics Survey
N-OIHD	National occupations in high demand
OFO	Organising Framework for Occupations
OIHD	Occupations in high demand
P-OIHD	Provincial occupations in high demand
QLFS	Quarterly Labour Force Survey
SETA	Sector education and training authority
SIPs	Strategic integrated projects
SSPs	Sector skills plans



PART 1

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# Introduction



Knowing which occupations are in high demand is important for South Africa's post-school education and training sector. Since 2014, the Department of Higher Education and Training (DHET) has biennially published a national list of occupations in high demand (OIHD). The list fulfils the following functions.

**FIGURE 1:** The functions of the list of occupations in high demand



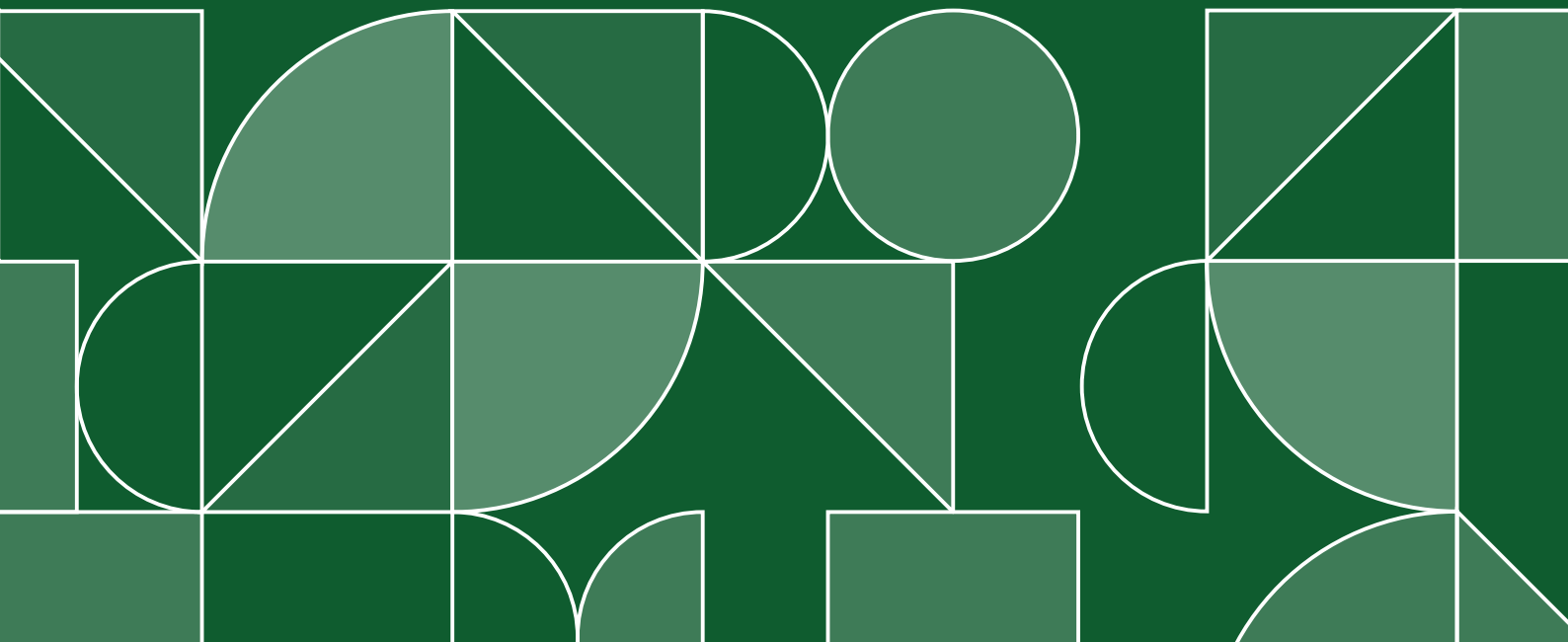
Since the DHET began this project, the country's provinces have had to infer their demand based on the occupations on the national list. However, because provincial economies and labour markets can deviate substantially from the national average, variations in the demand for specific occupations can be expected. As such, this report presents the findings of a pilot study of provincial occupations in high demand (P-OIHD) in Mpumalanga.

As a prelude, the next section provides a background to Mpumalanga's current labour market and its comparison to the rest of South Africa, followed by a description of the methodology used to identify the occupations on the Mpumalanga P-OIHD list. The following section shows a post-COVID-19 pandemic labour market recovery that is lagging behind the rest of the country, illustrating the importance of ensuring congruence between labour market demand and supply.

## PART 2

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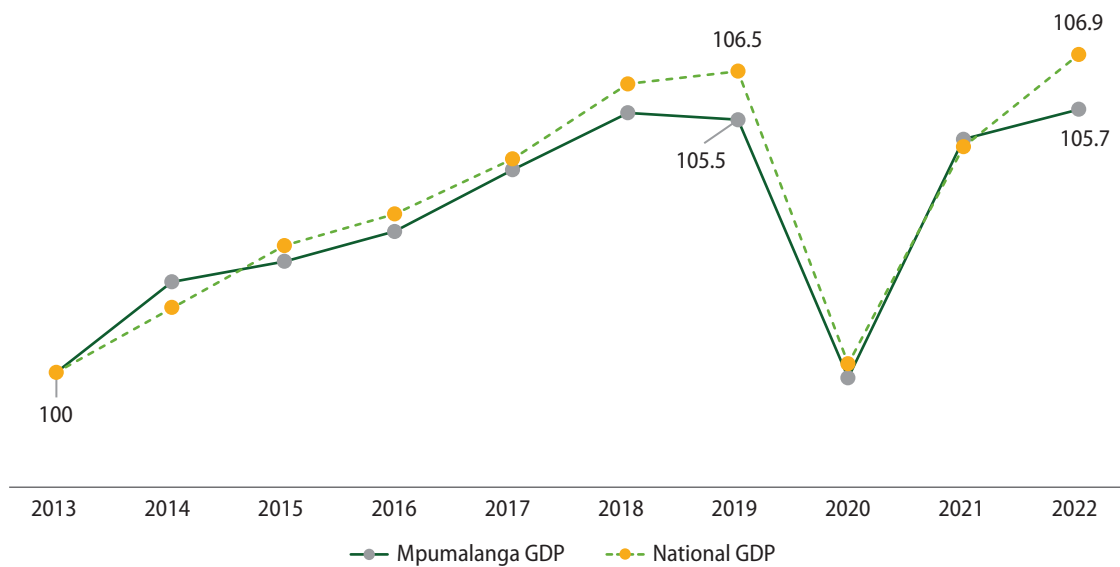
# Mpumalanga's Economy and Labour Market



The historical trajectory of Mpumalanga’s gross domestic product (GDP) and employment trends, illustrated in figures 2 and 3, provides valuable insights into the region’s economic dynamics and distinctive performance relative to the national trends.

From 2013 to 2019, national GDP growth outpaced Mpumalanga’s GDP growth. The national GDP grew by 1.1%, marginally higher than Mpumalanga’s at 0.9%. While the pandemic’s GDP shock was less severe in Mpumalanga, the national GDP bounced back comparatively stronger. Although the national GDP was 0.4% higher in 2022 than it was in 2019, Mpumalanga’s GDP was only 0.2% higher over the same period.

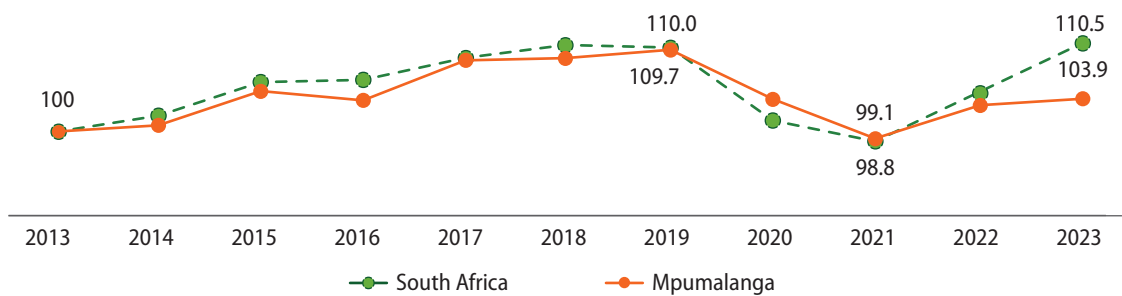
**FIGURE 2:** Mpumalanga versus national real GDP



Sources: Statistics South Africa, 2022 and Statistics South Africa, 2023b

Over the six years preceding the pandemic (2013 to 2019), employment in South Africa and Mpumalanga increased by 1.5 million and 109,082 individuals, respectively. The rate of increase over this period was approximately the same—1.6% per year in South Africa compared to 1.55% in Mpumalanga. However, while the pandemic-induced employment decrease was similar for South Africa and Mpumalanga in 2020 and 2021, Mpumalanga’s recovery has lagged. By 2023, the province’s employment was still 6.7% below its 2019 level compared to South Africa’s, which was only 0.5% below.

**FIGURE 3:** Mpumalanga versus national employment



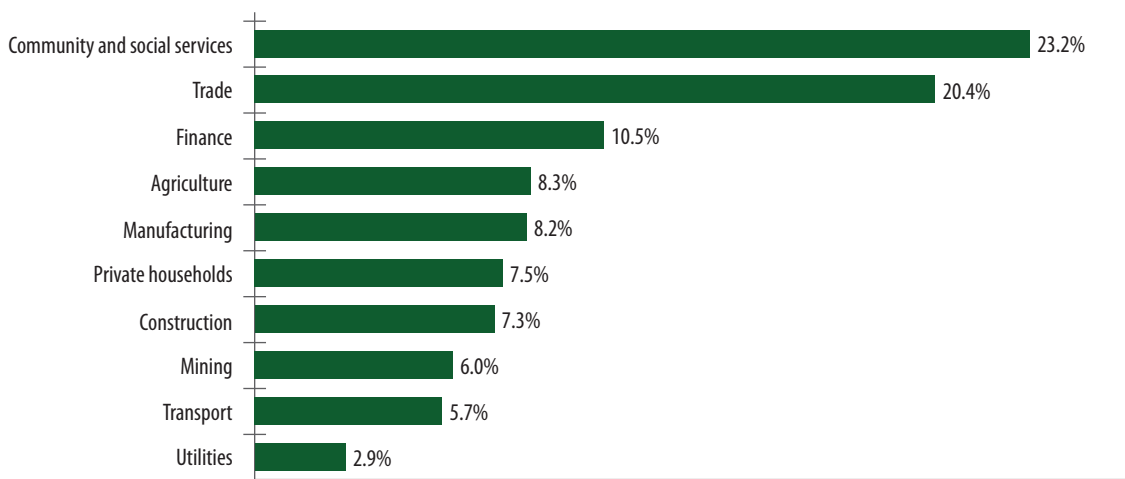
Source: Statistics South Africa, 2023a

Despite the much lower employment, Mpumalanga’s unemployment rate was only 0.2 percentage points higher in Q3 of 2023 than in Q3 of 2019. This apparent contradiction is explained by a 56% increase in discouraged work-seekers in Mpumalanga over the period, resulting in the expanded definition unemployment rate increasing by 3 percentage points.<sup>1</sup> This increase can imply a rising mismatch between labour supply and demand, a decreasing absolute demand, or both.

Figures 5 and 6 provide insight into the industries that are growing in employment demand. Two elements are important to consider in this regard. Firstly, the industry composition of the labour force, and secondly, the employment growth observed in each industry.

Figure 4 shows that, as of 2022, four industries stand out regarding labour force size. The community and social services and the trade industries dominate labour market demand in Mpumalanga. However, the employment landscape is diverse beyond these two industries, meaningfully covering most other industries.

**FIGURE 4:** Employment composition by industry in 2022

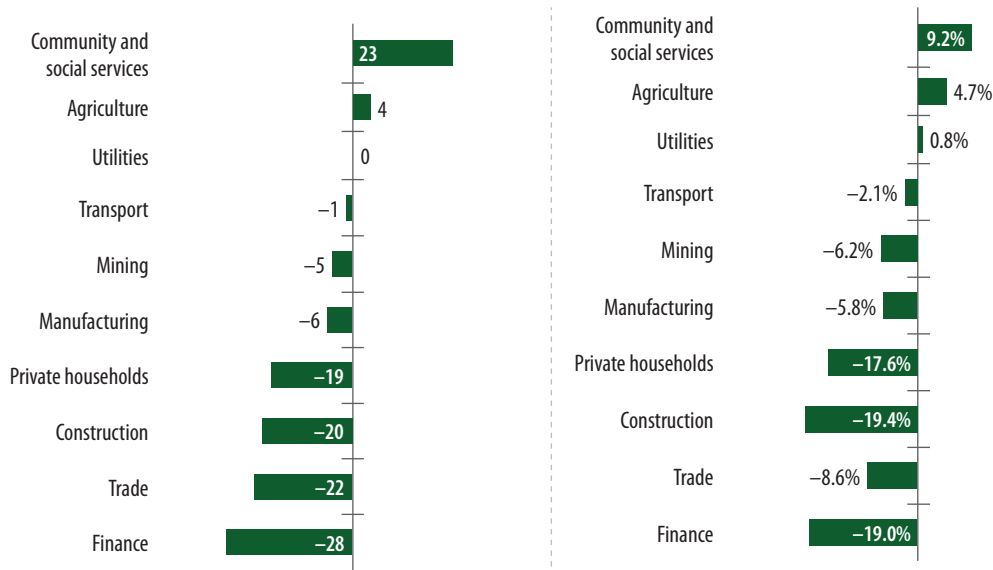


Source: Statistics South Africa, 2023a

<sup>1</sup> The expanded definition includes discouraged work-seekers, while the narrow definition only includes those who are actively looking for employment.

Figure 5 shows that several industries experienced decreased employment, with only the community and social services, agriculture, and utilities industries recovering to pre-pandemic levels by 2022.<sup>2</sup>

**FIGURE 5:** Employment growth by industry between 2019 and 2022



Source: Statistics South Africa, 2023a

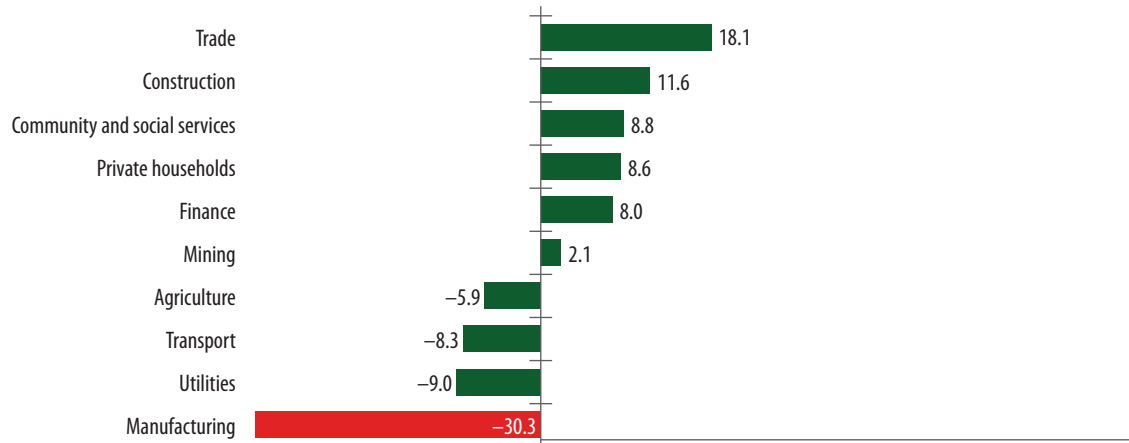
The finance, trade, and construction industries experienced the most substantial net decline. Between 2019 and 2022, the finance industry experienced a net employment decrease of 28,478 individuals, followed by the trade industry with a net decrease of 22,275 individuals, and the construction industry with a decrease of 20,421 individuals. However, in terms of percentage change in employment, the construction, finance, and private households industries saw employment reductions of 19.4%, 19%, and 17.6%, respectively.

On the other hand, the community and social services industry leads employment growth in the province, exhibiting a remarkable increase relative to other industries, with a net addition of 22,763 employed individuals. This rise in employment in this industry significantly mitigated the overall employment demand decrease in Mpumalanga.

<sup>2</sup> Community and social services spans occupations related to education, health, and welfare. Subsectors include services pertaining to public administration and defence, central government, local authority, social work, veterinary activities, sanitation, membership organisations, recreational, cultural, and sporting activities, entertainment, and news agencies (Statistics South Africa, n.d.).

Figure 6 shows that since 2022, the community and social services industry has extended its gains, and the trade, construction, finance, and mining industries have reversed their trends. Notably, manufacturing has seen substantial employment net losses. Between the third quarter of 2022 and the same quarter of 2023, Mpumalanga saw a comparatively large net loss of 30,000 jobs in manufacturing, reflecting sharp deterioration in industry performance. Fortunately, as of the third quarter of 2023, only the trade and mining industries recorded lower employment levels than the same quarter of 2019.

**FIGURE 6:** Employment growth by industry between Q3 2022 and Q3 2023



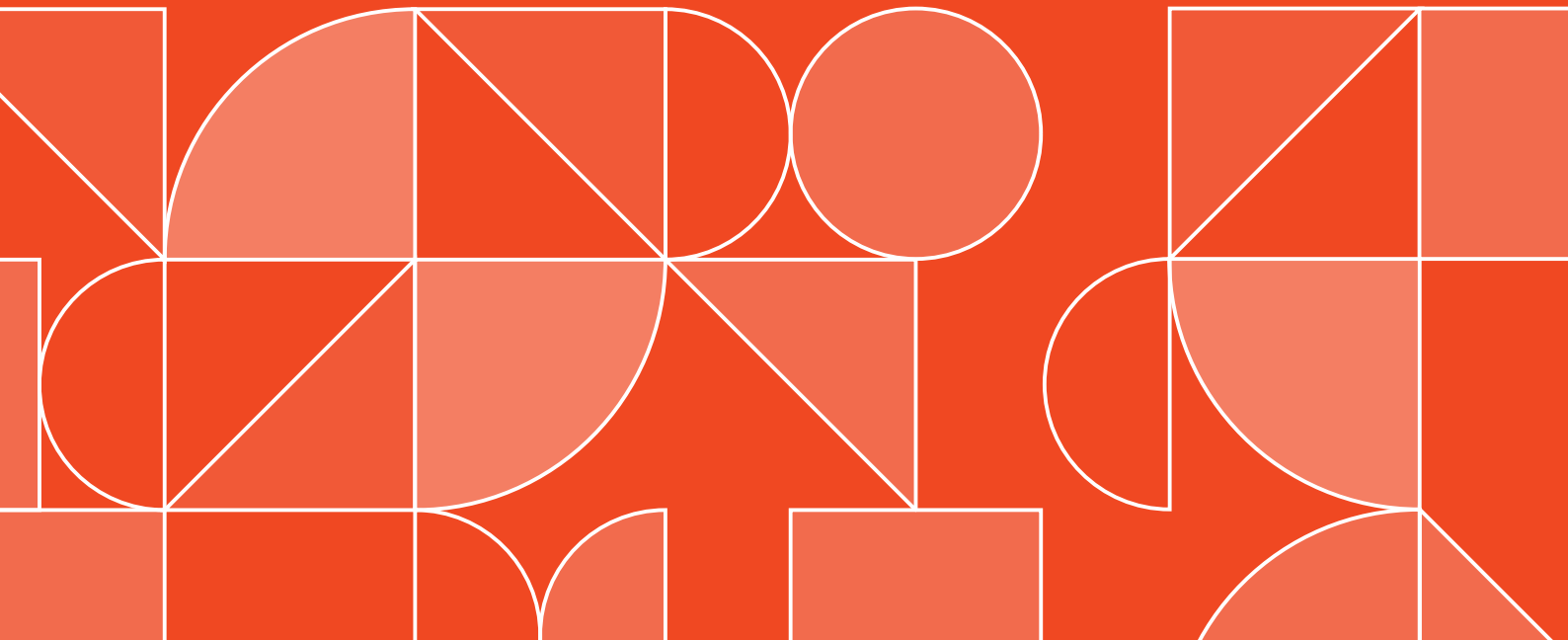
Source: Statistics South Africa, 2023a

From the above analysis, we can surmise the following insights, which provide some context to the expected occupational demand in Mpumalanga:

- On average, labour demand growth in Mpumalanga is lower than in South Africa and has been for most of the last decade.
- Mpumalanga's post-pandemic recovery has lagged South Africa's, showing low industry demand growth.
- Nevertheless, where labour demand grows, it should be most prevalent in the community and social services, trade, and finance industries.

The next section of the report delves into the historical context of the methodology used to identify occupations in high demand in South Africa. Then, an in-depth technical description of the methodology used to craft Mpumalanga's 2024 list is presented.

# Evolution of the Methodology Used to Identify Occupations in High Demand in South Africa





The first list of national OIHD (N-OIHD) was published in 2014. Although this report provides the first list of provincial OIHD (P-OIHD), it relies heavily on the methodology of the N-OIHD list, which is currently in its fifth iteration. The national list's methodology has evolved substantially, responding to the lessons learned from each previous publication. The methodology's evolution over time is presented in table 1.

The N-OIHD methodology is considerably dependent on South Africa's Organising Framework for Occupations (OFO). Refer to appendix 1 for a comprehensive description of this framework.

**TABLE 1:** A historical overview of the OIHD list

ITERATION OF THE LIST	DEFINING CHARACTERISTICS	BRIEF OVERVIEW OF THE METHODOLOGY USED TO GENERATE THE LIST
2014	A primarily qualitative approach based on the review of strategic government documents.	<ul style="list-style-type: none"> <li>• Various sources were qualitatively analysed, such as pivotal sector education and training authority (SETA) lists, sector skills plans (SSPs), strategic integrated projects (SIPs), and the Joint Initiative for Priority Skills Acquisition (JIPSA).</li> <li>• Given these sources, a points-based approach was used, scoring an occupation out of 100 based on SETA identification, appearance in the SIPs and the JIPSA, the number of associated vacancies, and other factors.</li> <li>• This process created a list of occupations (at the six-digit OFO level), which was then validated and added to by a broad set of private and public sector participants.</li> </ul>
2016	<p>Included quantitative analysis of data from the Quarterly Labour Force Survey (QLFS) and the Job Opportunity Index (JOI) in addition to documentary review.</p> <p>Included quantitative forecasting of occupational growth.<sup>3</sup></p> <p>Entailed a broader validation process with private and public sector stakeholders.</p>	<ul style="list-style-type: none"> <li>• The QLFS and JOI data were analysed to assess occupational growth and job vacancy trends.</li> <li>• Forecasts (up to 2025) of occupational growth were made and then used to ascertain the top 20 job prospects in the country.</li> <li>• Various sources were qualitatively analysed, such as the SETA pivotal lists, the SIPs, the DHET's call for evidence (CFE), literature in South Africa, and others.</li> <li>• These findings were amalgamated and presented to various private and public stakeholders for validation (although the sample of validators was far smaller than the sample used in the 2014 list).</li> </ul>

<sup>3</sup> Forecasts are often extremely inaccurate. Although future information on labour market trends is critical, it is difficult to obtain forecasts that are reliable. Therefore, forecasts were not included in the 2018 and 2020 iterations of the OIHD list. However, a forecast analysis at an occupational level is at the beginning phases of its development, with the hopes of including the findings of such an analysis in the 2022 iteration of the OIHD list.

ITERATION OF THE LIST	DEFINING CHARACTERISTICS	BRIEF OVERVIEW OF THE METHODOLOGY USED TO GENERATE THE LIST
2018 and 2020	<p>Developed a multidimensional index of demand.</p> <p>Replaced JOI data with data from CareerJunction.</p> <p>Did <i>not</i> use data from quantitative forecasting of occupational growth (since no projections were undertaken during this period)</p> <p>Used a two-stage approach combining quantitative analysis of labour market secondary data with qualitative methods to gain insight into the views of the industry.</p>	<ul style="list-style-type: none"> <li>• The QLFS and CareerJunction data were analysed, and a four-digit OFO-coded list was produced.</li> <li>• Various sources were qualitatively analysed to turn the four-digit list into a six-digit list, such as SETA pivotal lists, the SSPs, the SIPs, the DHET’s CFE, grey literature in South Africa, and others.</li> <li>• This list was then validated by a limited number of stakeholders in both the private and public sectors.</li> <li>• For the 2020 list, the draft report for the N-OIHD list was gazetted for public comments.</li> </ul>
2024	<p>Replaced the previous CFE with a survey, which was then distributed via LinkedIn and the DHET networks.</p>	<ul style="list-style-type: none"> <li>• The QLFS and CareerJunction data were analysed.</li> <li>• A three-digit OFO-coded list was produced for the P-OIHD, and a four-digit OFO-coded list was produced for the N-OIHD. <ul style="list-style-type: none"> <li>▸ <b>This marks the only difference in the approach used to produce the P-OIHD and N-OIHD lists.</b></li> </ul> </li> <li>• An online survey was distributed to allow employers to list occupations they will be recruiting for in the future.</li> <li>• The OIHD that were indicated by the survey sample were manually mapped to their appropriate six-digit OFO codes.</li> <li>• The secondary data from the QLFS and CareerJunction was combined with the survey data to calculate overall demand scores.</li> </ul>

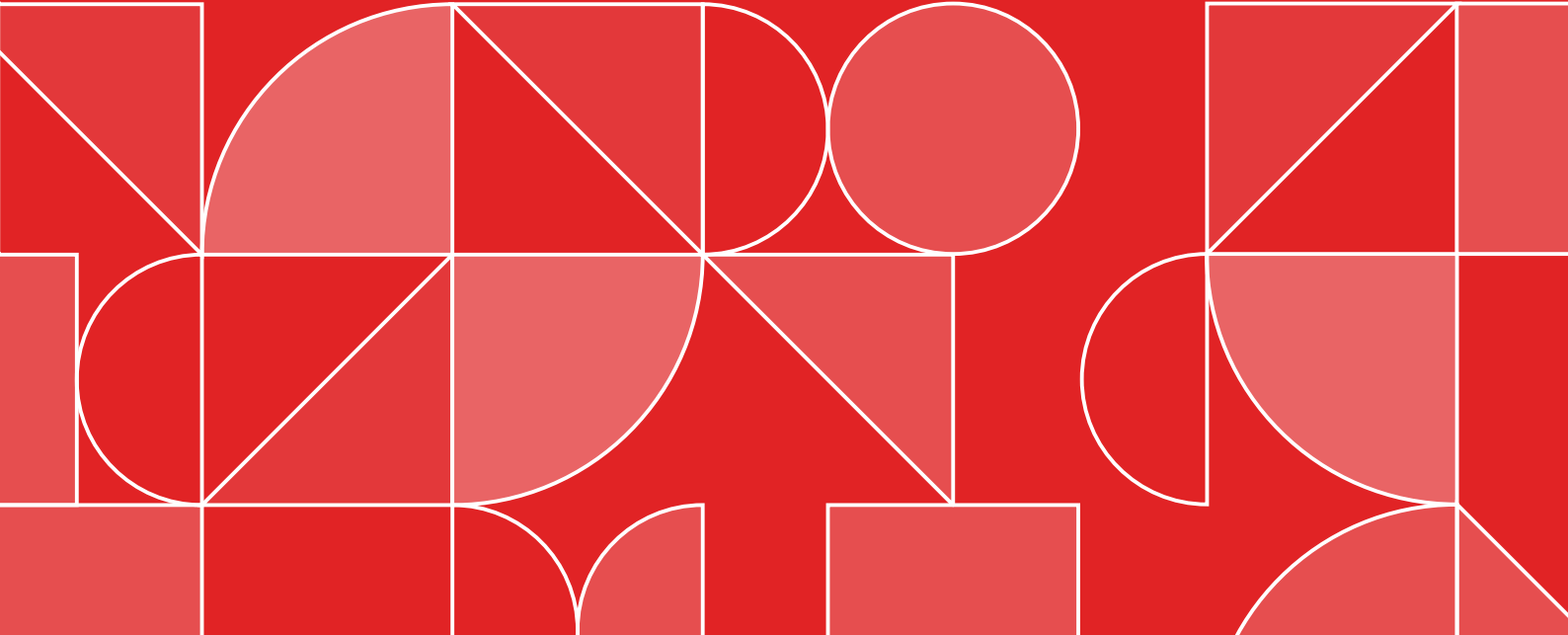
Source: DNA Economics, 2020

The section below elaborates on the 2024 methodology and presents the results utilised to craft the first Mpumalanga P-OIHD list.

**PART 4**

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**The 2024  
Methodology  
and Results**



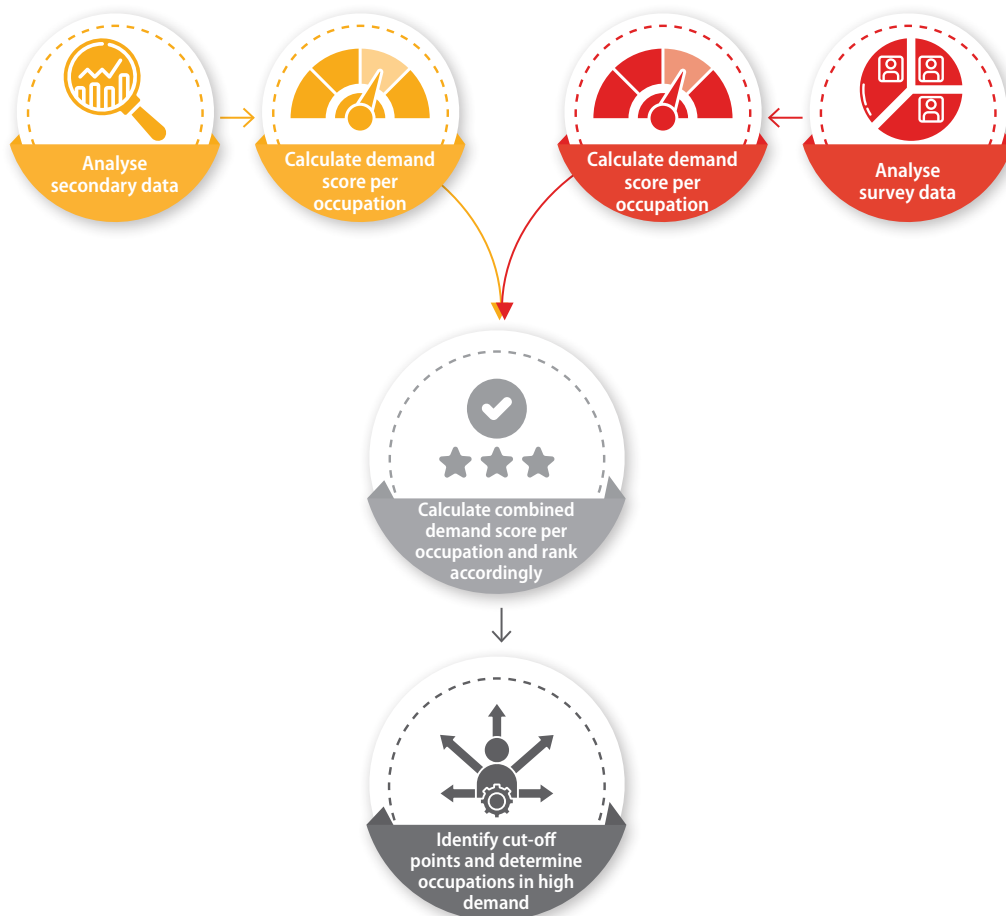
The methodology uses a three-stage approach to identify OIHD. Figure 7 presents a high-level summary of this approach that simultaneously considers all available evidence of OIHD.

From the left (yellow), the available secondary labour market data was analysed. The analysis involved ranking occupations according to 10 indicators of occupational demand using data from the QLFS, the Labour Market Dynamics Survey (LMDS), and a consolidated PNet and CareerJunction database (see table 2 below). A demand score was then calculated for each occupation based on rankings across the respective indicators. This stage and its results are detailed in section 4.1.

From the right (red), an employer survey was designed and distributed via the DHET stakeholder networks in which respondents were asked to list occupations they plan to recruit for within the next three years. Demand scores were then calculated for each occupation based on the number of times it was listed and the respondents' level of certainty regarding their recruitment plans. More information regarding this component of the research is presented in section 4.2.

Finally, the evidence produced by the secondary data and the survey data analyses were combined (light grey and dark grey) for each occupation in the OFO and ranked relative to one another. Cut-off points in the shortage score were identified to produce a list of 167 OIHD in Mpumalanga. The consolidated evidence and the resultant list are presented in section 5. This list was presented and submitted to stakeholders for validation.

**FIGURE 7:** A high-level overview of the methodology



## 4.1 Secondary data analysis

Table 2 lists and describes the dimensions and indicators of occupational demand used in the secondary data analysis.

**TABLE 2:** The variables used in secondary data analysis

DIMENSION	SOURCE	VARIABLE (INDICATOR)	DESCRIPTION
Employment pressure	QLFS	Employment growth	Number of employed individuals in 2022 relative to 2019
		Change in employment intensity	Average weekly hours in 2022 relative to 2019
		Change in employment duration	Average time employed in 2022 relative to 2019
Wage pressure	LMDS	Mean wage growth	Average wage in 2022 relative to 2019
		Median wage growth	Median wage in 2022 relative to 2019
		Conditional mean wage growth	Conditional mean wage in 2022 relative to 2019 <sup>4</sup>
Vacancy pressure	PNet and CareerJunction	Vacancies	Number of vacancies in 2022
		Vacancy growth	Vacancies in 2022 relative to 2019
		Renewal rate	Percentage of 2022 vacancies that had to be re-advertised
		Renewal rate growth	Renewal rate in 2022 relative to 2019

**Employment pressure:** The QLFS provides information on this dimension. An increasing trend in the number of employed individuals and the average hours of work per week indicates rising demand, while a shorter average employment duration indicates high turnover, more employment choices, and, therefore, higher demand.

**Wage pressure:** The LMDS is published once a year by Statistics South Africa and offers insight into this dimension. The survey consolidates the QLFS and, most importantly, includes wage data. Increasing wages indicate occupational shortage, as employers push wages up to attract candidates from a pool that is becoming smaller and smaller. Along with the average wage per occupation, two additional wage indicators are estimated based on the same data. The median wage ensures that the data is not influenced meaningfully by outliers or anomalies, while the conditional wage removes the impact that experience (proxied by age) has on the salary of an employee.

**Vacancy pressure:** Data was collected, consolidated, and summarised from PNet and CareerJunction, which are web-based job search platforms where employers and recruiters can advertise vacancies, and used to signal this dimension. The number of vacancies (job advertisements) in 2022 and the growth in vacancies between 2019 and 2022 are considered strong indicators of current and changing demand,

<sup>4</sup> Conditional on age, which is used as a proxy for level of experience. Essentially, this value indicates growth in wages with the impact of experience on wage removed.

respectively. The renewal rate is the percentage of advertisements re-published after 34 days. This rate is associated with vacancies being hard to fill. The current renewal rate (for 2022) and the change in the renewal rate (the difference between 2019 and 2022) are indicators of current and increasing occupational shortage, respectively.

Figure 8 summarises the process of using these indicators to rank occupations (at the three-digit level) according to overall demand.

**FIGURE 8:** Process flow: Secondary data analysis



These rankings are then used to calculate each minor group's 'secondary data demand score' ( $S$ ). To calculate the  $S$  for minor group  $j$  ( $S_j$ ), we first calculate the average rank across the 10 indicators described in table 2.

$$\text{Average rank of minor group } j (\bar{R}_j) = \frac{\sum_i R_{ij}}{10}$$

$R_{ij}$  = Rank of minor group  $j$  for indicator  $i$

The  $S$  for each minor group is determined by the difference between the minor group's average rank ( $\bar{R}_j$ ) and the lowest average rank across all minor groups ( $\bar{R}^{min}$ ), that is,  $(\bar{R}_j - \bar{R}^{min})$ , relative to the difference between the highest ( $\bar{R}^{max}$ ) and lowest ( $\bar{R}^{min}$ ) average rank across all minor groups, that is  $(\bar{R}^{max} - \bar{R}^{min})$ . This calculation offers insights into the demand for secondary data specific to each minor group in relation to the overall distribution of average ranks. This value is then subtracted from 1 to associate a higher demand score with a higher revealed demand level.

$$\text{Secondary data demand Score}_j(S_j) = 1 - \left( \frac{\bar{R}_j - \bar{R}^{min}}{\bar{R}^{max} - \bar{R}^{min}} \right)$$

$(\bar{R}^{min})$  = Lowest average rank across all minor groups  
 $(\bar{R}^{max})$  = Minor group with highest average rank  
 $(\bar{R}^{min})$  = Minor group with lowest average rank

Table 3 shows the top 10 minor groups identified in the secondary data analysis out of 125 minor groups in the OFO framework.<sup>5</sup> On average, each minor group category contains approximately 12 occupations.

**TABLE 3:** The top 10 three-digit occupations

OFO CODE	MINOR GROUP
2021-514	Hairdressers, Beauticians, and Related Workers
2021-141	Hotel and Restaurant Managers
2021-121	Business Services and Administration Managers
2021-642	Building Finishers and Related Trades Workers
2021-214	Engineering Professionals (Excluding Electrotechnology)
2021-331	Financial and Mathematical Associate Professionals
2021-263	Social and Religious Professionals
2021-652	Blacksmiths, Toolmakers, and Related Trades Workers
2021-422	Client Information Workers
2021-413	Keyboard Operator

Although the secondary data analysis is useful to provide some initial insights into which occupational categories might be more in demand than others, it cannot tell us which occupations within the minor group categories are driving the result we observe in the data. This is why the survey analysis is so important.

## 4.2 Primary data analysis (survey data)

### 4.2.1 Methodology

An online survey was distributed via e-mail and LinkedIn in which employers and recruiters were asked to list occupations they are likely to recruit for over the next three years. The survey was open for eight weeks to maximise the response rate.

The question posed was as follows:

Please list the **specific** occupations your organisation **or the organisations you represent** will likely recruit for over the next three years.

- **Column 1:** Indicate the name of the specific occupation you will be recruiting for. **BE AS SPECIFIC AS POSSIBLE WITH THE NAME OF THE OCCUPATION** (e.g., “Logistics Manager”, rather than just “Manager”, or “Welder” rather than just “Artisan”)
- **Column 2:** Indicate your level of certainty that recruitment will take place on a scale of 1–4 with 1. “possibly”, 2. “probably”, 3. “nearly certain”, and 4. “definitely”.

<sup>5</sup> Showing 10 minor groups in table 4 is somewhat arbitrary and is for illustrative purposes only. Being in the top 10 does not guarantee that the occupations within the minor group categories will make it to the final list, and not being in the top 10 also does not mean that the occupation will not make it onto the list. The ranking based on the secondary data is considered along with the rankings based on the survey data, as shown in the formula presented in section 5.

The number of times a respondent mentioned an occupation and the average level of certainty that respondents assigned to it were used to estimate survey data demand scores. The approach to calculating these scores is similar to that used for the secondary data.

Following the closure of the survey, each occupation listed was mapped to its corresponding six-digit OFO occupation. This was done using keyword searches in the OFO list, including alternative titles, specialisations, and occupation descriptions to ensure that the six-digit OFO occupations chosen most closely matched the ones supplied by the survey respondents. The mapping is presented in annexure 4.

The diagram below illustrates the steps in the survey analysis process.

**FIGURE 9:** Process flow: Primary (survey) data analysis



The 'mentions demand score ( $M_j$ )' and the 'certainty demand score ( $C_j$ )' are based on the rank of the particular occupation relative to the maximum rank across all occupations.<sup>6</sup> The following formulas were used to calculate these demand scores.

$$M_j = 1 - \left( \frac{R_j^M}{R^{M,max}} \right)$$

$R_j^M$  = Rank of occupation according to mentions

$R^{M,max}$  = Rank of occupation without any mentions

$$C_j = 1 - \left( \frac{R_j^{MC}}{R^{C,max}} \right)$$

$R_j^C$  = Rank of occupation according to average certainty score

$R^{C,max}$  = Rank of occupation without any certainty scores

<sup>6</sup> The maximum rank across all occupations is the rank of the occupations that received zero mentions.

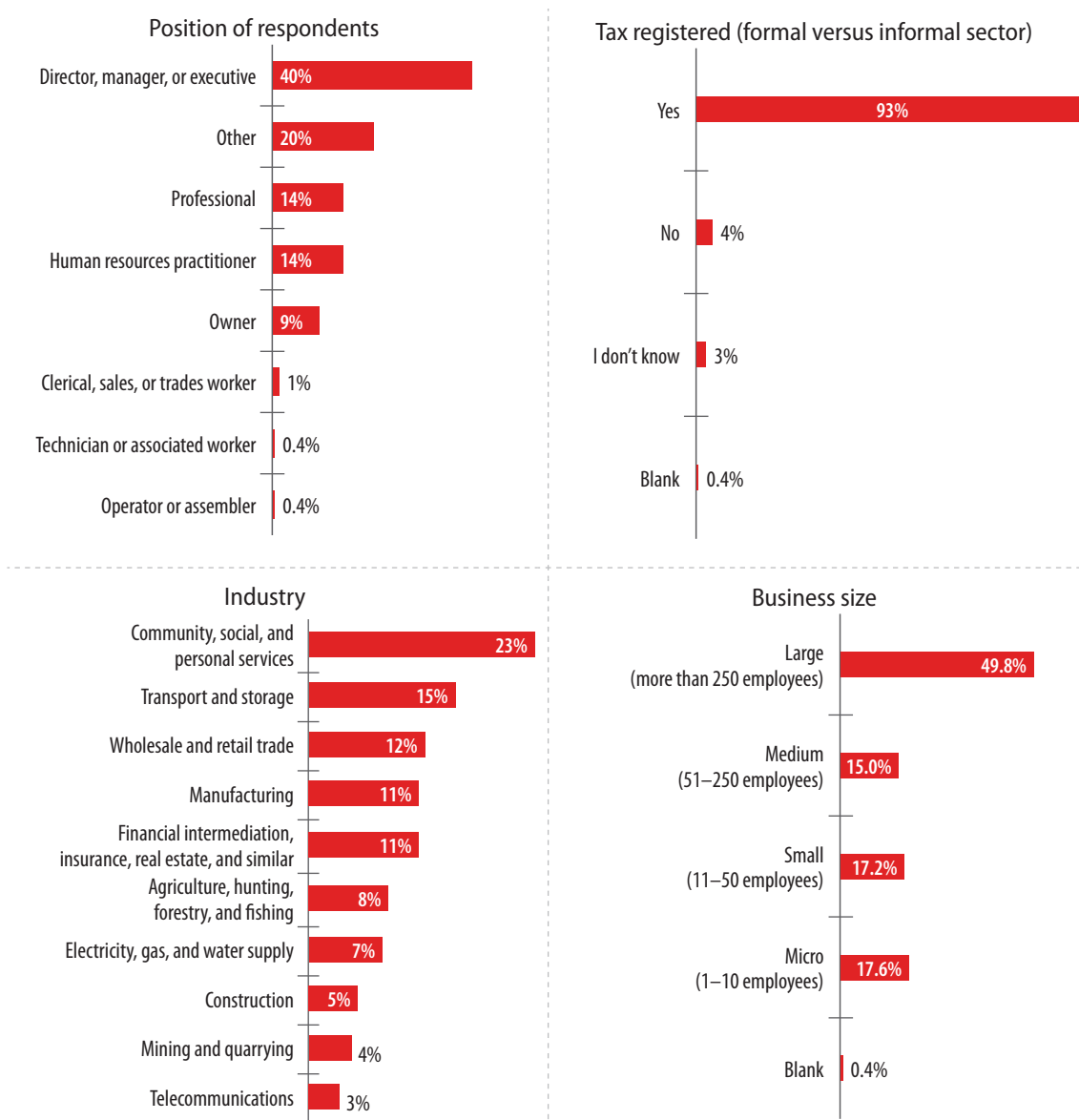


## 4.2.2 Sample description

102 respondents from Mpumalanga answered the OIHD question. Various background questions were asked to understand the profile of the sample group. Figure 10 offers an overview of the sample profile in four panels.

Most respondents occupied senior management, professional, and human resources positions, with very few respondents in technical or associate professional positions. The 'other' category consisted mainly of skills and development managers. Respondents were also mostly from organisations in the formal sector, as proxied by their tax status. In future iterations of the list, additional plans and efforts will be required to reach the informal sector. Although marginally skewed towards larger companies, there is meaningful coverage of micro, small, and medium companies. Industry representation is generally balanced, with the construction industry being the only underrepresented industry compared to Mpumalanga's employment composition (figure 4).

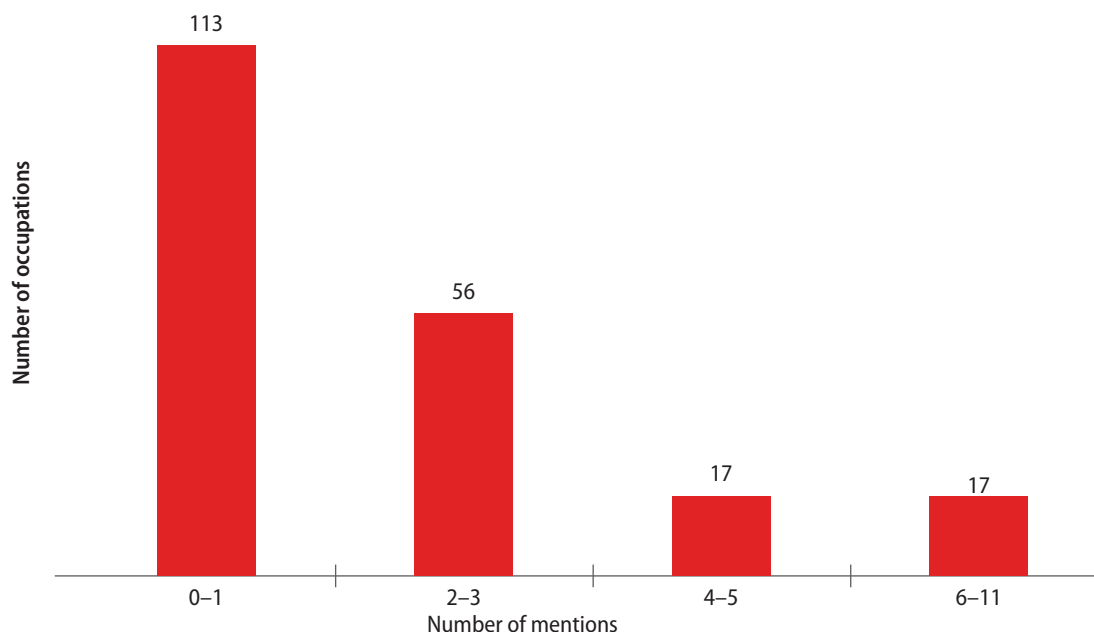
**FIGURE 10:** Survey sample description



### 4.2.3 Results

Figure 11 presents the results of the survey related to 'mentions' in the form of a histogram. 203 unique occupations were listed by respondents as being in high demand in Mpumalanga. 17 occupations received at least 6 mentions, some up to 11. Meanwhile, 17 occupations received between 4 and 5 mentions, and 169 occupations received between 1 and 3 mentions.

**FIGURE 11:** Histogram: The number of occupations per number of mentions



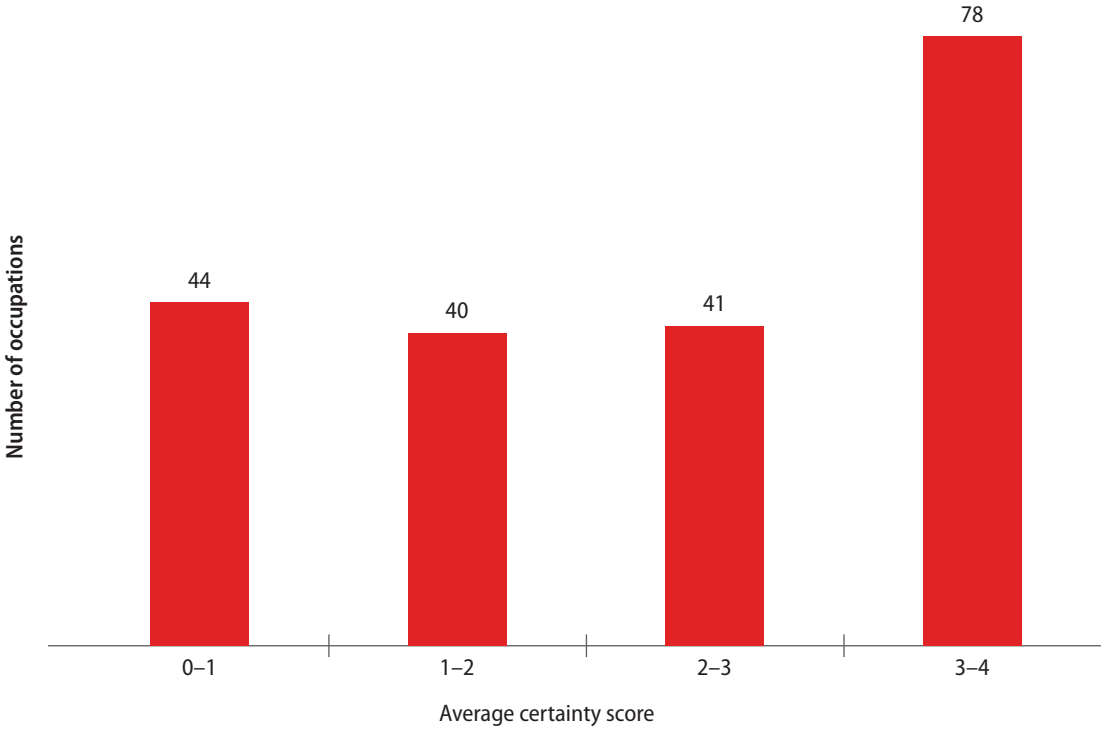
Among the occupations mentioned, most were listed only once. These single mentions do not provide robust evidence, which is why analysing the secondary data is crucial. When they are considered alongside other evidence, even a solitary mention gains meaning. In essence, secondary data contextualises these isolated mentions, turning them into meaningful signals, especially when they align with broader patterns indicating demand in that particular field.

On the other hand, occupations that received between 6 and 11 mentions do not need strong secondary data evidence, as the survey already provides the necessary proof. The 5 occupations that had the most mentions were as follows: **Senior phase school teacher (Grade 7–9)** (11 mentions), **human resource manager** (10 mentions), **general clerk** (10 mentions), **welder** (10 mentions), and **corporate general manager** (10 mentions). See the annexures for the full list of occupation names given in the survey, which were then mapped to OFO occupations.

Figure 12 shows the certainty-related survey results. 38% of occupations mentioned in the survey had an average certainty score between 3 and 4. Nearly 60% of the occupations had a certainty score above 2, indicating a skewness in the certainty towards the upper end.

It is important to note that there is a high negative correlation between the number of mentions and the certainty score due to many single-mention occupations being assigned a high level of certainty, while we see a higher variance in the certainty score among occupations with more mentions. As a result, certainty has been given a lower weight in calculating the total demand score in the next section.

**FIGURE 12:** Histogram: The number of occupations within the average certainty score ranges



# Consolidation of Evidence and the Final List



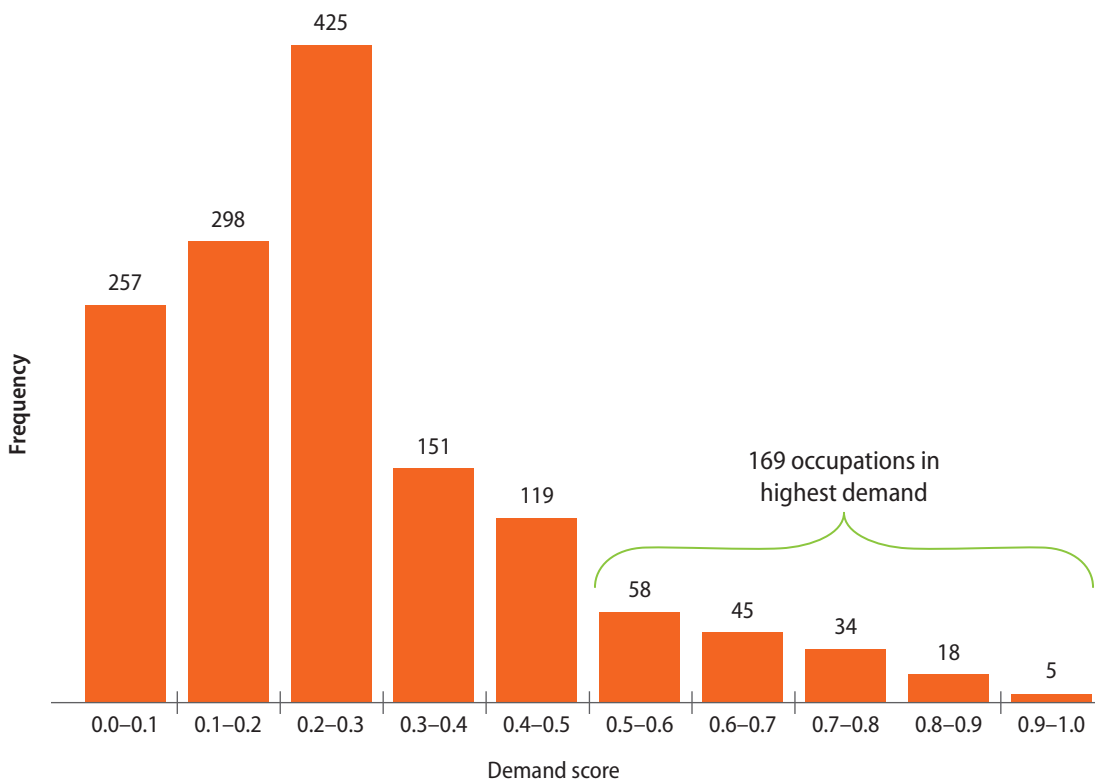
Following the synthesising and analysis of the secondary and survey data, the evidence is consolidated by calculating the weighted demand score for each occupation using the following formula and ranking from highest to lowest.

$$D_j = w_s S_j + w_m M_j + w_c C_j$$

$D_j$  = Weighted demand score for occupation  $j$   
 $w_s$  = Weight given to secondary data demand score = 1  
 $S_j$  = Secondary data demand score of occupation  $j$  = 1  
 $w_m$  = Weight given to mentions demand score  
 $M_j$  = Mentions demand score of occupation  $j$   
 $w_c$  = Weight given to certainty demand score = 0.1  
 $C_j$  = Certainty demand score of occupation  $j$

Figure 13 indicates the distribution of the 1,388 occupations in the OFO across the total demand score range.<sup>7</sup> The chart reveals a natural cut-off at 0.5—that is, there is a clear dividing line between occupations below and above a demand score of 0.5. As a result, the 167 occupations with demand scores of 0.5 and above constitute the final list of OIHD for the province.

**FIGURE 13:** Histogram: The number of occupations within weighted demand score ranges



<sup>7</sup> Excluding Major Group 8: Elementary occupations.

The order of the occupations listed has no relation to priority, but rather follows the ordering of the OFO. The list ranked according to demand can be found in annexure 2 of this report.

Additionally, this list is not intended to signal shortages (that is, this is not a scarce skills list), and it is not intended to be used to inform the recruitment of critically skilled foreign nationals.

#### **A note on the asterisk (\*)**

Some occupations are given an asterisk to indicate a comparatively large number of unemployed individuals registered on the Department of Employment and Labour's Employment Services South Africa (ESSA) database. ESSA is a website on which individuals seeking employment can register and be matched to organisations seeking employees. As a secondary benefit, the jobseeker database also provides insight into the level of unemployment in South Africa per occupation. A comparatively large number of unemployed individuals registered on the database could imply an over-supply of labour for an occupation, which may mean that the occupation should not be on the list. However, there are several reasons that there appear to be so many unemployed work seekers in the occupations on the OIHD list.

- **Geographical dynamics:** Given that the list of OIHD reflects a provincial picture of occupational demand and does not, therefore, consider localised variations, it is expected that jobseekers in the ESSA database could live in areas where occupational demand is lower than the provincial demand.
- **Timing of data availability:** Individuals are not guaranteed to be removed from the database once they find employment. Therefore, there may be individuals registered on the database who are not presently unemployed.
- **Curriculum and skills programme structure:** The post-school education and training system is not offering appropriate training, meaning that the high unemployment witnessed is not due to a lack of demand but rather a lack of the skills needed by the industry.
- **Qualification validation:** There is no qualification validation on the ESSA database. Therefore, while someone might call themselves a qualified x, there is no proof that they actually are, and there is no indication of what they mean by "qualified".

Occupations with an asterisk next to them are considered outliers. An outlier is identified using the interquartile range method.

The outlier occupations were identified as those that had more unemployed individuals than 1.5 times the interquartile range.<sup>8</sup> Therefore, the occupations with an asterisk had more than 99 unemployed individuals registered.<sup>9</sup> These outliers require further investigation into the reasons why the occupation is in high demand in the presence of excess supply.

<sup>8</sup> Interquartile range (IQR) = Quartile 3 – Quartile 1

<sup>9</sup> Upper outlier boundary = Quartile 3 + 1.5 × (IQR) = 42 + 1.5 × (42 – 4) = 99

**TABLE 4:** The final list of OIHD in Mpumalanga

OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-112101	Director (Enterprise/Organisation)	Diploma or Advanced Certificate (NQF Level 6)
2021-121101	Finance Manager*	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-121201	Human Resource Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-121202	Business Training Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-121206	Health and Safety Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-121301	Policy and Planning Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-121901	Corporate General Manager	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-121903	Physical Asset Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-121904	Contract Manager	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-121905	Programme or Project Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-121908	Quality Systems Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-122101	Sales and Marketing Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-122103	Director of Marketing	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-122201	Advertising and Public Relations Manager*	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-122301	Research and Development Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-131101	Agricultural Farm Manager*	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-132102	Manufacturing Operations Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-132107	Quality Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-132301	Construction Project Manager*	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-132401	Supply and Distribution Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-132402	Logistics Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-133101	Chief Information Officer	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-133102	ICT Project Manager	Diploma or Advanced Certificate (NQF Level 6)
2021-141201	Café (Licensed) or Restaurant Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-142103	Retail General Manager*	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-143905	Call or Contact Centre Manager	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-213104	Biochemist	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)

OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-213105	Biotechnologist	Diploma or Advanced Certificate (NQF Level 6)
2021-213110	Medical Scientist	Master's Degree (NQF Level 9)
2021-213201	Agriculture Consultant	Diploma or Advanced Certificate (NQF Level 6)
2021-213205	Food and Beverage Scientist	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-213301	Conservation Scientist	Diploma or Advanced Certificate (NQF Level 6)
2021-213305	Air Quality Analyst	Higher Certificate (NQF Level 5)
2021-214101	Industrial Engineer	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-214102	Industrial Engineering Technologist	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-214104	Production Engineering Technologist	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-214201	Civil Engineer	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-214301	Environmental Engineer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-214302	Environmental Impact and Restoration Analyst	Diploma or Advanced Certificate (NQF Level 6)
2021-214401	Mechanical Engineer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-214501	Chemical Engineer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-215101	Electrical Engineer*	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-215103	Energy Engineer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-215104	Energy Engineering Technologist	Diploma or Advanced Certificate (NQF Level 6)
2021-215302	Telecommunications Engineer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-215303	Telecommunications Network Engineer	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-221101	General Medical Practitioner	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-221203	Emergency Medicine Specialist	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-221207	Pathologist	Master's Degree (NQF Level 9)
2021-221210	General Medicine Specialist Physician	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-222101	Clinical Nurse Practitioner	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-222103	Registered Nurse (Child and Family Health)	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-222104	Registered Nurse (Community Health)	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)



OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-222105	Registered Nurse (Critical Care and Emergency)	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-222108	Registered Nurse (Medical)	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-222110	Registered Nurse (Mental Health)	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-222111	Registered Nurse (Operating theatre)	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-222114	Nurse Educator	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-222116	Nurse Manager	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-226302	Safety, Health, Environment, and Quality (SHE&Q) Practitioner*	Higher Certificate (NQF Level 5)
2021-233107	FET Phase School Teacher (Grades 10–12)	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-233108	Senior Phase School Teacher (Grades 7–9)	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-234101	Foundation Phase School Teacher*	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-234102	Intermediate Phase School Teacher (Grades 4–6)	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-234201	Early Childhood Development Practitioner	Higher Certificate (NQF Level 5)
2021-235101	Education or Training Advisor	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-235601	ICT Trainer	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241101	General Accountant	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241103	Tax Professional	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241104	External Auditor	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241107	Financial Accountant	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241108	Forensic Accountant	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-241301	Financial Investment Advisor	Diploma or Advanced Certificate (NQF Level 6)
2021-242101	Management Consultant	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-242102	Organisation and Methods Analyst	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-242103	Business Development Officer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-242202	Policy Analyst	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-242208	Organisational Risk Manager	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-242210	Business Administrator*	Bachelor's Degree or Advanced Diploma (NQF Level 7)

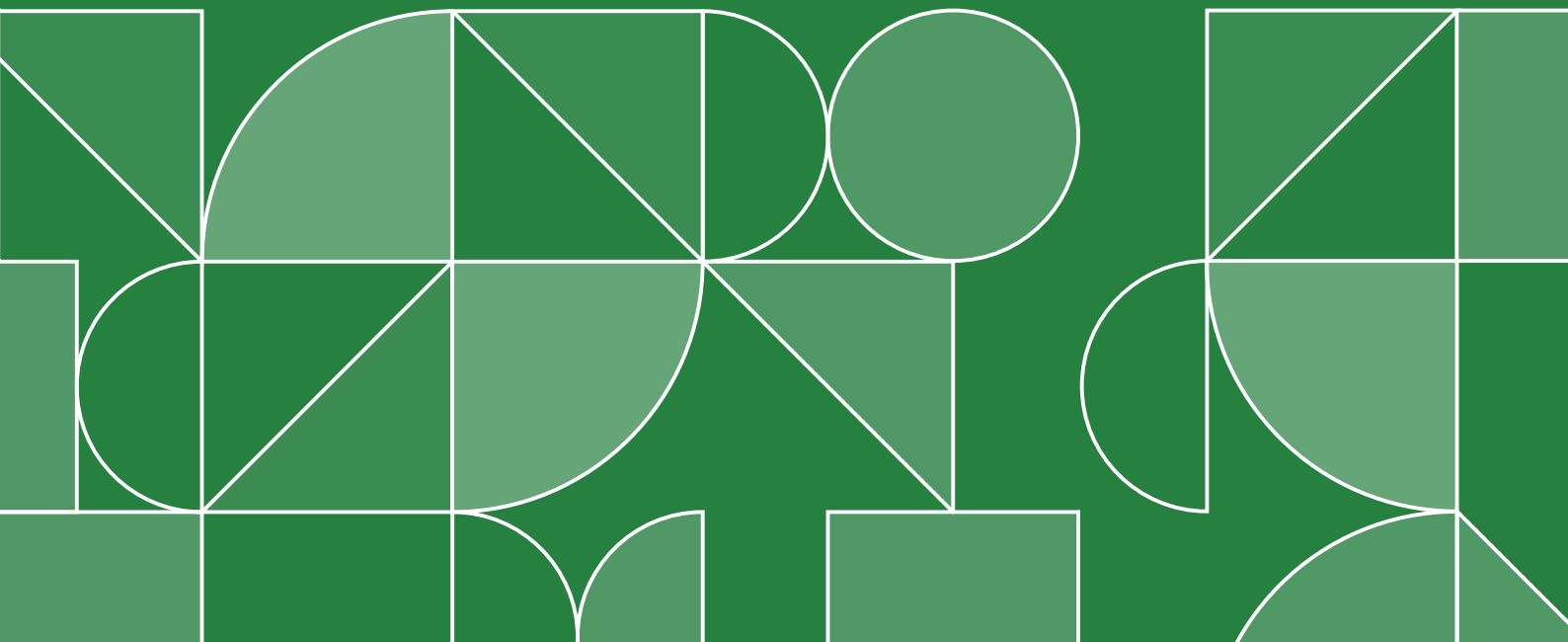
OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-242211	Internal Auditor	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-242215	Fraud Examiner	Diploma or Advanced Certificate (NQF Level 6)
2021-242302	Skills Development Practitioner*	Higher Certificate (NQF Level 5)
2021-242401	Training and Development Professional	Diploma or Advanced Certificate (NQF Level 6)
2021-242403	Assessment Practitioner	Diploma or Advanced Certificate (NQF Level 6)
2021-243101	Advertising Specialist	Diploma or Advanced Certificate (NQF Level 6)
2021-243103	Marketing Practitioner	Diploma or Advanced Certificate (NQF Level 6)
2021-243201	Communication Coordinator	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-251101	ICT Systems Analyst	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-251102	Data Scientist	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-251201	Software Developer	Diploma or Advanced Certificate (NQF Level 6)
2021-251203	Developer Programmer	Diploma or Advanced Certificate (NQF Level 6)
2021-261101	Attorney	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-263101	Economist	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-311303	Energy Efficiency Technician	Diploma or Advanced Certificate (NQF Level 6)
2021-311401	Electronic Engineering Technician	Diploma or Advanced Certificate (NQF Level 6)
2021-311904	Manufacturing Technician	Diploma or Advanced Certificate (NQF Level 6)
2021-312202	Maintenance Planner	National Certificate (NQF Level 4)
2021-313109	Solar Photovoltaic Service Technician	Higher Certificate (NQF Level 5)
2021-313203	Water Process Controller	National Certificate (NQF Level 4)
2021-313501	Metal Manufacturing Process Control Technician	Intermediate Certificate (NQF Level 3)
2021-321101	Medical Diagnostic Radiographer	Honours Degree, Postgraduate Diploma, or Bachelor's Degree (NQF Level 8)
2021-321107	Operating Theatre Technician	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-321201	Medical Technician	Diploma or Advanced Certificate (NQF Level 6)
2021-321206	Medical Technologist	Master's Degree (NQF Level 9)
2021-325201	Health Information Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-325802	Intensive Care Ambulance Paramedic/Ambulance Paramedic	Higher Certificate (NQF Level 5)
2021-331201	Credit or Loans Officer	Higher Certificate (NQF Level 5)
2021-331301	Bookkeeper	Higher Certificate (NQF Level 5)
2021-332102	Insurance Broker	National Certificate (NQF Level 4)
2021-332204	Commercial Services Sales Agent*	Intermediate Certificate (NQF Level 3)
2021-332301	Retail Buyer	Higher Certificate (NQF Level 5)

OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-332302	Purchasing Officer	Higher Certificate (NQF Level 5)
2021-333201	Events Manager	Intermediate Certificate (NQF Level 3)
2021-333907	Property Portfolio and Asset Manager	Bachelor's Degree or Advanced Diploma (NQF Level 7)
2021-334102	Office Administrator*	Elementary Certificate (NQF Level 2)
2021-334302	Personal Assistant*	Elementary Certificate (NQF Level 2)
2021-343401	Chef*	National Certificate (NQF Level 4)
2021-411101	General Clerk*	Diploma or Advanced Certificate (NQF Level 6)
2021-412101	Secretary (General)*	No Formal Qualification Required
2021-413201	Data Entry Operator*	Diploma or Advanced Certificate (NQF Level 6)
2021-422102	Travel Consultant	Diploma or Advanced Certificate (NQF Level 6)
2021-422203	Contact Centre Real Time Advisor	Higher Certificate (NQF Level 5)
2021-422206	Call or Contact Centre Agent*	Higher Certificate (NQF Level 5)
2021-422501	Enquiry Clerk*	National Certificate (NQF Level 4)
2021-422701	Survey Interviewer	No Formal Qualification Required
2021-431101	Accounts Clerk*	Higher Certificate (NQF Level 5)
2021-431102	Cost Clerk	Elementary Certificate (NQF Level 2)
2021-431103	Taxation Clerk	Diploma or Advanced Certificate (NQF Level 6)
2021-432201	Production Coordinator	National Certificate (NQF Level 4)
2021-432301	Transport Clerk	Intermediate Certificate (NQF Level 3)
2021-441201	Courier	General Certificate (NQF Level 1)
2021-441501	Filing or Registry Clerk*	General Certificate (NQF Level 1)
2021-441502	Office Machine Operator	No Formal Qualification Required
2021-441903	Program or Project Administrators	National Certificate (NQF Level 4)
2021-513101	Waiter*	No Formal Qualification Required
2021-514101	Hairdresser	National Certificate (NQF Level 4)
2021-515101	Hotel Service Manager	No Formal Qualification Required
2021-522301	Sales Assistant (General)*	Intermediate Certificate (NQF Level 3)
2021-524903	Sales Clerk/Officer*	National Certificate (NQF Level 4)
2021-541401	Security Officer*	National Certificate (NQF Level 4)
2021-641201	Bricklayer*	National Certificate (NQF Level 4)
2021-641502	Carpenter*	National Certificate (NQF Level 4)
2021-642601	Plumber*	National Certificate (NQF Level 4)
2021-642602	Solar Installer	National Certificate (NQF Level 4)
2021-642607	Pipe Fitter*	National Certificate (NQF Level 4)
2021-642702	Refrigeration Mechanic	National Certificate (NQF Level 4)

OFO CODE	OCCUPATION	MINIMUM QUALIFICATION REQUIRED
2021-651101	Moulder	National Certificate (NQF Level 4)
2021-651202	Welder*	National Certificate (NQF Level 4)
2021-651302	Boiler Maker*	National Certificate (NQF Level 4)
2021-651501	Rigger*	National Certificate (NQF Level 4)
2021-652204	Patternmaker	National Certificate (NQF Level 4)
2021-652302	Fitter and Turner*	National Certificate (NQF Level 4)
2021-653303	Mechanical Fitter*	National Certificate (NQF Level 4)
2021-653306	Diesel Mechanic*	National Certificate (NQF Level 4)
2021-671101	Electrician*	National Certificate (NQF Level 4)
2021-671102	Electrical Installation Inspector	National Certificate (NQF Level 4)
2021-671202	Millwright	National Certificate (NQF Level 4)
2021-671208	Transportation Electrician	National Certificate (NQF Level 4)
2021-671301	Electrical Line Mechanic	National Certificate (NQF Level 4)
2021-672104	Electronic Equipment Mechanician	National Certificate (NQF Level 4)
2021-672205	Telecommunications Technician	National Certificate (NQF Level 4)
2021-681201	Confectionary Baker*	Higher Certificate (NQF Level 5)
2021-684902	Farrier	National Certificate (NQF Level 4)
2021-721901	Product Assembler*	Intermediate Certificate (NQF Level 3)
2021-733101	Bus Driver*	Professional Driving Permit (No Equivalent NQF Level)
2021-733201	Truck Driver (General)*	Professional Driving Permit (No Equivalent NQF Level)
2021-734402	Forklift Driver*	No Formal Qualification Required

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# Conclusion



This pilot study on P-OIHD in Mpumalanga sheds light on the region's economic and labour market conditions. The impact of the COVID-19 pandemic is evident in the decline in employment growth and the challenges faced during the post-pandemic recovery. Due to projected poor growth on a national level and Mpumalanga's lagging recovery, it is therefore crucial that the skills planning closely aligns with occupational demand.

The study reveals 167 OIHD within the province, highlighting critical sectors with occupational demand. The occupations listed are diverse and require high-level professional, managerial, and technical skills, but also low- to medium-level administrative and clerical support.

For policymakers, these findings emphasise the necessity of tailored strategies to address the unique economic conditions of Mpumalanga. Policy interventions should focus on upskilling programmes, aligning education and training with the identified high-demand occupations, and fostering collaboration between educational institutions and industries. Additionally, measures to support sectors experiencing decline, such as the construction industry, could mitigate the impact on employment.

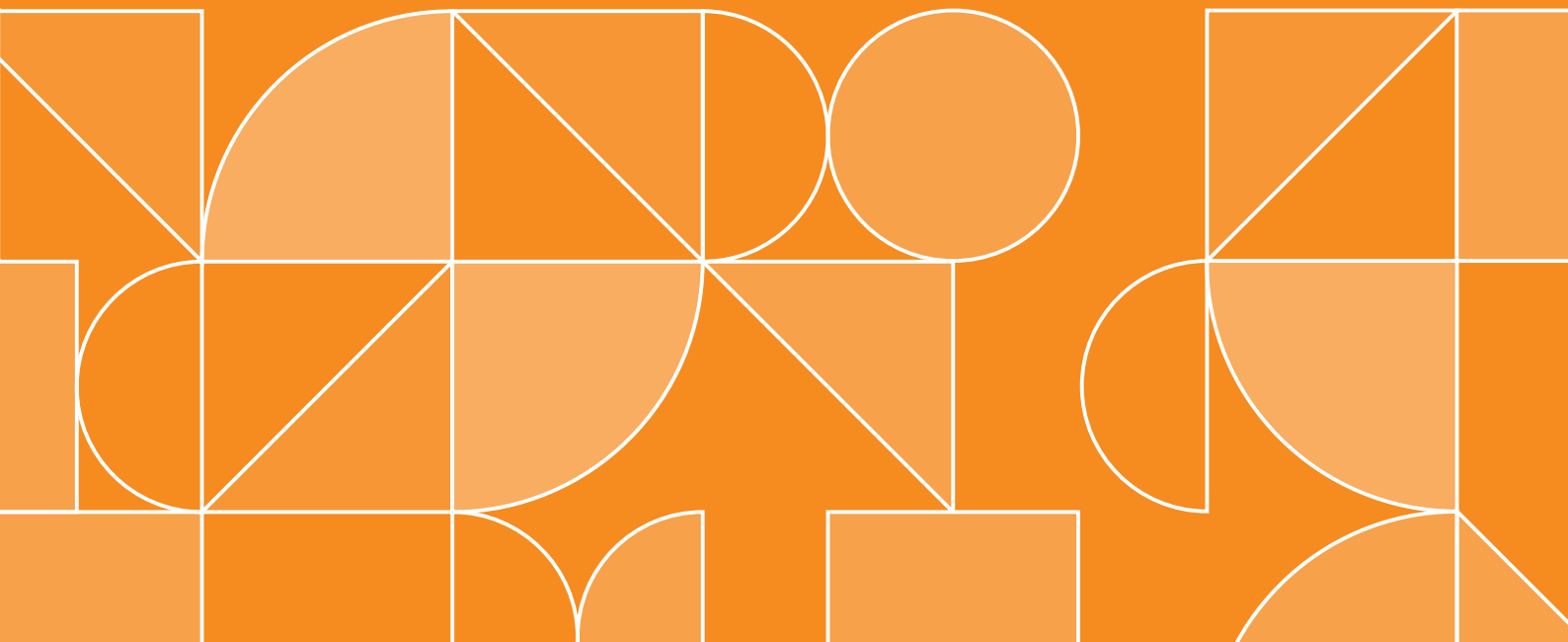
In conclusion, this report provides a foundation for evidence-based policy decisions that can enhance workforce development, support economic recovery, and address the evolving needs of Mpumalanga's labour market.



PART 7

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# Annexures



## Annexure 1: The number of occupations per category in the Mpumalanga OIHD list

Mpumalanga's list of OIHD is colour-coded below according to this key.

OCCUPATIONAL CATEGORIES (COLOUR-CODED)	NUMBER OF LISTED OCCUPATIONS WITHIN EACH CATEGORY
Trades	25
ICT	5
Education, health, and social services	28
Engineering professionals, associate professionals, and technicians	12
Management, other	26
Professionals, other	27
Technicians and associate professionals, other	18
Clerical support, service and sales workers, other	26
<b>Total occupations</b>	<b>167</b>

## Annexure 2: OIHD in Mpumalanga ranked according to demand

OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-121901	Corporate General Manager	0.98	0.98	0.46	0.95
2021-121201	Human Resource Manager	0.98	0.99	0.29	0.95
2021-121905	Programme or Project Manager	0.98	0.96	0.47	0.95
2021-121101	Finance Manager*	0.98	0.93	0.29	0.92
2021-411101	General Clerk*	0.85	0.99	0.43	0.9
2021-514101	Hairdresser	1	0.84	0.26	0.88
2021-121202	Business Training Manager	0.98	0.84	0.32	0.88
2021-141201	Café (Licensed) or Restaurant Manager	0.95	0.83	0.26	0.86
2021-214101	Industrial Engineer	0.87	0.87	0.65	0.86
2021-121903	Physical Asset Manager	0.98	0.74	0.61	0.85
2021-233108	Senior Phase School Teacher (Grades 7–9)	0.74	1	0.47	0.85
2021-671101	Electrician*	0.77	0.94	0.62	0.85
2021-121908	Quality Systems Manager	0.98	0.74	0.41	0.84



OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-233107	FET Phase School Teacher (Grades 10–12)	0.74	0.96	0.65	0.84
2021-132301	Construction Project Manager*	0.84	0.87	0.43	0.83
2021-671202	Millwright	0.77	0.91	0.63	0.83
2021-132102	Manufacturing Operations Manager	0.84	0.83	0.66	0.83
2021-214401	Mechanical Engineer	0.87	0.83	0.26	0.82
2021-214201	Civil Engineer	0.87	0.83	0.19	0.82
2021-413201	Data Entry Operator*	0.87	0.74	1	0.81
2021-214302	Environmental Impact and Restoration Analyst	0.87	0.74	1	0.81
2021-132401	Supply and Distribution Manager	0.84	0.83	0.26	0.81
2021-132402	Logistics Manager	0.84	0.83	0.18	0.8
2021-214102	Industrial Engineering Technologist	0.87	0.74	0.68	0.8
2021-214501	Chemical Engineer	0.87	0.74	0.61	0.79
2021-412101	Secretary (General)*	0.81	0.74	1	0.78
2021-215103	Energy Engineer	0.6	0.98	0.23	0.76
2021-215104	Energy Engineering Technologist	0.6	0.98	0.23	0.76
2021-242302	Skills Development Practitioner*	0.58	0.94	0.61	0.75
2021-121904	Contract Manager	0.98	0.56	0.42	0.75
2021-242202	Policy Analyst	0.58	0.98	0.26	0.75
2021-222108	Registered Nurse (Medical)	0.63	0.91	0.3	0.75
2021-242101	Management Consultant	0.58	0.93	0.63	0.75
2021-142103	Retail General Manager*	0.6	0.91	0.48	0.74
2021-121206	Health and Safety Manager	0.98	0.55	0.22	0.74
2021-121301	Policy and Planning Manager	0.98	0.55	0.18	0.74
2021-671208	Transportation Electrician	0.77	0.74	0.45	0.74
2021-642607	Pipe Fitter*	0.64	0.84	0.69	0.74
2021-332302	Purchasing Officer	0.78	0.74	0.29	0.73
2021-235601	ICT Trainer	0.71	0.74	1	0.73
2021-234102	Intermediate Phase School Teacher (Grades 4–6)	0.59	0.91	0.42	0.73
2021-671301	Electrical Line Mechanic	0.77	0.74	0.18	0.73
2021-131101	Agricultural Farm Manager*	0.87	0.55	1	0.72
2021-214301	Environmental Engineer	0.87	0.55	1	0.72
2021-214104	Production Engineering Technologist	0.87	0.56	1	0.73

OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-432301	Transport Clerk	0.86	0.56	1	0.72
2021-261101	Attorney	0.58	0.87	0.68	0.72
2021-241301	Financial Investment Advisor	0.61	0.83	0.66	0.72
2021-642601	Plumber*	0.64	0.83	0.31	0.72
2021-321201	Medical Technician	0.84	0.55	1	0.71
2021-321206	Medical Technologist	0.84	0.55	1	0.71
2021-672104	Electronic Equipment Mechanician	0.83	0.55	1	0.71
2021-672205	Telecommunications Technician	0.83	0.55	1	0.71
2021-234201	Early Childhood Development Practitioner	0.59	0.84	0.61	0.71
2021-241101	General Accountant	0.61	0.84	0.32	0.71
2021-432201	Production Coordinator	0.86	0.55	0.61	0.7
2021-215303	Telecommunications Network Engineer	0.6	0.83	0.31	0.7
2021-522301	Sales Assistant (General)*	0.69	0.74	0.41	0.7
2021-132107	Quality Manager	0.84	0.55	0.61	0.69
2021-215101	Electrical Engineer*	0.6	0.83	0.19	0.69
2021-241104	External Auditor	0.61	0.74	1	0.69
2021-651202	Welder*	0.41	0.99	0.46	0.69
2021-524903	Sales Clerk/Officer*	0.43	0.96	0.62	0.69
2021-515101	Hotel Service Manager	0.67	0.74	0.29	0.69
2021-263101	Economist	0.48	0.91	0.44	0.69
2021-343401	Chef*	0.53	0.87	0.42	0.68
2021-332301	Retail Buyer	0.78	0.55	1	0.68
2021-733201	Truck Driver (General)*	0.62	0.74	0.61	0.68
2021-242401	Training and Development Professional	0.58	0.74	1	0.68
2021-242403	Assessment Practitioner	0.58	0.74	1	0.68
2021-651302	Boiler Maker*	0.41	0.94	0.69	0.68
2021-321101	Medical Diagnostic Radiographer	0.84	0.55	0.18	0.68
2021-321107	Operating Theatre Technician	0.84	0.55	0.18	0.68
2021-222101	Clinical Nurse Practitioner	0.63	0.74	0.18	0.66
2021-222116	Nurse Manager	0.63	0.74	0.18	0.66
2021-243103	Marketing Practitioner	0.4	0.91	0.7	0.66
2021-733101	Bus Driver*	0.62	0.74	0.18	0.65
2021-653303	Mechanical Fitter*	0.4	0.91	0.66	0.65
2021-235101	Education or Training Advisor	0.71	0.56	1	0.65
2021-242103	Business Development Officer	0.58	0.74	0.41	0.65

OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-431101	Accounts Clerk*	0.74	0.55	0.61	0.65
2021-431102	Cost Clerk	0.74	0.55	0.61	0.65
2021-431103	Taxation Clerk	0.74	0.55	0.61	0.65
2021-684902	Farrier	0.7	0.55	1	0.64
2021-332102	Insurance Broker	0.78	0.55	0.18	0.64
2021-332204	Commercial Services Sales Agent*	0.78	0.55	0.18	0.64
2021-671102	Electrical Installation Inspector	0.77	0.55	0.18	0.64
2021-112101	Director (Enterprise/Organisation)	0.71	0.55	0.41	0.62
2021-334102	Office Administrator*	0.65	0.55	1	0.62
2021-331201	Credit or Loans Officer	0.47	0.74	1	0.62
2021-642602	Solar Installer	0.64	0.55	1	0.62
2021-652302	Fitter and Turner*	0.49	0.74	0.68	0.62
2021-222104	Registered Nurse (Community Health)	0.63	0.55	1	0.61
2021-222105	Registered Nurse (Critical Care and Emergency)	0.63	0.55	1	0.61
2021-222111	Registered Nurse (Operating theatre)	0.63	0.55	1	0.61
2021-251201	Software Developer	0.31	0.91	0.68	0.61
2021-641201	Bricklayer*	0.42	0.83	0.26	0.61
2021-251101	ICT Systems Analyst	0.31	0.91	0.61	0.61
2021-251102	Data Scientist	0.31	0.87	1	0.61
2021-241108	Forensic Accountant	0.61	0.55	1	0.61
2021-241103	Tax Professional	0.61	0.55	1	0.61
2021-241107	Financial Accountant	0.61	0.55	1	0.61
2021-243201	Communication Coordinator	0.4	0.83	0.26	0.6
2021-312202	Maintenance Planner	0.38	0.83	0.44	0.6
2021-215302	Telecommunications Engineer	0.6	0.55	1	0.6
2021-422501	Enquiry Clerk*	0.6	0.55	1	0.6
2021-652204	Patternmaker	0.49	0.74	0.29	0.6
2021-311303	Energy Efficiency Technician	0.41	0.74	1	0.59
2021-334302	Personal Assistant*	0.65	0.55	0.41	0.59
2021-221207	Pathologist	0.59	0.55	1	0.59
2021-221210	General Medicine Specialist Physician	0.59	0.55	1	0.59
2021-734402	Forklift Driver*	0.46	0.74	0.41	0.59
2021-242102	Organisation and Methods Analyst	0.58	0.55	1	0.59
2021-242210	Business Administrator*	0.58	0.55	1	0.59
2021-242215	Fraud Examiner	0.58	0.55	1	0.59

OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-133101	Chief Information Officer	0.63	0.55	0.41	0.58
2021-213110	Medical Scientist	0.56	0.55	1	0.58
2021-213305	Air Quality Analyst	0.56	0.55	1	0.58
2021-422701	Survey Interviewer	0.6	0.55	0.61	0.58
2021-642702	Refrigeration Mechanic	0.64	0.55	0.18	0.58
2021-122301	Research and Development Manager	0.6	0.55	0.61	0.58
2021-651501	Rigger*	0.41	0.74	0.61	0.57
2021-222103	Registered Nurse (Child and Family Health)	0.63	0.55	0.18	0.57
2021-222110	Registered Nurse (Mental Health)	0.63	0.55	0.18	0.57
2021-222114	Nurse Educator	0.63	0.55	0.18	0.57
2021-133102	ICT Project Manager	0.63	0.55	0.18	0.57
2021-641502	Carpenter*	0.42	0.74	0.41	0.57
2021-422102	Travel Consultant	0.6	0.55	0.41	0.57
2021-122103	Director of Marketing	0.6	0.55	0.41	0.57
2021-122201	Advertising and Public Relations Manager*	0.6	0.55	0.41	0.57
2021-333201	Events Manager	0.54	0.55	1	0.57
2021-333907	Property Portfolio and Asset Manager	0.54	0.55	1	0.57
2021-221101	General Medical Practitioner	0.59	0.55	0.41	0.56
2021-441903	Program or Project Administrators	0.42	0.74	0.29	0.56
2021-213201	Agriculture Consultant	0.56	0.55	0.61	0.56
2021-213205	Food and Beverage Scientist	0.56	0.55	0.61	0.56
2021-422203	Contact Centre Real Time Advisor	0.6	0.55	0.18	0.56
2021-422206	Call or Contact Centre Agent*	0.6	0.55	0.18	0.56
2021-122101	Sales and Marketing Manager	0.6	0.55	0.18	0.56
2021-513101	Waiter*	0.57	0.55	0.41	0.55
2021-234101	Foundation Phase School Teacher*	0.59	0.55	0.22	0.55
2021-221203	Emergency Medicine Specialist	0.59	0.55	0.18	0.55
2021-653306	Diesel Mechanic*	0.4	0.74	0.29	0.55
2021-242208	Organisational Risk Manager	0.58	0.55	0.18	0.55
2021-242211	Internal Auditor	0.58	0.55	0.18	0.55
2021-226302	Safety, Health, Environment, and Quality (SHE&Q) Practitioner*	0.21	0.87	0.65	0.55
2021-213104	Biochemist	0.56	0.55	0.18	0.54

OFO CODE	OFO TITLE	DEMAND SCORES			
		SECONDARY DATA	MENTION FREQUENCY	AVERAGE CERTAINTY	WEIGHTED AVERAGE
2021-213105	Biotechnologist	0.56	0.55	0.18	0.54
2021-213301	Conservation Scientist	0.56	0.55	0.18	0.54
2021-143905	Call or Contact Centre Manager	0.56	0.55	0.18	0.54
2021-313203	Water Process Controller	0.45	0.55	1	0.53
2021-251203	Developer Programmer	0.31	0.74	0.61	0.53
2021-721901	Product Assembler*	0.45	0.55	1	0.53
2021-441502	Office Machine Operator	0.42	0.55	1	0.51
2021-441201	Courier	0.42	0.55	1	0.51
2021-441501	Filing or Registry Clerk*	0.42	0.55	1	0.51
2021-325802	Intensive Care Ambulance Paramedic/Ambulance Paramedic	0.49	0.55	0.18	0.5
2021-325201	Health Information Manager	0.49	0.55	0.18	0.5
2021-243101	Advertising Specialist	0.4	0.55	1	0.5
2021-541401	Security Officer*	0.44	0.55	0.61	0.5
2021-681201	Confectionary Baker*	0.39	0.55	1	0.5
2021-331301	Bookkeeper	0.47	0.55	0.22	0.5
2021-311401	Electronic Engineering Technician	0.41	0.55	0.61	0.49
2021-311904	Manufacturing Technician	0.41	0.55	0.61	0.49
2021-651101	Moulder	0.41	0.55	0.61	0.49
2021-313109	Solar Photovoltaic Service Technician	0.45	0.55	0.18	0.49
2021-313501	Metal Manufacturing Process Control Technician	0.45	0.55	0.18	0.49

## Annexure 3: Survey response mapping

The following list details all the occupations exactly as they were listed by survey respondents, and the corresponding OFO occupations to which they were mapped—a total of 167 OIHD in Mpumalanga.

<b>ACCOUNTS CLERK</b>	Accounts clerk
	Financial Clerks
	Invoice Clerk
<b>AIR QUALITY ANALYST</b>	Air quality specialists
<b>ASSESSMENT PRACTITIONER</b>	EAssessment Developer
<b>ATTORNEY</b>	Aviation Law
<b>BIOCHEMIST</b>	Biochemistry
<b>BIOTECHNOLOGIST</b>	Biotechnologist
<b>BOILER MAKER</b>	Boile Maker
	Boiler Attendees
	Boiler Maker
	Boilermaker Assessor
	Boilermaker Instructor
	Boilermaker Moderator
<b>BOOKKEEPER</b>	Book keeper
	Book keepers
	Bookkeeper
<b>BRICKLAYER</b>	Artisan Bricklayer
	Artisan: Bricklaying
	Brick Layer and road paving
	Bricklayer
	Bricklayers
<b>BUS DRIVER</b>	Bus Driver
	Bus Drivers

<b>BUSINESS ADMINISTRATOR</b>	Business Administration Services
	Business Administrators
<b>BUSINESS DEVELOPMENT OFFICER</b>	Business developers
	Business development
	Business Development Adinistrator
	Business Development Advisors
	Business Development Analyst
	Business Development Specialist
<b>CALL OR CONTACT CENTRE AGENT</b>	Call Center agents
	Call center trainers
	Call Centre Agents
	Contact Center Support Agent
	Contact Centre Agent
	Contact Centre agents
<b>CALL OR CONTACT CENTRE MANAGER</b>	Call center managers
	Call Centre Coordinator
	Call Centre Manager
	Call Centre Managers
	Contact centre Campaign managers
	Contact Centre Management
	Contact Centre Manager
	Contact centre managers
	Contact Centre Operations Manager
<b>CARPENTER</b>	Artisan: Carpenter
	Carpenter
	Carpentry
<b>CHEF</b>	Chef
	Chefs
	Commis Chef – Pastry
	Cooker
	Facilitator – Chef
	Private chef for food prep
	Restaurant Chef

<b>CHEMICAL ENGINEER</b>	Chemical Eng
	Chemical engineer
	Chemical engineering
	Chemical Engineers
	Chemical Engineer
<b>CHIEF INFORMATION OFFICER</b>	Chief Information officer
	Chief Information Officers (CIO)
	Chief Information Security Officer
<b>CIVIL ENGINEER</b>	Civil engineer
	Civil Engineering
	Civil Engineers
	Engineer Infrastructure
	Professional Civil Engineer
	Senior Civil Engineer
	Superintends Supervisors at Infrastructure
<b>CLINICAL NURSE PRACTITIONER</b>	Clinical facilitators – who has a diploma in nursing education
	Nursing practitioner
<b>COMMERCIAL SERVICES SALES AGENT</b>	Sales Agent
<b>COMMUNICATION COORDINATOR</b>	Communication Officer
	Community Liaison
<b>CONFECTIONARY BAKER</b>	Bread and Flour Confectionery Baking
	Confectionary Baker
<b>CONSERVATION SCIENTIST</b>	Conservation Researcher
<b>CONSTRUCTION PROJECT MANAGER</b>	Construction Project Manager
	Professional Construction Project Manager
	Project Manager – Construction
<b>CONTRACT MANAGER</b>	Contract Managers
<b>COURIER</b>	Couriers / drivers
<b>CREDIT OR LOANS OFFICER</b>	Creditors Administrator



<b>DATA SCIENTIST</b>	Data Intelligence/Specialists
	Data Scientist
	Data Scientists
	Data scientists , AI developers , IT , electric batteries installers ,
	Data Scientists and Analysts
<b>DEVELOPER PROGRAMMER</b>	AI Developers
	AI Programmer
	Developer Programmer
	Financial AI
	Programme Developer
	Programmer
<b>DIESEL MECHANIC</b>	Diesel and petrol mechanic apprentices
	Diesel engine mechanics
	Diesel Mechanic
	Diesel Mechanics
	Motor and Diesel Mechanic
<b>DIRECTOR (ENTERPRISE/ ORGANISATION)</b>	Director
	Director of Studies
<b>EARLY CHILDHOOD DEVELOPMENT PRACTITIONER</b>	Early Childhood Development Practitioner
	Early childhood development practitioners
	Early Education Development teacher
	ECD Facilitator/Assessor/Moderator
	ECD Level 6
	ECD practitioners
	ECD Teacher
	ECD teachers
	Grade R practitioner
<b>ECONOMIST</b>	Development Economist
	Developmental Economist
	Economist
	Senior Economist
	Senior Economist- Transport/Infrastructure
	Senior Energy Economist
	Transport Economist

<b>ELECTRICAL ENGINEER</b>	Electrical Engineer
	Electrical engineering
	Electrical Engineering Renewable Energy
	Electrical Engineers
	Grid Engineer
	Professional Electrical Engineer
	Senior Electrical Engineering Officer Senior Manager Electricity / Electrical Engineer
<b>ELECTRICAL INSTALLATION INSPECTOR</b>	Electrical Assessor
<b>ELECTRICAL LINE MECHANIC</b>	Electrical HV&LV lines and Substations construction and maintenance
	Electrical line mechanic
<b>ELECTRICIAN</b>	Artisan electrician
	Electrical construction
	Electrical Technicians
	Electrician
	Electrician - Red Seal
	Electrician apprentices
	Electrician arrisan
	Electrician/Assistant Maintenance Manager
	Electrician/Maintenance Supervisor
	Electricians
	Installation electrician
	Registered Electrician IE
	Trackless Electrician
<b>ELECTRONIC ENGINEERING TECHNICIAN</b>	Electronics Engineer Technologist
<b>ELECTRONIC EQUIPMENT MECHANICIAN</b>	Digital machine mechanics
<b>EMERGENCY MEDICINE SPECIALIST</b>	Emergency Medical Care Practitioners
<b>ENERGY EFFICIENCY TECHNICIAN</b>	Energy Efficiency Professionals

<b>ENERGY ENGINEER</b>	Energy Analyst
	Energy System Optimisation Professionals
	Senior Energy Modeller
<b>ENROLLED NURSE</b>	Enrolled Nurse
	Enrolled Nurse Auxillary
	Enrolled Nurses
	Enrolled Nursing Assistant
	Post basic nursing
<b>ENVIRONMENTAL ENGINEER</b>	Environmental Engineer
	Environmental engineers
	Professional (Built Environment)
<b>EXTERNAL AUDITOR</b>	External audit manager
	External Auditor
	External auditor managers
<b>FARRIER</b>	Farrier
<b>FET PHASE SCHOOL TEACHER (GRADES 10–12)</b>	Afrikaans Teacher Grade 10–12
	English Teacher Grade 10–12
	Mathematics Teacher
<b>FILING OR REGISTRY CLERK</b>	Technical Record Manager – Helicopters
	Technical Records Officer - Helicopters
<b>FINANCE MANAGER</b>	Department Managers
	Finance Manager
	Finance managers
	Financial Executive
	Financial management
	Financial Manager
	Group Financial Manager
	Head of Finance
	Revenue Manager
<b>FINANCIAL ACCOUNTANT</b>	Financial Accountant
<b>FINANCIAL INVESTMENT ADVISOR</b>	Wealth Manager

<b>FITTER AND TURNER</b>	Fitter
	Fitter & Turner
	Fitter and Turner
	Fitters
	Fitting
	Fitting and Turning apprentices
<b>FOOD AND BEVERAGE SCIENTIST</b>	Food and Beverage Scientist
<b>FORENSIC ACCOUNTANT</b>	Certified Fraud Examiner OFO 2021-242215 – Forensic Accountant
	Forensic Accountant
<b>FORKLIFT DRIVER</b>	Forklift
	Forklift Driver
	Forklift Drivers
<b>FOUNDATION PHASE SCHOOL TEACHER</b>	Educator Basic Education
	Foundation Phase Teacher Grade 1–3
	Primary School Educator
<b>FRAUD EXAMINER</b>	Certified Fraud Examiner
	Certified Fraud Examiner OFO 2021-242215
	Certified Fraud Examiner OFO 2021-242215 – Anti-Money Laundering Specialist
	Certified Fraud Examiner OFO 2021-242215 – Forensic Document Examiner
	Certified Fraud Examiner OFO 2021-242215 – Penetration Tester
	Fraud Examiners
	Fraud Risk Practitioner
<b>GENERAL ACCOUNTANT</b>	Accountant
	Accountant (General)
	Accountants
	BComm Accounting
	Chartered Accountant
	Chartered Accountants
<b>GENERAL CLERK</b>	Bin Clerk
	Clerical Officers and Practitioner
	Clerical Support Workers

<b>GENERAL CLERK ... cont.</b>	Clerical worker
	Clerks
	Principal Clerk: Creditors
<b>GENERAL MEDICINE SPECIALIST PHYSICIAN</b>	Specialist Physician (General Medicine ) Precision Medicine
<b>HAIRDRESSER</b>	Hair dresser/stylist/barber
	Hair stylist and barber
	Hairdresser
	Hairdressing barber
	Qualified hairdressers
<b>HEALTH AND SAFETY MANAGER</b>	Aviation Safety Managers
	Health and safety Manager
	Health Safety and Environment Manager
<b>HUMAN RESOURCE MANAGER</b>	B-BBEE Specialist
	Chief HR Manager
	Deputy Director HRD
	Director HR
	Director Human Human Resource Support
	HR Employee Development Specialist
	HR Management
	HR Manager
	HR Practitioner
	human resource
	Human Resource Manager
	Human Resource Practitioner
	Human Resources
	Human Resources Information Specialist (HRIS)
	Human Resources Manager
	Human Resources Officers
Human Resources Practitioner	
Human Resources Professionals	
Snr Manager Human Resource	
<b>ICT PROJECT MANAGER</b>	ICT Manager
	ICT Projects Manager

<b>ICT SYSTEMS ANALYST</b>	ICT Systems Analyst Systems developers
<b>ICT TRAINER</b>	ICT Software Development Trainer
<b>INDUSTRIAL ENGINEER</b>	Business Improvement specialists like industrial engineers , Supply chain specialists Industrial engineer Industrial Engineers Industrial Engineer
<b>INSURANCE BROKER</b>	Insurance Broker
<b>INTERMEDIATE PHASE SCHOOL TEACHER (GRADES 4-6)</b>	Afrikaans Teacher Grade 4-7 Computer Application Technology teachers English Teacher Grade 4-7 Math Teacher Gr 4-7
<b>INTERNAL AUDITOR</b>	Auditors (Internal) Internal Audit and risk management Internal Auditor Internal Auditors
<b>LOGISTICS MANAGER</b>	Logistics Manager Logistics Managers Logistics Supervisor
<b>MAINTENANCE PLANNER</b>	Maintenance Controller Maintenance Manager Maintenance Planners
<b>MANUFACTURING OPERATIONS MANAGER</b>	Manufacturing Operations Manager
<b>MANUFACTURING TECHNICIAN</b>	Technician
<b>MARKETING PRACTITIONER</b>	Digital Marketer Digital marketers Digital marketing Marketing Marketing (Sales) Marketing and Communications

<b>MARKETING PRACTITIONER</b> ... cont.	Marketing Assistant
	Marketing personnel
	Professional – Marketing
	Retail & Marketing
	Sport Promotion
<b>MECHANICAL ENGINEER</b>	Engineers (Mechanical, Electrical, Civil, Instrument)
	Mechanical and electrical engineers
	Mechanical engineer
	Mechanical Engineer (GCC Mines and Works)
	Mechanical Engineering
	Mechanical Engineers
	Professional Mechanical Engineer
<b>MECHANICAL FITTER</b>	Artisan (Mechanical)
	Fitters (Mechanical, Pipe)
	Mech Fitters
	Mechanical Fitter
	Mechanical Fitter Apprentice
<b>MEDICAL SCIENTIST</b>	Medical Scientists and Technologists
<b>MEDICAL TECHNICIAN</b>	Anesthetic Technicians
	Medical equipment technician
	Medical Technicians (all categories)
<b>MILLWRIGHT</b>	Mill Wrights
	Millwright
	Millwright Apprentice
	Millwrights
<b>MOULDER</b>	Moulder
<b>NURSE EDUCATOR</b>	Nurse Educator
	Nurse Educators
<b>NURSE MANAGER</b>	Clinical case managers
	Nurse Manager
	Nurse Managers
	Unit managers and nursing managers
	Unit Managers Nursing

<b>OFFICE ADMINISTRATOR</b>	Office Admin
	Office Administration
	Office administrators
	Office Adminstrators
	Office Admintrators/ Clerks
	Office Clerk
<b>OPERATING THEATRE TECHNICIAN</b>	Operating Department Assistants
<b>ORGANISATIONAL RISK MANAGER</b>	Chief Risk Managers
	Organisational Risk Manager
	Risk manager
<b>PATHOLOGIST</b>	Pathologists
<b>PATTERNMAKER</b>	Patternmaker
<b>PERSONAL ASSISTANT</b>	Personal assistant
<b>PHYSICAL ASSET MANAGER</b>	Asset Management Officer
	Asset Manager (Solar Projects)
<b>PIPE FITTER</b>	Pipe Fitter
	Pipe Fitters
<b>PLUMBER</b>	Artisan Assistant Plumber
	Artisan Eectrical, Plumbing, fitting, rigger, millwright, bricklayer
	Artisan Plumber
	Artisan plumbing
	Artisan: plumbing
	Plumber
	Plumber (General)
	Plumber Arrisan
	Plumber Operators
	Plumbers
	Plumbers/Water reticulation Practitioner
	Plumbing
Plumbing, solar geyser and heatpump installation skills	
<b>POLICY ANALYST</b>	Impact Assessment Practitioner
	Industrial Policy Analyst
	M&E officer



<b>POLICY ANALYST</b> <i>... cont.</i>	M&E Specialist
	Monitoring and evaluation
	Monitoring and Evaluation manager
	Monitoring and Evaluation Officer
	Monitoring and Evaluation Officers
	Monitoring and evaluation specialist
	Performance M&E Specialist
	Researchers – conducting research on human security
	Socio-economic researcher/professional
	Specialist Researcher
<b>POLICY AND PLANNING MANAGER</b>	Development Planning Director
	MERL Unit Manager
	Social Policy Specialist
<b>PRODUCT ASSEMBLER</b>	Assemblers
<b>PRODUCTION ENGINEERING TECHNOLOGIST</b>	Production Engineering Technologist (operator Technologist)
<b>PROGRAM OR PROJECT ADMINISTRATORS</b>	Programme administrators
	Project administrators
<b>PROGRAMME OR PROJECT MANAGER</b>	Infrastructure Project Manager
	PMO Manager
	Post Doc Project Management
	Program of Projects Manager
	Project Developer
	Project Engineer
	Project Management
	Project Management Lecturer
	Project Manager
	Project Manager – Aviation Industry
	Project Manager registered with SACPCMP
	Project managers
	Project Supervisor
	Projects Controller
	Projects Manager
Renewable Energy Project Managers	
Senior Programme Manager	

QUALITY MANAGER	Aviation Quality Managers
	Quality Manager
	Quality Managers
REFRIGERATION MECHANIC	Fridge Mechanics
REGISTERED NURSE (CHILD AND FAMILY HEALTH)	Specialist nurses (emergency-, perioperative-, critical care-, pediatric-, neonatology-, obsteric nursing)
REGISTERED NURSE (CRITICAL CARE AND EMERGENCY)	ICU – Trained Professional Nurses
	ICU specialised Registered Nurses
	ICU Trained Registered Nurse
	Registered Nurse – Neonatal ICU
	Registered Nurse ICU qualified
	Registered Nurse Trauma qualified
	Specialist professional nurse (ICU)
REGISTERED NURSE (MEDICAL)	Registered Nurse
	Registered Nurse – General
	Registered Nurse General
	Registered Nurses
REGISTERED NURSE (MENTAL HEALTH)	Specialist professional nurse (Mental Health)
REGISTERED NURSE (OPERATING THEATRE)	Registered Nurse (Operating theatre) MALE BLACK
	Registered Nurse (Operating theatre) MALE COLOURED
	Registered Nurse (Operating theatre) MALE INDIAN
RESEARCH AND DEVELOPMENT MANAGER	Research and Development Manager
RETAIL BUYER	Buyer
	Buyers
	Retail Buyer
RETAIL GENERAL MANAGER	Branch Manager
	Department Manager
	Merchandise management ( buying and planning )
	Retail Managers
	Retail Operations Managers
	Site Managers

<b>RIGGER</b>	Fitters, electricians, riggers and instrumentation
	Rigger
	Riggers
	Rigging
<b>SALES AND MARKETING MANAGER</b>	Sales and Marketing Manager
<b>SALES CLERK/ OFFICER</b>	Kiosk Clerks
	sales
	Sales / Customer service
	Sales and marketing
	sales and service
	Sales Consultant
	Sales Executive
	Sales Management
	Sales Manager
	Sales People
	Sales person
	Sales Person with either Education and Commercial experience
	Sales Rep
	Sales Representative
	Sales representatives
	sales reps
	sales service
	Sales specialist
	Sales staff
	sales worker
Salesperson	
Service and sales workers	
Service and Sales Working	
<b>SECRETARY (GENERAL)</b>	Executive Secretary
	Secretary
	Secretary – CEO
<b>SECURITY OFFICER</b>	Safety Officer
	Security
	Security Officer

<b>SENIOR PHASE SCHOOL TEACHER (GRADES 7–9)</b>	Afrikaans Teacher Grade 8–9
	Chemistry Teacher
	English Teacher Grade 8 & 9
	Life Science
	Physical Sciences Teacher
	Physical Sciences teachers
	Physics Teacher
<b>SKILLS DEVELOPMENT PRACTITIONER</b>	SDF
	Skills Development Facilitator
	Skills Development Manager
	Skills Development Practitioner
	Trainers
	Vocational Education Facilitator
<b>SOFTWARE DEVELOPER</b>	Workplace trainer
	Back-end Developer
	Back-end Software developer
	DevOps
	DevOps Developers
	Game Developers
	IT Developers
	Software Developer
	Software Developers
	Software Development
	Software Development specialists
SOFWARE DEVELOPER	
UX / UI Developers	
<b>SOLAR INSTALLER</b>	Installation solar panels
	Solar installers
	Solar Mounter and Technician
	Solar panel installer
<b>SOLAR PHOTOVOLTAIC SERVICE TECHNICIAN</b>	Solar Panel Cleaners (General Site Labourers)
<b>STATISTICIAN</b>	Quantative Specialists
	Research Statistician
	Statistician

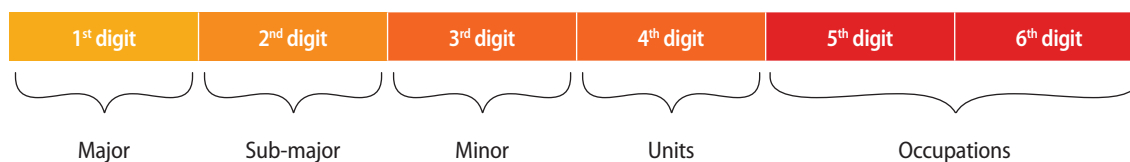
<b>TAX PROFESSIONAL</b>	Tax Specialist
<b>TELE-COMMUNICATIONS ENGINEER</b>	Service Management Engineer
<b>TELE-COMMUNICATIONS TECHNICIAN</b>	Telecommunications Fitment Technician
<b>TRAINING AND DEVELOPMENT PROFESSIONAL</b>	ODETD Professionals
<b>TRANSPORT CLERK</b>	Operations clerk /coordinator
	Road transport clerks
	Students for Diploma in Transport
	Transport Clerk
	Transport Clerk (Transport Coordinator)
	Transport Clerks
<b>TRAVEL CONSULTANT</b>	Transport Co-ordinator/Clerk
	Corporate Travel Consultant
	Intermediate Travel Consultant
	Junior Travel Consultant
	Leisure Intermediate Consultant
	Leisure Junior Consultant
	Leisure Senior Consultant
	Leisure Travel Consultant
	Senior Travel Consultant
Travel Consultant	
<b>TRUCK DRIVER (GENERAL)</b>	Auto Carrier Truck Driver
	Car Carrier driver
	Code 10 Drivers
	Code 14 Drivers
	Heavy Duty Driver
	Heavy Duty Drivers
	Reach Truck Driver
	Reach Truck Operators
	Transportation of Dangerous goods
	Truck driver

<b>TRUCK DRIVER (GENERAL) ... cont.</b>	Truck Driver Code EC
	Truck Drivers
	Ultra Heavy Truck Drivers
<b>UNIVERSITY LECTURER</b>	Engineering Management Lecturer
	Lecturer
	Lecturer (Private Higher Education Institution)
	Lecturer Higher Education
	Lecturers
	Lecturers – HR
	Lecturing
	Transport Economics and Logistics Lecturer
	University lecturer
	University Lecturer (Engineering, CAs, all Medical Disciplines)
	University Lecturers
University Professors	
<b>WAITER</b>	Restaurant Waiter
	Restaurant waitresse
	Waiter
<b>WATER PROCESS CONTROLLER</b>	Water & Wastewater Process Controller
	Water Controllers
<b>WELDER</b>	Artisan welder
	WEDLER
	Welder
	Welder apprentices
	welder artisan
	Welders
	Welders (Double Coded, Stick, CO <sub>2</sub> )
	welding
	Welding Facilitator

## Annexure 4: The Organising Framework for Occupations (OFO)

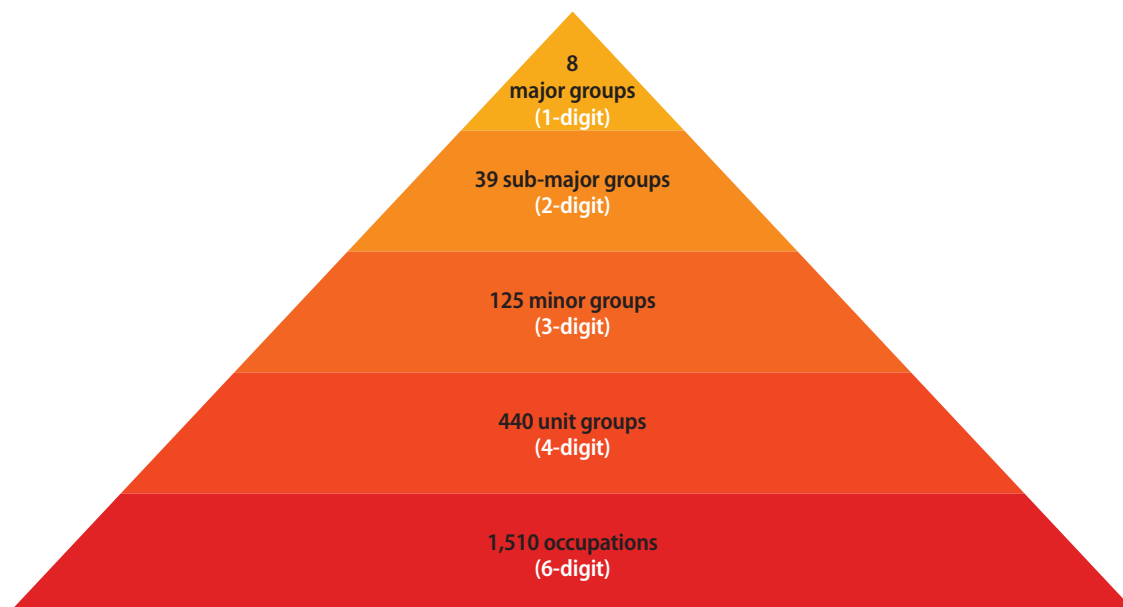
According to the DHET, the OFO is a classification framework that attempts to “establish a common language for talking about occupations”. As Reddy et al. explain in the 2018 *Occupations in High Demand in South Africa: A Technical Report*, “The OFO is a skill-based, coded classification system of occupations which is used by the DHET for ‘identifying, reporting and monitoring skills demand and supply’ in the labour market. It captures almost all occupations in the country and classifies them by skill level and skill specialisation.”

The framework gives each occupation a six-digit numeric code. Occupations are then grouped into four-digit unit groups, which are further grouped into three-digit minor groups, two-digit sub-major groups, and finally, one-digit major groups. Within the six digits of the occupation, each number refers to a specific grouping.



As shown in Figure 14, the eight one-digit major groups together encapsulate the entire set of 1,510 six-digit occupations.

**FIGURE 14:** The number of classifications in the OFO



Source: The Department of Higher Education and Training, 2019

The eight major groups will be of specific interest when analysing the composition of the lists in their respective technical reports. These groups indicate the skill level and the broad area of specialisation. Figure 15 maps the major groups to the National Qualifications Framework (NQF) levels. It shows that as the major groups move from 1 to 8, the NQF levels decrease.

**FIGURE 15:** The relationship between OFO major categories and NQF levels

LEVEL OF SKILL REQUIRED FOR A GIVEN NQF	NQF LEVEL	OFO MAJOR GROUP			
High	10	<b>2</b> Professionals		<b>1</b> Managers	
	9				
	8				
	7				
Intermediate	6	<b>3</b> Technicians and associate professionals			
	5	<b>4</b> Clerical support workers	<b>5</b> Service and sales workers	<b>6</b> Skilled agricultural, forestry, fishery, craft, and related trade workers	<b>7</b> Plant and machine operators and assemblers
4					
Entry	3				
	2	<b>8</b> Elementary occupations			
	1				

Source: The Department of Higher Education and Training, 2015

Note:

The level of skill required is in accordance with the National Skills Development Strategy.



## Annexure 5: Survey questions

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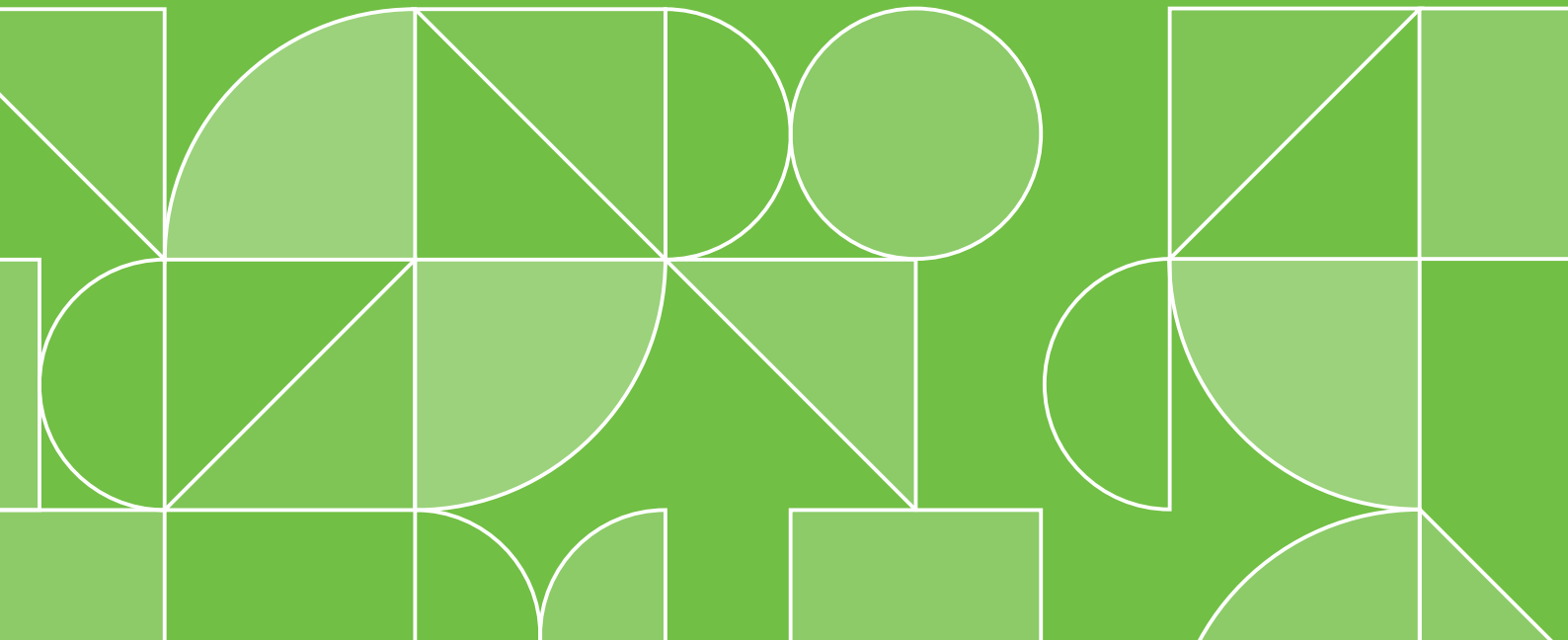
### Basic information

1. Please select the option that most closely represents the role at your place of work.
  - Owner, director, manager, or executive
  - Professional
  - Technician or associate professional
  - Clerical support, sales, and/or trades worker
  - Plant or machine operator or assembler
  - Human resources practitioner
  - Other (please specify)
2. Is your enterprise registered for tax with the South African Revenue Services?
  - Yes
  - No
  - I don't know
3. What size is your enterprise in terms of the number of employees?
  - Micro (1–10 employees)
  - Small (11–50 employees)
  - Medium (51–250 employees)
  - Large (more than 250 employees)
4. What industry does your enterprise operate in? If you are an industry or occupation representative body, please indicate the industry you represent.
  - Agriculture, hunting, forestry, and fishing
  - Community, social, and personal services (including education and healthcare)
  - Construction
  - Electricity, gas, and water supply
  - Financial intermediation, insurance, real estate, and business services
  - Manufacturing
  - Mining and quarrying
  - Private households
  - Transport and storage
  - Telecommunications
  - Wholesale and retail trade
  - Other (please specify)
5. Please list the specific occupations your organisation or the organisations you represent will likely recruit for over the next three years.

**Column 1:** Indicate the name of the specific occupation you will be recruiting for. BE AS SPECIFIC AS POSSIBLE WITH THE NAME OF THE OCCUPATION (e.g., “Logistics Manager”, rather than just “Manager”, or “Welder” rather than just “Artisan”)

**Column 2:** Indicate your level of certainty that recruitment will take place on a scale of 1–4: 1. “possibly”, 2. “probably”, 3. “nearly certain”, and 4. “definitely”.

# References



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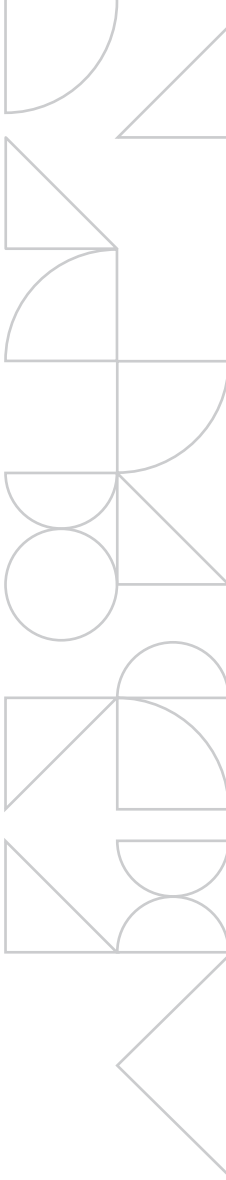
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**Notes**



Lined area for writing notes, consisting of 20 horizontal lines.









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