

Mining **Future Skills**



MINING QUALIFICATIONS AUTHORITY

FINAL REPORT

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FOR

**A STUDY TO ASSESS THE FACTORS INFLUENCING WSP-ATR
SUBMISSIONS IN THE MINING AND MINERALS SECTOR (MMS) IN
SOUTH AFRICA**

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EXECUTIVE SUMMARY

Introduction and Background

The Mining Qualifications Authority (MQA) partnered the Wits Mining Institute (WMI) to conduct a study that provides insights into the factors influencing the submission of Workplace Skills Plans (WSP) and Annual Training Reports (ATR) submissions in the Mining and Minerals Sector (MMS) in South Africa. The annual WSP-ATR submission is a mandatory requirement and forms the basis for the Sector Skills Plans (SSPs), which inform skills development and training interventions implemented by MQA. As per the Terms of Reference, the study focused on small, medium and large companies across all the sub-sectors of the MMS in South Africa, namely coal mining, gold mining, diamond mining, diamond processing, Platinum Group Metal (PGM), Cement, Lime, Aggregates and Sand (CLAS), jewellery manufacturing, Services Incidental to Mining (SIM), and other mining.

Study Aim and Objectives

The aim of the study is to evaluate the current WSP-ATR submission patterns and investigate the factors influencing WSP-ATR submissions and propose ways of increasing WSP-ATR submissions rates in the MMS in South Africa. This aim is supported by the following objectives:

- 1) Analysing the historical WSP-ATR submission trends and quality thereof
- 2) Identifying significant changes or patterns in submission rates over the five-year period (average submission rates and variations in submission rates across different sub-sectors, company sizes, or locations)
- 3) Determining the level of awareness and understanding of WSP-ATR requirements and deadlines among companies
- 4) Assessing the existing consequence management mechanisms (effectiveness of existing penalties and incentives) for ensuring WSP-ATR compliance and meeting of the MQA requirements to access mandatory grants
- 5) Investigating the MMS companies' internal capabilities and resources of companies (e.g., HR function, skills development expertise) and their relationship to submission compliance

- 6) Delineating the primary reasons cited by mining companies for not submitting WSP-ATRs
- 7) Assessing the effectiveness of the MQA's current communication and outreach strategies regarding WSP-ATR requirements and perceived complexities pertaining to the submission processes and usability of WSP-ATR systems and templates
- 8) Assessing the adequacy and effectiveness of support provided to companies for completing WSP-ATRs
- 9) Crafting creative ways of increasing WSP-ATR submissions
- 10) Leverage theories and best practice to characterise determinants of WSP-ATR submissions
- 11) Developing a framework for drivers of WSP-ATR submissions in the MMS

Approach to the study

In light of the nature of research questions posed for the study, the investigation into the factors influencing WSP-ATR submissions required a description of the situation with respect to the current submission trends, the challenges faced in submissions and opportunities for improving the submission rates. This implied that a mixed methods approach, combining qualitative and quantitative methods, was most suitable for the study. The study involved a policy and literature review, and analysis of quantitative data from archival records at the MQA, and surveyed data involving representatives of the MMS sub-sectors and other stakeholders. In addition, questionnaires were developed and shared, with a total of 273 responses analysed. Additional qualitative data was generated from conversations during the 10 feedback sessions organised by MQA which were focused on WSP-ATR submissions and the SSP. The workshops were attended by over 200 people in total, from all provinces and different sub-sectors and company sizes.

Key findings and insights

The study revealed the following insights:

- The rate of submissions either declined compared to the previous year or where there were increases, the increase was not consistent over the 5-year period under investigation. There was a sharp increase in the 2024 period and the interviewees suggested this was due to increased MQA support during submissions.
- Although there was a sharp increase in overall submissions in 2024, some sub-sectors witnessed a decline from 2020 figures for example CLAS (62 to 55), diamond processing (16 to 9), gold (47 to 43). Major increases were witnessed in coal (121 to 175), diamond mining (17 to 40), PGM (13 to 40) and services (166-182).
- The level of awareness was found to be generally well above 70%. However, there are significant pockets of participants who showed low levels of awareness and understanding.
- Although there was general consensus on the benefits of Mandatory Grants (MGs) and Discretionary Grants (DGs), the role of penalties was not familiar with interview respondents. Those that spoke about penalties, showed that they were negligible to the extent that some even “budgeted” for them. The smaller employers expressed that the incentives were too little considering that the 20% received by employers and mandatory grants is uniform for large and small contributors.
- It was found that internal resources were very important in driving submissions. Well-resourced organisations had better chances of submitting.
- There were several reasons for not submitting but the main were associated with lack of awareness and understanding, and the perceived administrative burden as shown by the importance of perceived ease of use.
- The current status of the employer database contributed to the low effectiveness of addressing WSP-ATR submissions.
- A major concern for employers was the difficulty with navigating the templates and spreadsheets, especially, for new users.
- The MQA current communication and outreach strategies are useful in assisting the MMS companies to submit their WSP-ATRs.
- MQA support was demonstrated to be powerful in driving WSP-ATR submissions.

Recommendations

The recommendations emanating from the study are as follows:

Recommendation 1: Develop a WSP-ATR Awareness Campaign in the mining and minerals sector.

This study has found a very low level of awareness and understanding of MQA's WSP-ATR requirements and expectations among non-submitting employers. Specifically, it was noted that MQA workshops were useful but insufficient as an awareness strategy as they were limited to employers within the proximity of mostly submitting employers. The MQA could create an awareness campaign to educate stakeholders about the basics, benefits and opportunities of submitting WSP-ATRs. It was noted that only regular submitting employers were well informed about the benefits and costs of consistency in submitting WSP-ATRs. This study found awareness and understanding to be statistically significant in driving submissions. The campaign should focus on the benefits of WSP-ATR to the employers through MGs and DGs, but also to streamlining their training programmes. Further, it is important to articulate who the MQA are and what the SETA does at various levels of organisations.

Activity	Develop a WSP-ATR Awareness Campaign in the MMS.
Timeline	Develop a campaign and launch by 28 February to 31 March 2025/2026 financial year

Recommendation 2: Create a clean and comprehensive employer database for all the active employers in the mining and minerals sector

The study found that the current status of the employer database contributed to the low effectiveness of addressing WSP-ATR submissions. The list from DMRE, the list from SARs and the list from DHET are not clean, resulting in lack of clarity regarding the statuses of a significant number of employers on the lists. Of the employers on these lists, it is sometimes unclear which have valid contact details. The study further noted that there has been an increasing frequency and severity of restructuring in organisations such that some people

have been moved, making it difficult to track SDFs. It is therefore recommended that the MQA collaborates with stakeholders to clean the database. The DMRE, DHET, SARS, and the industry will be very important in this task. A clean database is important to boost submissions in April 2025 through a massive campaign to be done. To quicken the process, experts such as research partners with AI and machine learning capabilities will be useful.

Activity	Create a clean and comprehensive employer database for all the active employers in the MMS
Timeline	Create a clean and comprehensive employer database for all the active employers in the MMS, starting in the 2025/2026 financial year, and completed within 6 months.

Recommendation 3: Develop a plan to boost MQA support prior, during and post WSP-ATR submissions.

The study noted that a major concern for employers was the difficulty with navigating the templates and spreadsheets, especially, for new users. With the envisioned campaign it is anticipated that there will be a significant number of new applicants who will struggle to master the MQA systems, resulting in frustrations and possible non-submissions. To avoid this MQA support should aim to make the submission process and systems easy. In the previous submission, it was noted that there was significant practical support in Provincial centres. This approach was very significant and needs to be maintained. However, it was noted that the only people who attend such initiatives are those closer to the Provincial centres, and those further away from the centres may be left behind. It is recommended that a hybrid approach be used where regional visits are complimented by virtual practical registration and submission bootcamps. These could be two-day bootcamps.

Activity	Develop a plan to boost MQA support prior, during and post WSP-ATR submissions.
Timeline	Plan should be developed by 28 February to 31 March 2025 and revised annually

Recommendation 4: Focus resources and policies on sub-sectors that have most contribution while supporting smaller contributors

The study identified the sub-sectors contributing 80% of the submissions using the Pareto Analysis. Specifically, the MQA is recommended to focus resources and policies on the top three sub-sectors to optimize the overall submission process while exploring opportunities to enhance participation from smaller sub-sectors. It is recommended that the identification and focus on specific sub-sectors will result in more efficiency and cost saving. The Pareto curves are presented in the report.

Activity	Categorise employers by sub-sector, and focus on those that make the most submissions while supporting smaller sectors to submit
Timeline	A categorised database should be produced by 28 February to 31 March 2025 and updated annually

Recommendation 5: Develop a training plan for Skills Development Facilitators (SDFs) in the mining and minerals sector

The MQA is recommended to create a training plan for SDFs to have a sound appreciation of digital skills. The basic assumption has been that SDFs are digitally competence. However, some of them lack basic digital skills. It should be part of the MQA training agenda to equip the SDFs with digital skills. Constructs that were measured in the current study which are important in driving submissions and could benefit from digital training are the compatibility (the extent to which skills and experiences relate to tasks) and perceived ease of use (the extent to which SDFs see submission using the MQA to be ease). Digital training will enhance these factors which are important in driving submissions. This should be specifically done by integrating formal learning, informal learning, and non-formal training to give every SDF the opportunity to learn.

Activity	Develop a digital training plan for SDFs in the MMS
Timeline	Training plan to be developed by 31 July 2025

Recommendation 6: Focus resources and policies on the frequently submitting companies while supporting less frequently submitting companies.

This study identifies the frequency of employers’ submissions, with some having submitted once, twice, thrice, four times or five times. It is important to determine who submit regularly and who are erratic so that interventions are done from an informed position. It was noted

that currently there are no processes to know who the regular submitters are and how to support them. Once these categories are noted, even discretionary grants could be targeted on them.

Activity	<p>Develop a plan to:</p> <ul style="list-style-type: none"> • provide support to encourage continued participation, of one-time submitters, • engage companies in the 2–4-year categories with incentives and streamlined processes to boost retention, and • utilize the 40.5% consistent participants as benchmarks and ambassadors for compliance, using their insights to enhance outreach strategies.
Timeline	The plan should be developed by 28 February to 31 March 2025 and updated annually

Recommendation 7: Develop a plan to decentralise registration of employers in terms of operation region instead of parent company

Statistics show that Gauteng is the province with most submissions, yet the operations are in other provinces. Beside that misrepresentation in conceptualisation, this has some challenges in the quality of submissions as some facts were lost along the way when the Head Office aggregates the reports. It is therefore important to decentralise submissions to the operating sites.

Activity	Develop a plan to decentralise registration of employers in terms of operation region instead of parent company
Timeline	Develop a plan to decentralise the submissions by 31 December 2025

Recommendation 8: Develop a new framework for rewards and penalties

It is recommended that the MQA collaborate with industry stakeholders and other SETAs to rethink and relook at the incentives and penalties for submissions. Economically, the business case for submitting WSP-ATRs is not strong enough to encourage smaller companies at the threshold to submit. There is a range between those that are not mandated by law to submit

and those just above the threshold of submissions. It is recommended that a slightly larger percentage that 20% be paid as MGs. Calculation of these thresholds is beyond the scope of the current study.

Activity	Develop a new framework for rewards and penalties
Frequency	Develop a framework by December 2027

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LIST OF ABBREVIATIONS AND ACRONYMS

Acronym	Description
ADKAR	Awareness, Desire, Knowledge, Ability, and Reinforcement
ATR	Annual Training Reports
AU	African Union
AMV	Africa Mining Vision
BBBEE	Broad-Based Black Economic Empowerment
CLAS	Cement, Limestone, Aggregates and Sand
DGs	Discretionary Grants
DMRE	Department of Mineral Resources and Energy
GDP	Gross Domestic Product
HDSA	Historically Disadvantaged South Africans
HR	Human Resources
HRD	Human Resources Development
HFV	Hard to Fill Vacancy
ILO	International Labor Organisation
IT	Information Technology
ITAM-TPB	Integrated Technology Acceptance Model- Theory of Planned Behaviour
MCSA	Minerals Council South Africa
MGs	Mandatory Grants
MMS	Mining and Mineral Sector
MPRDA	Mined and Petroleum Resources Development Act
MQA	Mining Qualification Authority
NDP	National Development Plan
NQF	National Qualification Framework
NSA	National Skills Authority
NSF	National Skills Fund
NSDS	National Skills Development Strategy
OFO	Organising Framework for Occupations

PBC	Perceived Behavioural Control
PGM	Platinum Group Metals
PLS-SEM	Partial Least Squares-Structural Modelling
RSA	Republic of South Africa
SARS	South Africa Revenue Services
SDA	Skills Development Act
SDC	Skills Development Coordinators
SDF	Skills Development Facilitators
SE	Self-efficacy
SETA	Sector Education and Training Authority
SIM	Services Incidental to Mining
SMME	Small Micro and Medium Enterprise
SSP	Sector Skills Plan
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TVET	Technical and Vocational Education and Training
UN	United Nations
WSP	Workplace Skills Plans
WSP-ATR	Workplace Skills Plan and Annual Training Report

1. INTRODUCTION AND BACKGROUND TO THE STUDY

1.1. Introduction

The Mining Qualifications Authority partnered the Wits Mining Institute to conduct a study that provides insights into the factors influencing WSP-ATR submissions in the mining and mineral sector in South Africa. The study aimed at assessing the factors influencing WSP-ATR submissions across the MMS, including all the sub-sectors, namely coal mining, gold mining, diamond mining, diamond processing, Platinum Group Metals, cement, limestone, aggregates and sand, jewellery manufacturing, services incidental to mining, and other mining. The study focused on small, medium and large companies.

1.2. Background and context

The MMS has been the cornerstone of industrialisation and economic growth globally, historically catalysing development across continents (Kay et al., 2012; Fernandes, 2014; Nkhonjera, 2022). The African Union has acknowledged the central role that mining plays by creating the Africa Mining Vision (AMV) aimed at promoting sustainable and equitable mineral resource development in Africa (African Union, 2009). The overarching objective of the AMV is to foster knowledge and capacity building. In South Africa, the sector's roots extend deep into the economic bedrock, heralding the transformation from a primarily agricultural society to a diversified, industrial powerhouse (Antin, 2013). The MMS continues to play a significant role in the country's socioeconomic development.

Mining contributes significantly to the national Gross Domestic Product (GDP) and serves as one of the major employers, supporting over one million jobs directly and indirectly (Marutle, 2017; Dikgwatlhe and Mulenga, 2023). In 2023, the mining sector contributed approximately ZAR425.6 billion (approximately USD24.1billion) to the country's GDP (MCSA, 2024). South Africa's rich tapestry of mineral wealth has been central to its economic narrative. The country is the world's largest producer of platinum, chrome, and manganese — critical minerals that are indispensable in global industries and emerging green technologies (Lotriet et al., 2022; Bullock et al., 2023; Gibson et al., 2023; Mavhunga, 2023). These minerals form an integral part of the global supply chains, particularly in sectors such as automotive, electronics, and renewable energy (Nwaila et al., 2022).

Despite benefits of mining through the sector’s contribution to socio-economic development, several critical challenges and knowledge gaps exist within the sector, particularly in keeping pace with the modernisation of the industry (Chipangamate et al., 2023). Some of the challenges the MMS is facing range from legacy factors and other emerging hurdles resulting from global dynamics. The sector is at a point where the cost of production is rising due to deepening mines and the associated declining grades. The high cost of production is worsened by the declining prices of major minerals such as PGMs (South Africa’s major employer), rising demands by host communities and other stakeholders, skills shortages, an industry reliant on exporting of non-beneficiated products, and technological gaps. Figure 1 is a summary of some of the most pressing challenges that the MMS is facing in the country. Due to these challenges, it has been argued that the future prosperity of the MMS depends on its ability to adapt to new technologies, sustainable practices and leveraging downstream mineral beneficiation opportunities (Chipangamate et al., 2023; MQA, 2019). Sustainable mining operations require a combination of modern technology and responsible mining that currently faces implementation barriers, such as limited upskilling opportunities for mining professionals and inadequate regulatory frameworks (Carmody et al., 2020; Nkhonjera, 2022; Vivoda et al., 2024).

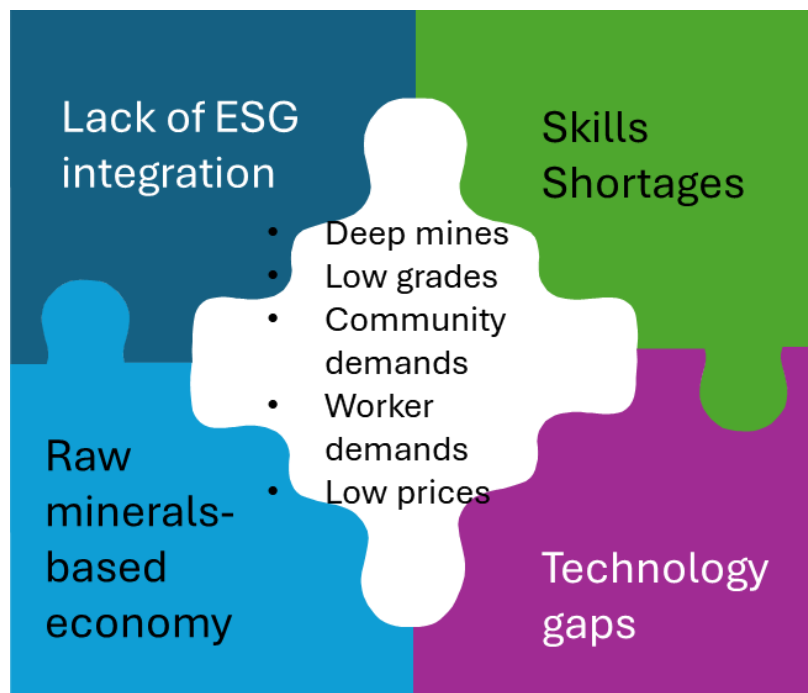


Figure 1 Challenges facing the mining sector in the era of digital transformation

South Africa's mining sector is also at a critical juncture where the demand for critical minerals is escalating due to their centrality in powering green energy technology initiatives (Chipangamate & Nwaila, 2023). The ethical and responsible production of these minerals is contingent upon a workforce adept in modern mining technologies and processes (Kalantzakos, 2023). This era of 'Industry 4.0' is characterised by rapid technological advancements such as automation, data analytics, green energy, and environmental monitoring systems, which require a mixed breed of graduates and mature mining professionals (Nalule, 2023; Shimaponda-Nawa & Nwaila, 2024; Asa'd & Levesque, 2024; Wen et al., 2024). The imperative is to develop talent with a deep understanding of sustainability and the technological acumen to ensure minimal environmental impact. These are also other emerging trends requiring upskilling the current workforce while rapidly transforming our education system to cope with the changing landscape. With the country's National Development Plan (NDP) aiming to eliminate poverty, reduce inequality, and improve living standards by 2030, the mining sector is expected to play a critical role in the attainment of the National Development Plan (NDP) objectives (National Planning Commission, 2012). Amongst the NDP's strategic focus is education and skills development aimed at equipping the country's workforce with the necessary skills needed in the labour market.

Against these change drivers, a targeted focus on skills development is critical to catalyse economic and structural transformation within South Africa. Through equipping mineral industry professionals with advanced skills, there is an opportunity to not only alleviate poverty but also accelerate the creation of secondary economies (Molek-Winiarska & Kawka, 2024). For instance, the ability to process minerals within the country rather than exporting raw materials can spur industrial activities, leading to job creation and economic diversification. A skilled workforce is essential to optimise the mining value chain and establish South Africa as a regional leader in the responsible production of critical minerals (Rasdien, 2023). The MQA has a significant role to play. The National Skills Development Plan (NSDP) complements the NDP by defining desired outcomes and establishing a framework for the development of a skilled workforce capable of advancing economic growth and social development. To enable these initiatives, there is a need for evidence-base to align the needs

of the sector with workforce proficient in key areas along the MMS value chain. The country has put in place legal provisions to achieve skills development in line with sector needs.

The Skills Development Act of 1998 resulted in the formation of Sector Education and Training Authorities (SETAs) to spearhead and facilitate skills development and training within South Africa's various economic sectors. The MQA is the SETA responsible for the MMS to address skills shortages, improve productivity, and enhance employability. The main purpose of SETAs is to ensure alignment between education, training and sector needs. Funding for the SETAs is obtained from Skills Development Levies (SDLs), government grants, private sector contributions, and international donor funding. To fulfil the SETA purpose, all organisations under the SETA are mandated by the Skills Development Act 1998 to generate and submit Workplace Skills Plans (WSPs), where they outline the planned skills development for the coming year. These are submitted together with the Annual Training Reports (ATRs) that document advances in skills development undertaken for the preceding year. The two are combined to form the important WSP-ATR submissions as mandatory requirement. The submission of WSP-ATRs is important in this regard because these plans and reports form the basis for the Sector Skills Plans (SSPs) which inform skills development and training interventions implemented by MQA.

Timely and consistent submissions of high quality WSP-ATR is very important to enable improved skills, productivity and competitiveness of the sector. Further, it is viewed as an important ingredient for aligning education and training with the needs of the sector at a time when the sector is faced with rapid changes brought about by digital transformation and critical skills shortages (Alcock, 2022). For MMS companies, the submissions are an important avenue for utilisation of SDLs for the much-needed funding of skills development and training to upskill, reskill and skill the workforce for improved productivity. WSP-ATR submissions enable MQA to be more targeted in the provision of bursaries, learnerships, apprenticeships, internships and mentorship programs based on accurate evidence from the sector. An important example of this is the section in the reports soliciting sector companies to report on hard to fill vacancies (HTFVs). Unless accurate comprehensive and encompassing reports are received by the MQA compiling a convincing list becomes very difficult, leading to

misalignment between the SSP and sector needs. This is risky for the sector as the SSP is supposed to direct sector efforts for the following five years. If such efforts are not based on accurate reports from the sector, they pose the risk of misdirecting hard-earned financial and time resources to initiatives and skills which are not as important in driving employability, productivity, and competitiveness.

1.3. Problem statement

Several MMS stakeholders, including scholars, are of the view that the need to accelerate skills development is urgent for the country to harness the rich mineral wealth, alleviate poverty, and accelerate the creation of secondary economies (Molek-Winiarska & Kawka, 2024). To achieve these objectives, the government has instituted a comprehensive legislative framework constituting the Skills Development Act, Skills Development Levies Act, Mine Health and Safety Act, and the SETA Grant Regulations in line with the Skills Development Act to make it mandatory that organisations in the MMS compile and submit WSP-ATR annually by 30 April, unless otherwise granted an extension in writing. Thus, to achieve the desired skilled workforce the MQA leverages WSP-ATR to assess skills needs, track training activities, and proffer necessary interventions through sector skills development plans. Over the past years, MQA has witnessed fluctuating and generally less than half of levy paying companies submitting WSP-ATRs.

Several MQA meetings suggest that of the 2291 companies that pay the mandatory SDL, only 965 submissions were received in the 2023 reporting period. Although this is a marked improvement from prior years, the figure still falls well below the desired level for the SSP to be reflective of the sector's needs and aspirations. This poses significant risks along the MQA skills planning value chain. Fluctuating submissions leave the MQA with paucity of evidence to inform plans and skills interventions. The factors influencing WSP-ATR submissions fluctuations are little understood in the context of the MMS in South Africa. There is, therefore, a need to conduct a comprehensive assessment of the key determinants of WSP-ATR submission rate fluctuations in the MMS. This study aims to close that gap by assessing the factors that influence WSP-ATR submissions and to propose initiatives for the MQA to improve submissions.

1.4. Aim and objectives

The aim of the study is to evaluate the current WSP-ATR submission patterns and investigate the factors influencing WSP-ATR submissions and propose ways of increasing WSP-ATR submissions rates in the MMS in South Africa. This aim is supported by the following objectives:

- 1) Analysing the historical WSP-ATR submission trends and quality thereof.
- 2) Identifying significant changes or patterns in submission rates over the five-year period (average submission rates and variations in submission rates across different sub-sectors, company sizes, or locations).
- 3) Finding out the level of awareness and understanding of WSP-ATR requirements and deadlines among companies.
- 4) Assessing the existing consequence management mechanisms (effectiveness of existing penalties and incentives) for ensuring WSP-ATR compliance and meeting of the MQA requirements to access mandatory grants.
- 5) Investigating the MMS companies' internal capabilities and resources of companies (e.g., HR function, skills development expertise) and their relationship to submission compliance.
- 6) Delineating the primary reasons cited by mining companies for not submitting WSP-ATRs (perceived administrative burden or resource constraints, perceived benefits or lack of clarity in WSP-ATR purpose, concerns about data confidentiality or potential consequences of submission).
- 7) Assessing the effectiveness of the MQA's current communication and outreach strategies regarding WSP-ATR requirements and perceived complexities pertaining to the submission processes and usability of WSP-ATR systems and templates.
- 8) Assessing the adequacy and effectiveness of support provided to companies for completing WSP-ATRs.
- 9) Crafting creative ways of increasing WSP-ATR submissions.
- 10) Leverage theories and best practice to characterise determinants of WSP-ATR submissions.
- 11) Developing a framework for drivers of WSP-ATR submissions in the MMS

Several research questions have been identified as being crucial to the study. These have been grouped under four pillars, namely, situational, human factors, organisational factors, and institutional factors. Figure 2 shows the interconnectedness of the areas of inquiry. The set of questions are noted below.

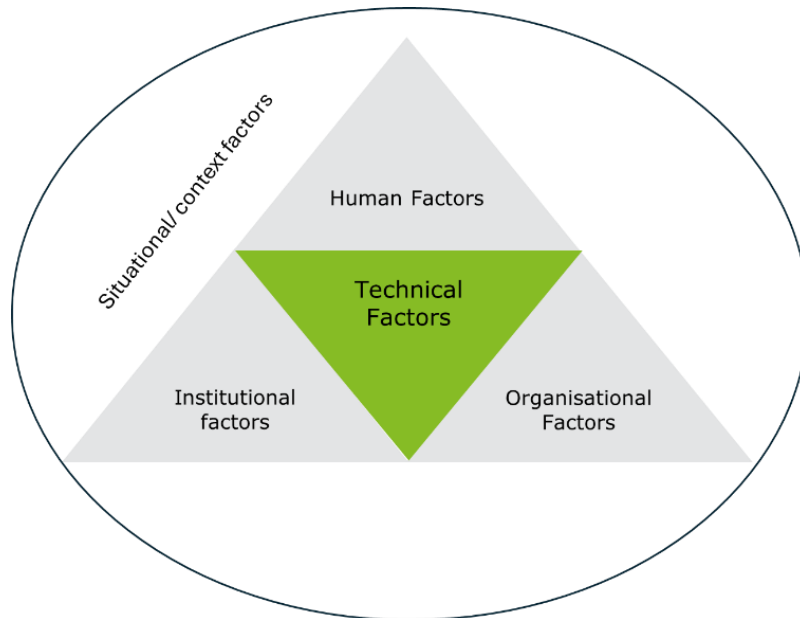


Figure 2: The four vital questions around WSP-ATR submissions (Source: Author's conceptualisation)

Pillar 1: Situational questions

- i. What are the historical WSP-ATR submission trends for the past five years in the MMS in South Africa?
- ii. How have submission rates patterns changed over the five-year period (average submission rates and variations in submission rates across different sub-sectors, company sizes, or locations)?

Pillar 2: Human factors

- i. What is the level of awareness and understanding of WSP-ATR requirements and deadlines among companies?
- ii. What is the level of awareness and understanding of WSP-ATR requirements and deadlines among companies?
- iii. What behavioural factors influence WSP-ATR submissions?

Pillar 3: Organisational factors

- i. What is the level of MMS companies' internal capabilities and resources (e.g., HR function, skills development expertise) and their relationship to submission compliance.
- ii. What are the primary reasons cited by mining companies for not submitting WSP-ATRs (perceived administrative burden or resource constraints, perceived benefits or lack of clarity in WSP-ATR purpose, concerns about data confidentiality or potential consequences of submission)?

Pillar 4: Institutional factors

- i. How effective are the consequence management mechanisms (effectiveness of existing penalties and incentives) for ensuring WSP-ATR compliance and meeting of the MQA requirements to access Mandatory Grants?
- ii. How effective are the MQA's current communication and outreach strategies regarding WSP-ATR requirements?
- iii. What are the key technological and systemic drivers of WSP-ATR submissions (e.g. a) perceived complexities pertaining to the submission processes and usability of WSP-ATR systems and templates; b) Perceived usefulness of submissions and systems for submission)?
- iv. How effective and adequate is the support provided to companies for completing WSP-ATRs?

These questions will guide data collection, ensuring a focused and comprehensive approach to unpacking the bottlenecks contribution to the low WSP-ATR submission rates.

1.5. Significance of the study

This study will provide direction on the key drivers of submissions for improved submissions. MQA and government departments rely on the input from these submissions to plan and deliver programmes that respond to the practical needs on the ground of increasing WSP-ATR submissions. The research has drawn data from companies in the MMS, other SETAs, academics and SSP planning value chain, including skills development consultants. Through fostering a cross-pollination of knowledge and resources, a cohesive ecosystem has been created that supports the mining sector's growth and innovation through partnerships with

other SETAs. It is anticipated that by sharing research findings with a broader ecosystem, including government officials, policy makers, and funding agencies, this study has potential to unlock further funding for skills development.

1.6. Structure of the report

The report is structured into five chapters, and these are elaborated below:

Chapter 1 introduces the report on the assessment of factors influencing WSP-ATR submissions. The significance of the study is also presented in this chapter.

Chapter 2 covers the literature and policy review.

Chapter 3 presents the research design employed in the study. The chapter outlines the data collection and analysis methods as well as ethical requirements and challenges and limitations of the study.

Chapter 4 presents the research findings. The findings are presented in four categories.

- Findings of archival data showing submission trends and generating insights from the trends
- Findings of qualitative data showing the important drivers of submissions being human factors, technical factors, compliance pressure, compatibility, MQA support, and organisational factors.
- Findings on the descriptive statistics of survey data showing the individual questions and how they were answered by respondents
- The fourths section is the Partial Least Square Structural Equation Modeling where the hypotheses developed in the literature review are tested.

Chapter 5 provides the conclusion and recommendations, framed using the SMART framework, which provides a structured approach to ensure that the goals are specific, measurable, achievable, relevant, and time bound.

2 LITERATURE AND POLICY REVIEW

2.1 Introduction

The purpose of this systematic literature and policy review is to assess the key drivers of WSP-ATR submissions in the MMS in South Africa. The country has established a legislative framework for mandatory submission of WSP-ATR annually. The plans and reports are considered very significant for harvesting input from sector players to consolidate SSPs. Different SETAs are mandated by law to generate the plans and reports consistently. For the mining and minerals SETA, the MQA, the WSP-ATR submission is very crucial considering the important role that mining and minerals play in diversifying the economy and creating jobs.

2.2 Historical context

The African continent has a legacy of inequalities in labour markets, where skills availability and development have been skewed on racial, tribal or gender identities (Adler, & Webster, 1995). For that reason, South Africa's transition to democracy in 1994 marked a significant shift in the country's approach to education skills development (Silander, 2024). Since independence, the country has stoically made efforts to transition from the historical legacy of apartheid which created profound inequalities in education and unemployment (Silander, 2024). For example, Bantu Education Policy, legally restricted the delivery of educational services to black South Africans, resulting in a legacy in South Africa, where a significant population have historically and continue to be denied access to quality education, depriving them of employment and other socioeconomic opportunities (Gallo, 2020). Following the end of apartheid, South Africa recognized the urgent need to redress the inequalities in education and training that persisted under the previous regime (Silander, 2024). The transition to a democratic society proffered an opportunity for a comprehensive approach to skills development, especially in sectors like mining and minerals that employ a significant portion of historically disadvantaged individuals (Mbam et al., 2024). This calls for increased inclusivity, and diversity in the training and education of learners.

In the South African context, there are several drivers that are crucial for skills development as shown in Figure 3. Skills development at the centre of the model are driven by *legacy factors*, such as the historical discrimination experienced in the past; *legislative factors*, which

are the process of creating the laws, policies and guidelines, and these are interpreted and implemented. For example, the Skills Development Act, and other commitments such as the SDG4. The other pillar in the model is the *labour factors*. These are on the economic drivers' side where there is a significant shortage of skills as defined by HTFVs. Some clear issues include skills and job mismatch resulting from imbalance between demand and supply of labour.

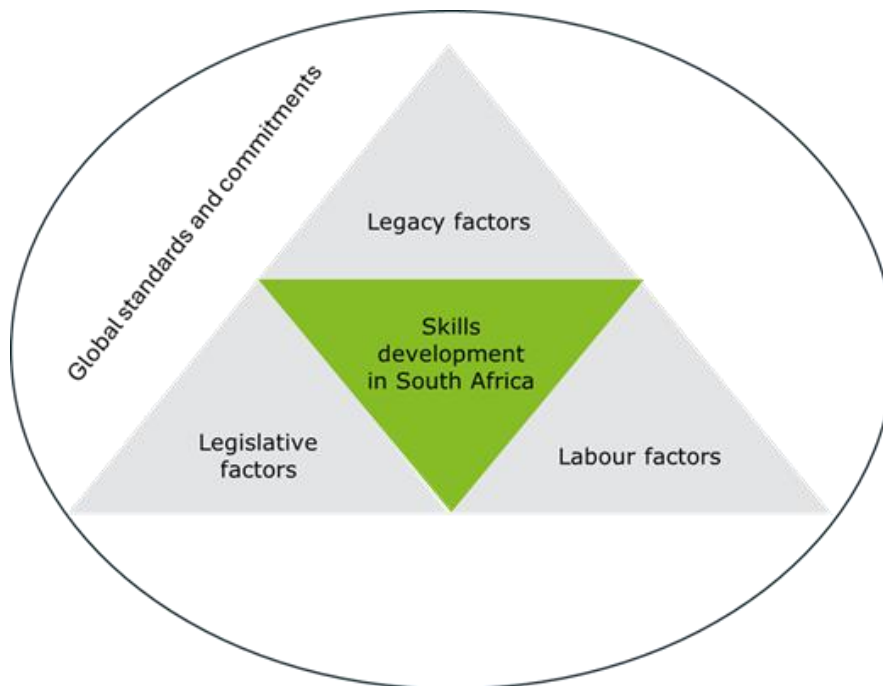


Figure 3 The G3L Framework of skills development in South Africa (Source: Author).

The true meaning and relevance of inclusive education are realised within these complex historical intersections within educational systems (Silander, 2024). Therefore, the democratic Government has since 1994 introduced legislative changes, which was necessary to deal with an institutionalised inequality legacy. The legacy of education and skills development inequality is not unique only to South Africa but pervasive in the Global South (Zulfiqar & Prasad, 2021). Considering this, inclusive education has come to global attention in recent decades. For example, the United Nations Sustainable Development Goal (SDGs) 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030 (UN, 2015). Similarly, the International Labor Organisation (ILO) emphasises the importance of inclusive skills development and lifelong learning to promote

social justice and decent work (ILO, 2024). This is achieved through overcoming barriers, flexibility and targeted initiatives aimed at building inclusive TVET systems, recognising prior learning, apprenticeships and demand-led community-based training (ILO, 2024). Thus, international standards and commitments have been instrumental in shaping post-apartheid South Africa's inclusive skills development efforts. The dynamic drivers of post-apartheid skills development in the MMS in South Africa are hinged on Global Standards and commitments, a legacy of inequality, the legislative environment, and labour factors in an important MMS.

2.3 The contribution of the mining and minerals sector in South Africa

The value of mining and minerals lies not only in the direct economic development, livelihoods and poverty reduction, but also in the structural transformation of developing countries; urbanisation and the capacity of the sector; the participation of downstream small-scale industries in domestic mineral supply chains; agro-geology and employment generation (Franks, 2020).

The South African Government's NDP aims to eliminate poverty, reduce inequality, and improve living standards. This is achieved through a strategic focus on educational skills development to equip South Africans for the workforce. Developing MMS skills is important because the sector contributes significantly to South Africa's national GDP and serves as one of the major employers, supporting over one million jobs directly and indirectly (Marutle, 2017; Dikgwatlhe & Mulenga, 2023). Together, the Africa Mining Vision, the World Bank and the South African NDP concur that socio-economic transformation rests on capacity building, education, and skills development.

What is clear is the important role that mining, and minerals could potentially play in advancing sustainable development goals, such as poverty reduction (SDG-1), zero hunger (SDG-2), good health and wellbeing (SDG-3), and the central role of critical minerals for the provision of affordable clean energy (SDG-7) (UN, 2015). Figure 4 illustrates the contribution of mining to the GDP, employment and taxes in South Africa.

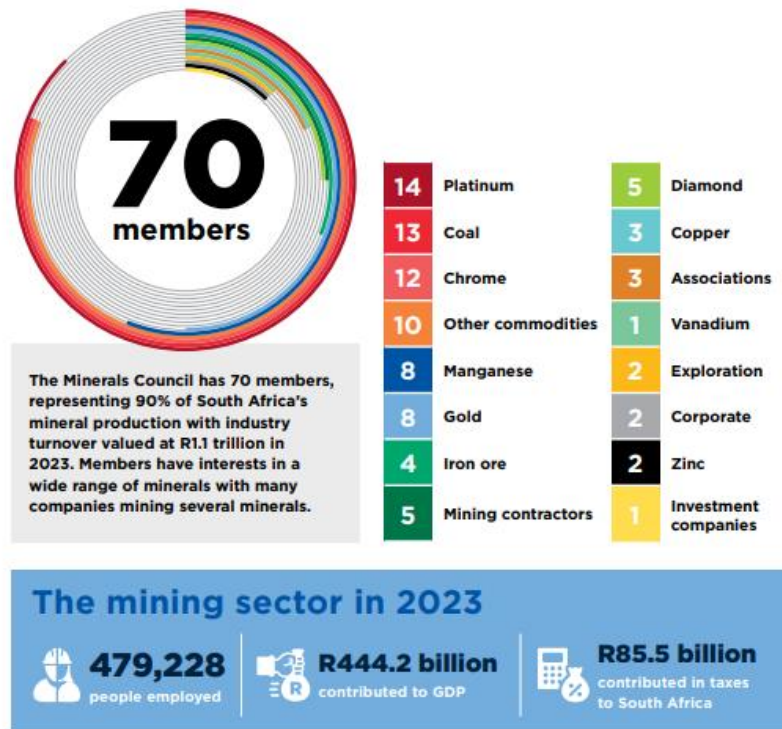


Figure 4 Mining sector contribution to employment, GDP and taxes in South Africa in 2023 (Source: Minerals Council South Africa, 2023).

2.4 The key legislative framework governing skills development in South Africa mining and minerals sector

2.4.1 Skills Development Act

Since 1994, the South African Government has made several efforts to foster skills development, with emphasis on the previously disadvantaged. These initiatives marked a new dawn aimed at alleviating conditions of poverty, unemployment and illiteracy in both the first (formal) and the second (informal) economies. The policy documentation that led to the introduction of the new skills development framework speaks of a two-fold set of objectives of meeting the skills demand of the first economy while availing a package of social reforms to address the inherent conditions of poverty and exclusion in the second economy. The new skills development ecosystem is supported by four key elements: the national qualifications framework (NQF); learnerships; a new funding model; and the formation of 25 SETAs and the National Skills Authority (NSA).

The NQF provides a unified qualification structure enabling the seamless articulation and transfer of qualifications at various levels. Learnerships, the second pillar of the new skills development policy in South Africa, is a training mechanism designed to overcome the limited impact of the previous training regime which could not offer meaningful skills development for the pre-employed, the currently employed and the unemployed. Learnerships have potential to widen the net of skills development beneficiaries more effectively. Scholars argue that the apprenticeship and technical college systems are either on the decline or have failed to provide reliable job induction and pre-employment training respectively (O’Neil et al., 2023). Similarly, enterprise training and the training of the unemployed have had limited impact due to low quality and restrained portability related to qualification and accreditation. The Green Paper on Skills Development (Mtotywa & Motaung, 2024) and the Skills Development Act of 1998 (Republic of South Africa (RSA), 1998) articulate the purpose of learnerships as providing workplace learning in a more structured and systematic form, linked to multiple sites of work experience, and culmination of learning and practical experience in a nationally recognised qualification (Mtotywa & Motaung, 2024). Together, the new initiatives called for collaboration among players to deliver skills development. Employers, training providers and the employees collaborated for effective skills development.

The third aspect of the new skills development era was the introduction of a new funding system. The new system was based on a levy-grant framework, which was in contrast with the traditional tax-based system where companies who provided training to their employees were given tax concessions. The previous system failed due to tax abuse. To create legitimacy, the 1997 Green Paper on Skills Development proposed a bold new funding framework that broke with past voluntarist models and the proposals were approved by government in the Skills Development Act of November 1998 and the Skills Development Levies Act of February 1999 (McGrath et al., 2020). As a result of these legislative developments, organisations in the MMS are mandated to participate in a compulsory national levy-grant system where they pay 1% of their payroll as skills development levy. The money is collected by the South African Revenue Service (SARS). Eighty percent (80%) of this amount is channelled back to the sector to fund training through grants. The money is disbursed through SETAs. The remaining 20% of the

levies is retained by the state to form a National Skills Fund to be used for strategic priorities identified by government and the NSA from time to time.

The fourth pillar supporting the new skills development architecture is in the form of the established 25 SETAs and the NSA, which is an advisory body to the Minister of Labour. The 25 SETAs were launched on 20 March 2000, with each SETA based in either a sector of the national economy or in a sector of the public service. SETAs provide the coordination mechanisms to link training activities at the enterprise level with the sectoral level, all within the context of a single national regulatory framework of the Skills Development Act. The role of the SETAs includes development of SSPs, promoting the implementation of the plan in the sector; promote learnerships; register learnership agreements with the Department of Labour; collect and disburse the skills development levies in the sector; report to the Director General of Labour on income, expenditure and the implementation of the SSP; and improve information flow about employment opportunities in the labour market (Mbithi et al., 2021).

An important vehicle for SETAs to steer progress in the sector is through assisting and encouraging employers to prepare WSP-ATR and pay a mandatory grant to employers who prepare such a plan and report. SETAs are at the heart of establishing awareness raising strategies to enable links with employers, trade unions, training providers and other formal and informal groupings and partnerships to be established (Mtotywa & Motaung, 2024). The networks between employers, education and training providers and government departments are the institutional vehicles for learnership programmes and other shared training activities in the sector (Mbithi et al., 2021). This associational or networking role is at the heart of the new institutional regime for skills formation, premised on the argument that collective institutional pressures oblige individual employers to increase their investments in and coordination of skill formation (Mtotywa & Motaung, 2024).

The NSA has strong advisory powers as it is responsible for defining national skills development policy in consultation with the Department of Labour, consults and advises the Minister on priorities and targets for approval of a national skills development strategy every four years, approve the allocation of monies from the National Skills Fund (NSF) based on

recommendations from the Department of Labour (Walton & Engelbrecht, 2024). The National Skills Fund may only be used for national priorities as identified by the NSA (RSA, 1998). The three priority areas as identified by the Green Paper are strategic industry training programmes; learnership programmes that incorporate adult basic education and training, pre-employment training, SMME training and target group training; and infrastructural development programmes for private sector providers of education and training (Etim & Daramola, 2020). The NSA has developed the concept of ‘funding windows’ in which National Skills Fund grants can be allocated to support social development initiatives, bursary schemes for scarce skills, strategic industry projects, research to improve labour market information systems, as well as the capacity building of stakeholders.

2.4.2 The Mining Charter

The Mining Charter was promulgated in 2002 with the aim of improving equity, opportunities and benefits for Historically Disadvantaged South Africans (HDSAs). The Minerals and Petroleum Resources Development Act (MPRDA) and the Broad-Based Socio-Economic Charter for the Mining Industry (the Charter) were developed in consultation with the mining industry and government to foster collaborative governance of mining and minerals in South Africa (Morolo, 2023; Makgoba, 2021). Resembling the Skills Development Act, the Mining Charter recognized the historical conditions of blacks, mining communities and women who were largely excluded from participating in the mainstream of the economy.

The key objectives of the Charter are to promote equitable access to the nation’s mineral resources to all the people of South Africa; expand opportunities in a meaningful way for historically disadvantaged South Africans (HDSAs) including women, to enter the mining and mineral industry and to benefit from the exploitation of the nation’s mineral resources (Makgoba, 2021). Further, the Charter aims to utilize the existing skill base for the empowerment of HDSAs; and expand the skills base of HDSAs to serve the community. In so doing, the Charter promotes the employment and advances the social and economic welfare of mining communities and the major labour sending areas. To encourage economic diversification, the Charter promotes the beneficiation of South Africa’s mineral commodities (Morolo, 2023). To ensure the availability of appropriate mining and production operation-

specific skills and competencies of the work force, the Human Resources Development program was incorporated in the Charter. This was not only for formal employment but also for development of portable skills utilizable by the employees outside the life of mine (Silander, 2024). To access the effective compliance of the Human Resource Development program of the Mining Charter, five plans and supporting forms were to be submitted to the DMRE; skills development plan; career progression plan, mentorship plan; internship and bursary plan and employment equity plan (Ndlazi, 2022).

On the 27 September 2018 the government promulgated the revised Charter (2018) (Ndlazi, 2022). The revised Charter has a strong human resource development component aimed at producing a skilled, trained, and diverse workforce to meet the demand of a modern industry. Skills development is important for enhancing productivity of the workforce and improve the employment prospects of HDSAs. Further, a skilled population has entrepreneurial skills that improve livelihoods and create mining-led local and regional diversification (SA Gov, 2018).

There is a notable overlap among the legislative frameworks in the MMS, especially when it comes to skills development and paying attention to the need to create an equitable industry where everyone can thrive (Makgoba, 2021). Both, the Skills Development Act, Mine Health and Safety Act (1996), and the Charter emphasise the need for training, generating and submitting the skills-related plans to inform decision making.

2.5 Theoretical framework

2.5.1 Integrating Technology Acceptance Model and Theory of Planned Behaviour

The Technology Acceptance Model (TAM) (Davis, 1989; Al-Qaysi et al., 2020) has had wide usage ranging from use in technological applications on education, training, and learning (Mustafa & Garcia, 2021, Al-Adwan et al., 2023), in construction industries (Na et al., 2022; Zhang et al., 2022), financial technology (Singh et al., 2020), agriculture (Mohr & Kühl, 2021), more recently in the modernising MMS (Ediriweera & Wiewiora, 2021; Bhattacharyya & Shah, 2022), and learning and training in the minerals industry (Bergamo et al., 2022). These applications in diverse industries suggest that the TAM is widely applicable. Specifically, it has been applied to understand adoption of technologies, for which the WSP-ATR submissions

rely. It is envisioned that the use of spreadsheets and templates in the generation of WSP-ATRs will have similar implications to the factors influencing technology use adoption and use. Although there are several theories that could be useful for this study, the versatility and applicability of the TAM make it the most appropriate theory to anchor the study. Possible theories include the Resource Based View Theory, Path Dependency theory and Relational View Theory. However, these theories are inadequate to capture the technology dimension brought about using digital technologies for the generation and submission of WSP-ATR in the MMS. The basic tenets of TAM are that the adoption of technology is influenced by the perceived ease of use, and the usefulness of the technology, which drives the behavioural intention to use the technology and ultimately the use of technology (Davis, 1989; Al-Qaysi et al., 2020). The TAM has recently been used to investigate the barriers and enablers of technology adoption in the mining industry (Ediriweera & Wiewiora, 2021).

Leveraging TAM, for example, Ediriweera and Wiewiora (2021) find that despite the important role that technological innovations play in helping mining firms reduce costs, lessen environmental impact, and increase production, mining organisations remain slow in adopting and implementing technological innovations when compared to other sectors. They identify inadequate engagement with external stakeholders, uncertainties, and cyclical nature of the sector as key barriers to innovation adoption. Further, the high risk related to adoption of unproven technology and performance systems focused on volumetric production, hinders the industry, more generally, to adopt new technologies. The scholars recognise some key technology adoption enablers, including, among others, learning culture, knowledge sharing, and external stakeholder engagement. These findings provide some important insights to the applicability of TAM in understanding WSP-ATR digital submissions. Thus, it is expected that organisational learning culture, knowledge sharing and how MMS stakeholders engage, will have profound implications on the WSP-ATR submissions. Although TAM has gained wide usage in business and consumer users' acceptance of new technology, it has had very little application to explain acceptance of e-Government services (Stafford & Turan, 2011).

When moving from business consumer users' acceptance to e-government services, some scholars have utilised the hybrid TAM perspective that integrates insights from the theory of

planned behaviour (TPB) (See Stafford & Turan, 2011). Thus, in addition to the tenets of TAM that are, technology adoption is a function of perceived ease of use, and perceived usefulness, the integrated theory incorporates subjective norms and perceived behavioural control to predict behavioural intention to use systems (Ediriweera & Wiewiora, 2021). Subjective norms refer to an individual's perception of social pressure to perform a behaviour. It is the extent to which they believe important others such as colleagues think they should or should not engage in certain behaviour. This underscores the role of these subjective norms to how skills development facilitators may submit WSP-ATR in response to pressure from colleagues in their organisation or other MMS players. TAM and TPB integrated perspectives are appropriate as the two theories have converged in recent explanations of technology acceptance (for example see Venkatesh & Davis, 2000; Venkatesh et al., 2003). This allows us to combine perceived ease of use, perceived usefulness, subjective norms and perceived behavioural control in this study to explain variations in WSP-ATR submissions.

These perspectives offer stronger explaining power as Davis (1989) notes that system users are willing to endure difficulties arising from system use on condition that it helps them execute a critical functionality, yet that willingness is contingent to an individual's self-perceived capability to overcome such difficulties (Bandura, 1986). Stafford and Turan (2011) argue for closer examination of the familiar TAM/TPB scenario in an e-Government context, as the model clearly needs to be validated for such an unusual context. Applying the integrated TAM and TPB in this study closes a gap in literature as we test its applicability the WSP-ATR submission, which is a government mandated process.

2.5.2 Institutional Theory

The technological dimension that TAM/TPB address seem to be only part of the factors influencing the rates of WSP-ATR submissions because the submissions are based on the legal requirements. This suggests that the institutional theory could provide some invaluable insights to the theoretical underpinning of the study. The main tenets of institutional theory are that organisations make decisions based on three sources of pressure. The theory acknowledges the important role that coercive pressures (for example forced compliance to submit WSP-ATR due to fines), mimetic pressures (for example submitting WSP-ATR due to

imitation of other successful organisations), and normative pressures (for example when SDFs submit WSP-ATR due to professional and social norms) play in informing organisational decisions.

Institutionalism has been used as a powerful theory that helps to understand the intertwined and complex nature of the relationships among technology, organizational factors, institutional arrangements, and the socio-economic context in which they are embedded (Qiu & Chen, 2023). As such this study borrows insights from the institutional theory to provide moorings to the TAM to better explain the fluctuations in submissions (Gupta et al., 2020). The use of institutional theory in the mining industry is not novel. For example, Kelling Sauer et al. (2021) examined the role of institutional uncertainty for social sustainability of mining companies and supply chains. Chipangamate et al. (2023) explore the importance of institutional drivers of integration of stakeholder engagement practices in pursuit of social licence to operate in a modernising mining industry. More recently, Adomako and Tran (2024) argue that local embeddedness, and social legitimacy are important drivers of mining firms' decisions. It is therefore anticipated that institutions drive WSP-ATR submissions. Now that theories used in this study are introduced, the next section leverages the presented theories to hypothesise the important drivers of WSP-ATR submissions.

2.6 Factors influencing WSP-ATR submission rates

2.6.1 Human factors

The application of human factors considerations in research has had wider usage in organisational studies, security compliance (Yeng et al., 2022), urban water restrictions (Cooper, 2017), and governmental digital transformations such as digital tax services (Stafford & Turan, 2011). For example, Sommestad et al. (2019) investigate the role of planned behaviour on security compliance. They identify awareness, understanding and knowledge as important dimensions of these factors. Human action is informed by the level of awareness, understanding and knowledge that they have about the focused discussion or compliance intended. Literature posits that awareness in the context of technology related innovations means not just awareness that an innovation exists, but awareness that it is potentially of practical relevance (Helmreich & Foushee, 2019). It is when this point of awareness is reached that the decision maker is triggered to pay attention, beginning to note and collect information

about the innovation to inform the decision about whether to go to the next step of trialling the innovation (Stafford & Turan, 2011). Trialling as a phase of awareness emanates from the perception that it is feasible and worthwhile to test the innovation (usually achieved via small-scale trials), when the perception that the innovation promotes the decision maker's objectives. For example, in the context of WSP-ATR submissions, providing SDF with opportunities to trial the spreadsheets and templates could indeed encourage submissions by convincing them they make the work of SDFs a lot easier than more difficult. By exposing the SDFs to WSP-ATR submission workshops, they develop awareness, understanding and knowledge of the submission processes which should encourage submissions.

There is compelling empirical support that the final decision to adopt or reject is consistent with the self-interest of the producer of the decision. This supports the argument proffered by planned behaviour theorists (Helmreich & Foushee, 2019) who are of the view that perceived behavioural control (PBC), an individual's perception of their capacity (i.e. resources and opportunities) to achieve a behaviour (Stafford & Turan, 2011) is an important driver of behaviour. According to Kernsmith (2005) this antecedent comprises two parts, namely, generality (which deals with the range of situations over which the individual can exercise control) and strength (which relates to the confidence that attends the behaviour) as shaped by past experiences (Aitken et al., 2020). For example, it is anticipated that people who have submitted WSP-ATR in the past are more confident and, therefore, more likely to submit than newcomers who are hesitant to make mistakes. PBC has been found to have a positive influence on the intentions to comply and consequently also shown to have a positive and significant influence on reported compliance behaviour (Cooper, 2017). Another important aspect of human factors is self-efficacy (SE) which is defined as the ability of a technology user to master a new technology under consideration for adoption (Waddington, 2022). This self-perceived ability to use a technological innovation, known as SE, plays an important role in understanding individual adopters' e-Government technology adoption decisions (Stafford & Turan, 2017).

Therefore, this study hypothesises that:

H1: Human factors have a positive and significant influence on intention to comply with submission of WSP-ATR in the MMS.

H1a. Perceived behavioural control has a positive significant influence on intention to comply with submission of WSP-ATR in the MMS.

2.6.2 Organisational factors

Organisational factors have been known to influence decisions. This study uses the two important organisational factors in predicting behavioural intention to submit WSP-ATRs.

Organisational climate

Some scholars have tended to conceptualise organisational climate and organisational culture as synonymous (Liu, Chen, Zhao, & Li, 2021). We argue that culture is a more implicit concept than organisational climate, which consists of more empirically accessible elements such as behavioural and attitudinal characteristics. It is further argued that the distinction between the two lies in the realisation that the climate of an organisation consists essentially of shared perceptions, whereas the culture of an organisation is made up of shared assumptions (Liu, Chen, Zhao, & Li, 2021). There is, however, no consensus, as other scholars are of the view that climate speaks to attitudes and values alone, whereas culture exists as a collection of basic assumptions, in addition to attitudes and values. This study builds on Castro and Martins (2010) to define organisational climate as the shared perceptions, feelings and attitudes that organisational members have about the fundamental elements of the organisation, which reflect the established norms, values and attitudes of the organisation's culture and influences individuals' behaviour positively or negatively. This definition is more appropriate to the understanding of determinants of WSP-ATRs due to it being an interactive approach for which the underlying assumption is that organisational climate is the result of the interaction of individuals in response to their situation, which results in the shared agreement of organisational members.

However, the interactive approach has been criticised for being blind to the influence that organisational culture has on the perceptions of individuals and on how they interact with one another (Castro & Martins, 2010). This has given rise to the cultural approach which does not

focus on the formal properties of organisations, nor concerned with the subjective psychological characteristics of the individual and how that individual combines these two approaches. In this approach organisational climate is shaped by individuals within a group who interact and share the same abstract frame of reference, organisational culture, as they learn to deal with the organisation’s demands (Castro & Martins, 2010). This approach emphasises the interaction of individuals as a source of climate. In this sense, it shares with the interactive approach yet acknowledging the role of organisational culture as a key factor in the development of enduring organisational climate with enduring qualities, which can be measured, and influences the behaviour of organisational members.

Table 1 shows the definitions of dimensions of organisational climate including trust, leadership, communication, performance management, teamwork and work environment. It is anticipated that these dimensions are important in driving WSP-ATR submissions. For example, organisations that provide adequate technical equipment and infrastructure are more likely than those without, to submit their WSP-ATRs. Similarly, organisations that thrive on teamwork make the submission more manageable as the information for compiling the WSR-ATR comes from different departments depending on the size of the company. This also underscores the important role of communication, performance management and the other dimensions.

Table 1: Dimensions of organisational climate

Dimensions	Description	Source
Trust	Refers to trust between employee and manager. Managers are honest and open.	Pecino et al., 2019
Leadership	Refers to ability of managers to manage and lead employees, how they behave and treat employees and the knowledge they have.	Liu et al, 2021
Communication	Refers to communication issues in the company, the manager’s ability to listen to the staff, share information and sort out misunderstandings.	Pecino et al., 2019
Performance management	Refers to receipt of information and feedback about the employee’s job, responsibilities and goals.	Liu et al., 2021

	Refers to satisfaction with job evaluation and recognition received.	
Remuneration & reward	Refers to fairness of salary package in relation to the market and in comparison, with similar jobs in the organisation.	Pecino et al., 2019
Teamwork	Refers to belonging and fit in the team and organisation. Refers to team dynamics and decision making.	Liu et al., 2021
Work environment	Refers to quality of equipment and technology. Physical work environment	Liu et al., 2021

Organisational instrumental conditions

Organisational management research has attempted to unpack conditions in organisations that explain differential performance. Heterogeneity in performance has been partly explained by instrumental conditions (Skora, Scott, & Jocham, 2024). These are the tools, systems, and processes that enable or hinder organisational performance. WSP-ATR submissions in the MMS are closely linked to the capacity of the submitting organisation to provide the much-needed resources (Ruzzante et al., 2021). The organisation's capability to absorb new technology is influenced by the level of prior, related knowledge and expertise (i.e. basic skills, shared language, technological acumen, and functional specialists) in the financial and human resources and human resources development functions (Skora, Scott, & Jocham, 2024). For compliance where technology is a major element, the extent to which the technology is understandable, demonstrable and unambiguous, the greater the probability of compliance (Hwang, Wakefield, Kim & Kim, 2021). The relevance of the innovation or technology to the receptor organisation's needs, the organisation's interest in the subject matter, project goals and demonstrated usefulness of the technologies will determine acceptance of the technology (Ruzzante et al., 2021).

Availability of the necessary technologies and how these are compatible with the new introduced technologies is very important in determining acceptance. Thus, the technology in terms of hardware, software and infrastructure, equipment and machinery together with the

information systems need to be synchronised for seamless integration (Hwang, Wakefield, Kim & Kim, 2021). In addition to the communication practice identified under organisational climate, the communications systems, such as emails, collaboration tools, virtual meeting platforms, and physical platforms for stakeholder engagement, processes and procedures (workflows, standard operating procedures) (Ruzzante et al., 2021). The other important considerations are hinged on the company's commitment to provide financial and other resources to support the digital enhanced compliance. Some firms more focused on cost management may not allocate resources, including talented personnel. Organisations committed to training and development have shown more inclination towards adopting digital technologies. Studies have also examined how the organisational context variables of age, size, resources and competitive strategy affect entrepreneurship and in particular, innovation, pro-activeness and risk-taking, concepts so closely related to compliance where digital systems are used.

It is hypothesised that:

H2: Organisational factors have a strong positive relationship with behavioural intention to submit WSP-ATR.

H2a: There is a strong positive relationship between the dimensions of organisational climate and WSP-ATR submissions in the MMS

H2b: An organisation's instrumental conditions will have a strong positive relationship with behavioural intention to submit WSP-ATR in the MMS.

2.6.3 Technical factors

Adoption of innovative technologies and systems is understood in the context of the TAM introduced by Davis (1989). From then, several scholars have applied the model in various settings to understand the adoption of technologies in food industries, mining industry research, and assessing compliance where technology is an important element of the systems used. TAM has been proposed as a theoretical lens to analyse the attitudes and intentions of people when using information technology and other innovation. The aim of technology acceptance studies is to examine factors that influence users' decision to use the information system (Alasmari, 2024). Therefore, these studies consider the characteristics of the system

and individuals' opinions about the system when investigating the factors that affect the use of technology (Chand et al., 2022). For the past few decades, the theory has had several extensions, yet perceived usefulness and perceived ease of use have remained as two key factors that can influence individuals' intent to use technology.

Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). On the other hand, perceived ease of use is viewed as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). For example, the WSP-ATR source data template that the MQA uses allows the user to enter employee identity number and the name of the employee is uploaded automatically. Conversely, the complexity that comes with individual inability to copy and paste work that has special characters could be viewed as complicated by less experienced template users. Studies that have used TAM to investigate the factors affecting students' and instructors' acceptance of mobile learning in Pakistan, for example found that perceived usefulness, perceived ease of use, skill readiness, and self-efficacy have a significant effect on individuals' attitudes toward the use of mobile learning (see Chand et al., 2022). Other studies have used concepts similar or closely related to perceived ease of use and perceived usefulness and found that learning expectancy, effort expectancy, social influence, and characteristics of mobile learning are statistically significant predictors of acceptance of mobile learning tools (Chand et al., 2022). Based on these findings, we proffer the following hypotheses:

H3a: Compatibility has a strong positive relationship with perceived usefulness

H3b: Compatibility has a strong positive relationship with perceived ease of use

H3c: Perceived usefulness of technological systems has a strong positive relationship with behavioural intention to submit WSP-ATR in MMS.

H3d: Perceived ease of use of technological systems has a strong positive relationship with behavioural intention to submit WSP-ATR in MMS

2.6.4 Institutional factors

Studies have utilised the basic elements of institutional theory in examining the pressures influencing technology use in government-private corporate settings. For example,

organisations weigh external sources of information and give them weight depending on factors such as the expertise and credibility (Ghorbani, Siddiki, Mesdaghi, Bosch & Abebe, 2024). If they trust the source, they tend to mimic them. In the context of technology use or compliance, this relates to following the herd, where organisations tend to follow the leaders in the sector. The other considerations, though, are the relevance of the external information to the decision makers' circumstances, and the number of external sources reinforcing the message with similar information (Yazdanmehr et al., 2021). In terms of actual usage of technology, the number of other potential adopters who have already adopted it, and the similarity and proximity of those actual adopters to those who are now considering adoption, and the intensity and quality of efforts to promote the innovation have been found to significantly influence adoption (Ghorbani, Siddiki, Mesdaghi, Bosch & Abebe, 2024).

Recent research has found institutional pressures to play an important role in determining chosen IT Governance mode. For example, Boubaker, et al. (2021) find that coercive pressures exerted by the organization's legal environment and by standards imposed by structures on which the organization is dependent have an impact on the IT Governance mode choice, mimetic pressures caused by peers, professional associations, or competitors also played an important role in IT Governance mode choice, and that normative pressures caused by inter-organizational networks and similar educational backgrounds also influenced the IT Governance choice (Yazdanmehr et al., 2021). These findings corroborate ideas proffered by other scholars who find close linkages among government and organisational institutional pressures, technological systems and how companies make decisions (Khemanijkul et al., 2018; Luna-Reyes & Gil-Garcia, 2011).

It is therefore hypothesised that:

H4a: Coercive pressures exerted by the legal departments within organisations and government mandates have a strong positive relationship with WSP-ATR submissions.

H4b: Mimetic pressures caused by peers, professional associations and other MMS companies have a strong positive relationship with WSP-ATR submissions.

H4c: Normative pressures caused by interorganisational networks have a strong positive relationship with WSP-ATR submissions

2.7 Towards a framework of WSP-ATR submissions

A systematic literature review leveraging TAM and institutional theories gave a thorough examination of the possible key drivers of WSP-ATR submissions. Figure 5 is the summarised model demonstrating the key drivers of WSP-ATR submissions. The variables are compatibility, perceived ease of use, perceived usefulness, behavioural intention to submit WSP-ATR, human factors, institutional factors, organisational factors and the ultimate WSP-ATR submission.

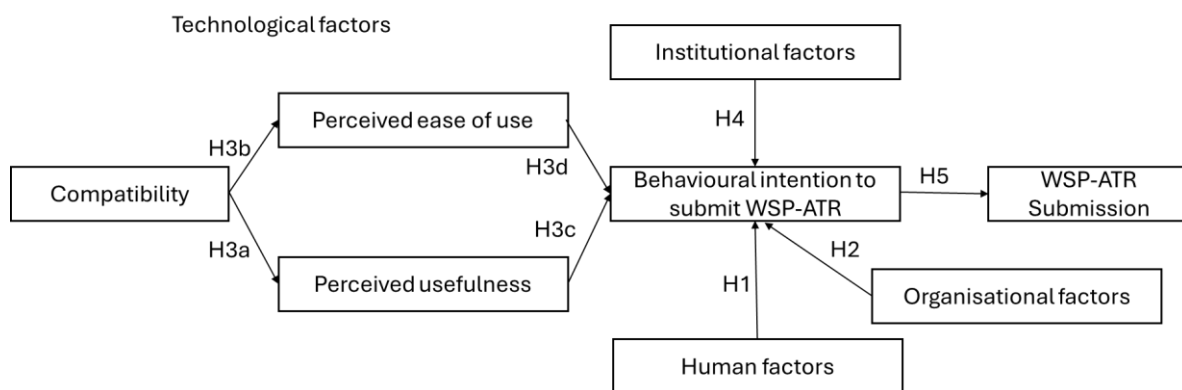


Figure 5 The extended TAM-TPB-WSP-ATR submission Framework (Source: Author).

The emergent framework suggests that compatibility is positively related to perceived usefulness and perceived ease of use (H3a, b respectively). Perceived usefulness and perceived ease of use are positively related to behavioural intention to submit WSP-ATRs (H3c, d respectively). Human factors, organisational factors, and institutional factors are positively related to the behavioural intention to submit WSP-ATRs (H1, 2, 4 respectively). It is also hypothesised that the behavioural intention to submit WSP-ATRs is positively related to the actual submission. Figure 3 summarises the key drivers of WSP-ATR and together form the extended TAM-TPB-WSP-ATR Submission Framework.

2.8 Conclusion and Implications

This review of literature leveraged TAM and institutional theories to assess scholarly work that could help explain WSP-ATR submissions in the MMS. The theories have been selected for their appropriateness considering the crucial role that technological systems are used in the mandatory submissions. The role of technological, institutional, human and organisational factors is hypothesised to play an important role in driving WSP-ATR submissions. The

implications for the MQA are that to improve submissions, there is need to minimise the perceived ease of use and perceived usefulness of the templates and spreadsheets used to submit the WSP-ATRs. Organisations need to provide adequate resources and create a positive organisational climate by fostering trust among different teams.

3 APPROACH TO THE STUDY

3.1 Research design and approach

3.1.1 Pragmatism philosophy

The study followed a pragmatism philosophy where methods are selected for their effectiveness in answering the research questions. The philosophy focused on practicality, utility and effectiveness in understanding reality. This study is, therefore, guided by the three core methodological principles that underlie a pragmatic approach to inquiry: (1) an emphasis on actionable knowledge, (2) recognition of the interconnectedness between experience, knowing and acting and (3) inquiry as an experiential process (Kelly & Cordeiro, 2020). The purpose of generating knowledge from a pragmatism perspective is to solve real world challenges to achieve practical goals (Ormerod, 2006). This resonates with the aim of this study which is to solve a practical challenge of low WSP-ATR submissions. A key principle of pragmatism is pluralism, meaning that multiple methods are valuable (Kelly & Cordeiro, 2020). It gives the researcher the flexibility to utilise all the methods and perspectives that help address the research questions as opposed to obsession with paradigmatic debates which arise from the extreme philosophies of positivism and interpretivism (Kelly & Cordeiro, 2020).

In terms of epistemology, the philosophy rejects objectivity and embraces the idea that knowledge is context-dependent, shaped by individual perspectives and dynamics, allowing it to be revised as new evidence and perspectives emerge. These arguments are important when assessing the factors influencing WSP-ATR submissions because the perspectives of the people involved are important in explaining their behaviours and responses to various mechanisms that are put in place to enforce compliance. Further, multiple data points, for example, document analysis, quantitative surveys and interviews were used as they were seen as important to understand the factors driving submissions.

3.1.2 Mixed methods research approach

A mixed methods research approach was utilized, and this provided an integrated approach with both quantitative and qualitative methods. The use of multiple methods was across data collection, analysis and presentation in line with pragmatism philosophy. Amongst the

benefits of the mixed-method approach is that the strengths of one method offset the weaknesses of another (Kelly & Cordeiro, 2020). For example, the experiences of people submitting WSP-ATR can be understood more when interviews or group discussions are done as opposed to quantitative surveys, yet the strength of different drivers can be determined using quantitative survey instrument. According to Creswell et al (2011) the use of several research methods fosters interdisciplinary collaboration leading to results that are comprehensive and convincing. More so, combining qualitative and quantitative methods increases confidence in the results and overall findings, and it is also a form of triangulation where results coming from the different methods can be cross-checked or corroborated to ensure reliability and validity (Ormerod, 2021). In this study, mixed methods and multiple data points are used to corroborate the findings (Kelly & Cordeiro, 2020). The shortcoming of the mixed-method approach is potential conflict arising from theories underpinning the components of the study. It was, therefore, important that data analysis was done systematically to draw comprehensive and coherent conclusions. For this reason, data analysis started with quantitative analysis of archival data, followed by qualitative approach to corroborate the findings, and then went to quantitative data collected through surveys. Further, the literature review ensured that only theories previously combined in other studies were combined, to ensure the assumptions did not conflict.

3.2 Data collection methods

Figure 6 provides an overview of the data collection and analysis framework. As captured on the figure, there are four phases moving from literature review to producing this final report. During **phase 1**, review of relevant literature, reports, policies, plans on WSP-ATR and MMS sector skills plans was undertaken. A systematic literature review approach was followed, and this involved defining the research question, developing a protocol to guide the searches (i.e., capture key works from objectives/research questions), searching for reports, papers, and policy documents, screening and selecting relevant literature, extracting information that aligns with components of the study objectives, and synthesizing and writing up the literature review chapter.

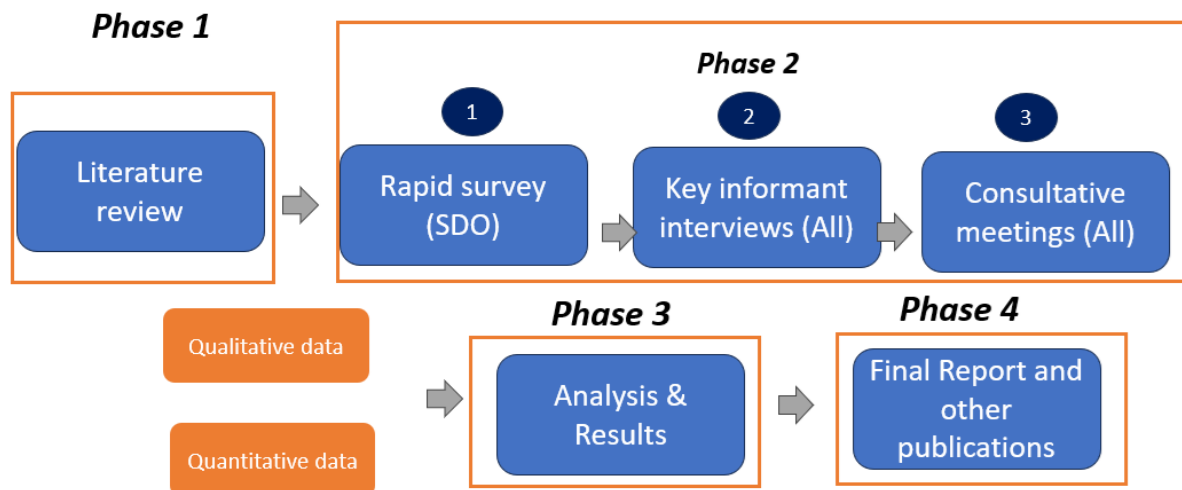


Figure 6: Data Collection and Analysis Framework

Phase 2 of the data collection and analysis framework involved the collection of primary data through rapid surveys, key informant interviews and consultative/stakeholder meetings. Rapid surveys were used to obtain insights on the experiences of the participants on the WSP-ATR submission process and factors that affect the submission. The surveys targeted mine personnel responsible for developing and submitting WSP-ATRs and these include primary and secondary Skills Development Facilitators (SDFs), Human Resources Development Practitioners (HRD), Skills Development and Training personnel, Trade Unions representatives, management, outsourced SDFs and other participants that were identified through literature and stakeholder engagements. The survey was administered using a structured questionnaire and this was completed online using Microsoft Forms. The surveys with 273 participants were conducted alongside 13 key informant interviews (KII). The KII were conducted using a semi-structure questionnaire based on an interview guide informed by the research objectives. The interviews were conducted with the personnel noted above and they were purposively selected. MQA also formed part of the targeted participants to obtain information on the WSP-ATR submission requirements and support mechanisms available for the MMS, and challenges faced that affect submissions. A diverse sample with those that submitted, those that have never submitted and those that sometimes submit were targeted.

Another component of the primary data collection was consultative meetings/stakeholder engagements workshops. These included stakeholder engagement sessions facilitated by

MQA which were leveraged to obtain a deeper understanding of the challenges and perspectives surrounding WSP-ATR submission patterns. A total stratified sample of 273 participants were surveyed from the country's 9 regions (represented by these areas: Johannesburg, Rustenburg, Cape Town, Witbank, Welkom, Polokwane, Port Elizabeth, Kathu, Richards Bay, and Pretoria), for quantitative data analysis, and 13 in-depth interviews were conducted to achieve saturation. Saturation is the point at which additional interviews do not yield new insights. Participants from small, medium and large companies in different sub-sectors were included in the surveyed, interviewed people. In line with qualitative principles, there is no need to keep interviewing more people. For quantitative data 200 participants is the average required for Partial Least- Squares Structural Equation Modelling (PLS-SEM), while qualitative data collection was guided by saturation. The participants were drawn from the 2291 companies that pay levies to MQA, and from the data base of all MMS companies registered with DMRE, ensuring that companies that do not submit were also included. Participants from other SETAs were also interviewed.

3.3 Data analysis methods

Phase 3 of the research process covered analysis of the data to generate results. This is analysis of the qualitative data that come out of the KII and consultative meetings. These were transcribed and analysed using thematic analysis. The thematic analysis followed Saldana (2014). The steps involved: 1) developing a 'code book' (this is a list of codes used for analysis), 2) coding (this involved identifying codes from the transcriptions), 3) categorisation (the codes were developed into categories), 4) theme development (the categories were developed into themes), 5) proposition development (the themes were developed into propositions or corroborated into existing hypotheses). Quantitative data comprised WSP-ATR data set which was obtained from MQA covering the past 5 years. Quantitative data analysis involved systematically examining numerical data to uncover patterns, relationships, and trends. Once all the data was analysed using statistical descriptive analysis and PLS- Structural Equation Modelling, it was written up in this report (i.e., **phase 4**). Further, the analysis of survey data also involved the use of Python for descriptive analysis of findings.

3.4 Research reliability and validity

Research reliability and validity are important measures in research that ensure the quality and trustworthiness of the research and findings being presented. There are various methods that were used to establish validity and reliability of quantitative and qualitative research. In this study, reliability and validity were established through the use of the triangulation method. There are different triangulation methods used in this study – data triangulation (i.e., the use of multiple data), investigator triangulation (i.e., involved multiple researchers collecting and analysing the data), theory triangulation (i.e., application of multiple theories to test the findings) and methodological triangulation (i.e., the use of different approaches to collect and analyse data) (UNAIDS, 2013). This research study used multiple sources of data (i.e., secondary and primary data) and different investigators were used to collect, analyse and cross check the data. More so, two approaches (i.e., Rapid Survey (RAS) and Key Informant Interviews (KIIs) were used to collect the data, and these complement each other.

3.5 Ethics requirements

In line with the statutes of the University of Witwatersrand, ethics clearance was obtained. This study was conducted in line with the following ethics guidelines: Human Research Ethics Committee (non-medical). The rigorous ethics process ensures that research does not violate the rights of the participants and aspects of confidentiality both during data collection and in the final report are maintained.

3.6 Study limitations and challenges

The following are the limitations of the study:

Access to data: There limitations of the current study are that it was assumed that all the targeted participants will participate in the study. There were issues of confidentiality and POPIA which affected access to certain data that was required for the study. Particularly, data from other sources was not available.

Sample size and representation of targeted groups: The timeframe for the project was inadequate and this affected the coverage of the study and participation of the key stakeholders. As such, it was not possible to draw a very large sample.

Scope of analysis: Although there are so many other theories that could be relevant to understand submissions and strategies to improve them, this study will focus on the Technology Acceptance Model for a thorough understanding of the challenges and opportunities for driving WSP-ATR submissions in the MMS.

3.7 Conclusion

This section covered the research design. It describes that pragmatism research philosophy used, the mixed methods approach, sampling procedures, data collection for qualitative, and quantitative data, and their analysis. The following section reports the findings of the study, starting with a report of the analysis of archival data of WSP-ATR submissions for the past 5 years from 2020 to 2024, followed by report of qualitative data, and finally the report of survey data analysis. A discussion section is added to integrate the findings of all the methods.

4 RESEARCH FINDINGS AND DISCUSSION

This chapter presents the research findings and discussion, highlighting inconsistencies in WSP-ATR submissions in the past five years from year 2020 to 2024. The findings are presented in three subsections. The first presents findings from archival data to show trends and fluctuations in submissions. The second section presents data from qualitative interviews and stakeholder engagement activities, while the third and final results are from Partial Least Squares-Structural Modelling to create a framework of the leading factors influencing WSP-ATR submissions in the MMS in South Africa.

4.1 Results of WSP-ATR submission trends from analysis of archival data

4.1.1 Annual WSP-ATR submissions

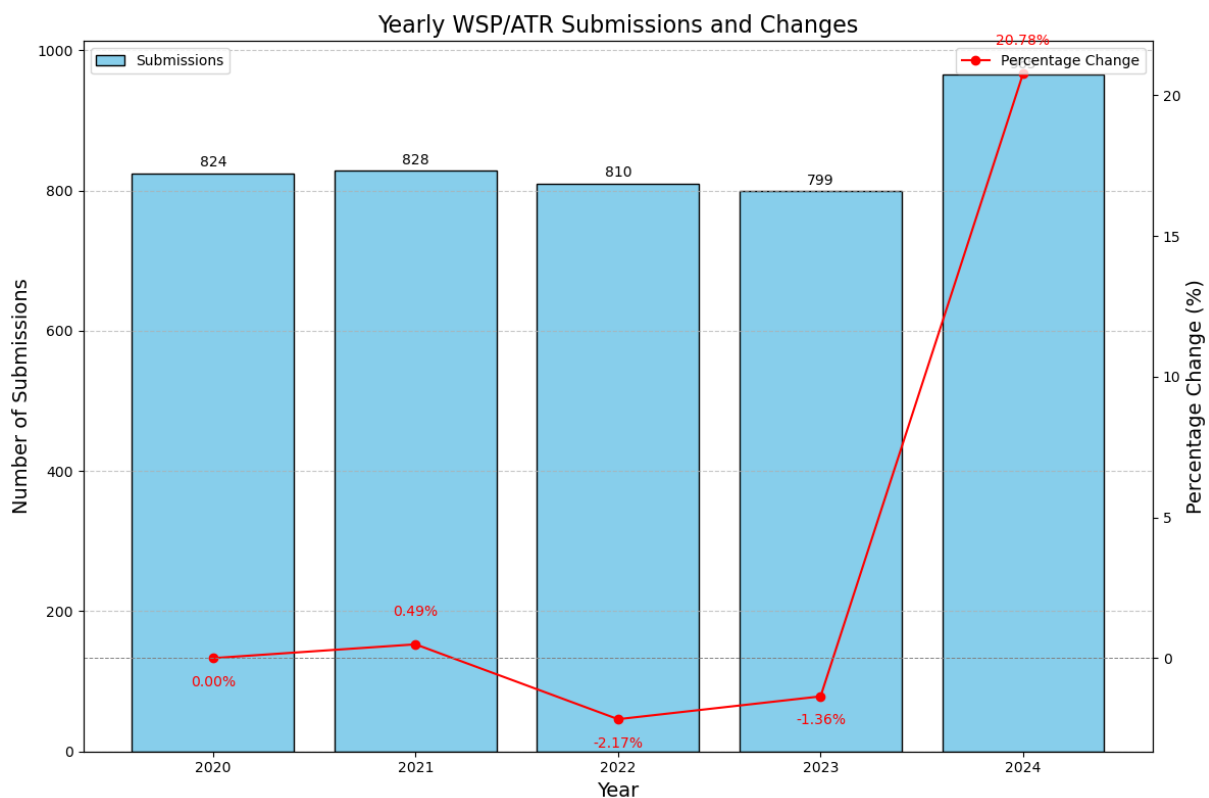


Figure 7: Annual WSP-ATR submissions and changes

Figure 7 provides a summary of annual WSP/ATR submissions from 2020 to 2024, focusing on submission counts and year-on-year changes. The trends are as follows:

- Submissions were relatively stable from 2020 to 2023, with minor fluctuations:
 - 2021 saw a slight increase of 4 submissions (+0.49%).

- 2022 experienced a decline of 18 submissions (-2.17%).
- 2023 continued the downward trend with a loss of 11 submissions (-1.36%).
- A significant surge occurred in 2024, with an increase of 166 submissions (+20.78%), bringing the total to 965 submissions, the highest in the period. This sharp rise in 2024 was explained in interviews to be a result of roadshows and workshops conducted by the MQA prior to the submission period and the assistance during submission.

4.1.2 Submissions by organizational size

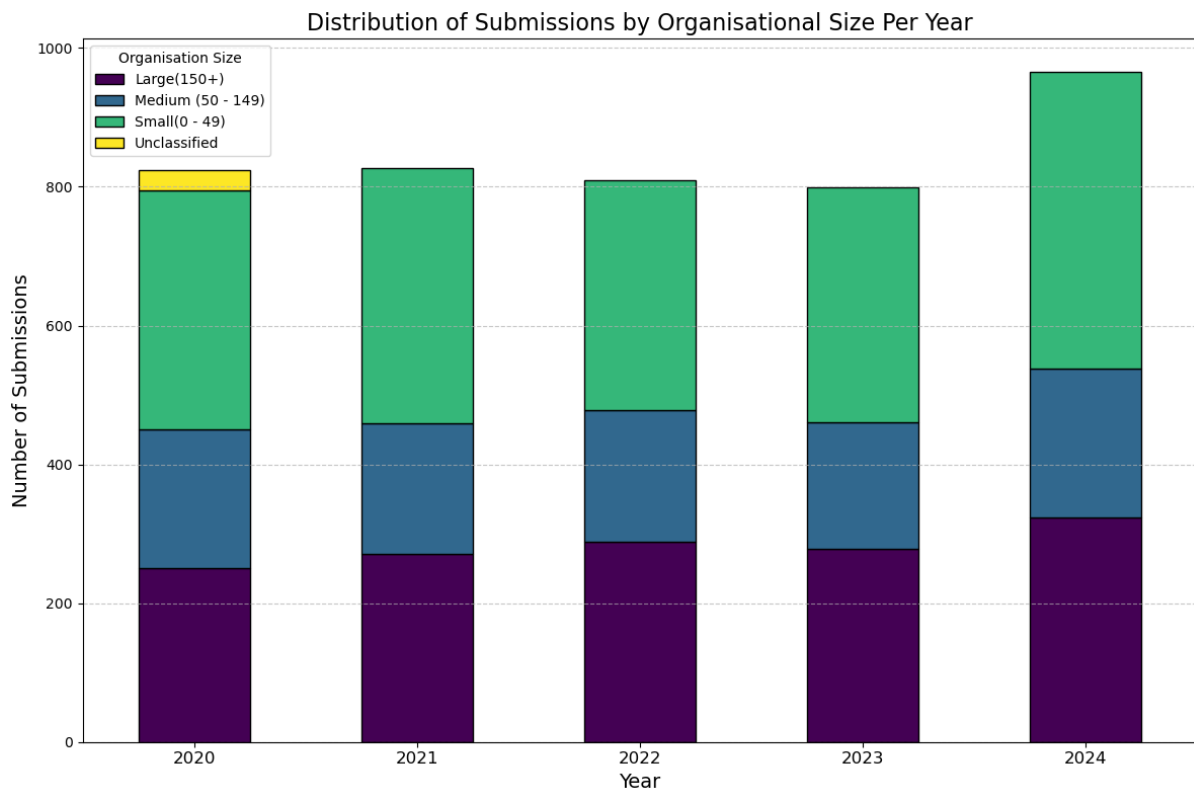


Figure 8: WSP-ATR submission by organisational size

Figure 8 shows the submissions by size of organisation. Different organisations were assessed according to their sizes. Results demonstrate the important role that small companies play yet also underscoring the importance of a balanced sector with all three different company sizes contributing input to the skills development plans through submitting high quality WSP-ATRs.

The following are the key observations:

Trends

- The total number of submissions steadily increased over the years, with the most notable increase observed in 2024.
- Submissions from smaller organisations (categorized as "Small (0 - 49)") dominate across all years, reflecting their significant participation.

Contribution by Organisation Size

- Small (0 - 49): This category consistently contributes the largest share of submissions each year. Its growth aligns with the overall trend of increasing submissions over time.
- Medium (50 - 149): Medium-sized organisations are the second-largest contributors. Their submissions remain relatively stable with slight growth over time.
- Large (150+): Submissions from large organisations show consistency but contribute the smallest proportion compared to smaller categories.
- Unclassified: The "Unclassified" segment shows minimal contribution, only visible in 2020, suggesting improved quality of classification and categorisation in later years.

Year-on-Year Observations

- 2020–2023: The composition of submissions across size categories is relatively stable, indicating consistent participation from different organisation sizes.
- 2024: A significant increase in submissions is observed, driven by growth in "Small (0 - 49)" organisations. This suggests improved outreach that may have encouraged smaller organisations to participate.

Implications

- The dominance of smaller organisations highlights their critical role in WSP-ATR submissions.
- The growth in submissions over the years, particularly in 2024, reflects increased compliance, awareness, and structural changes including training in the reporting system.

4.1.3 Submissions per region

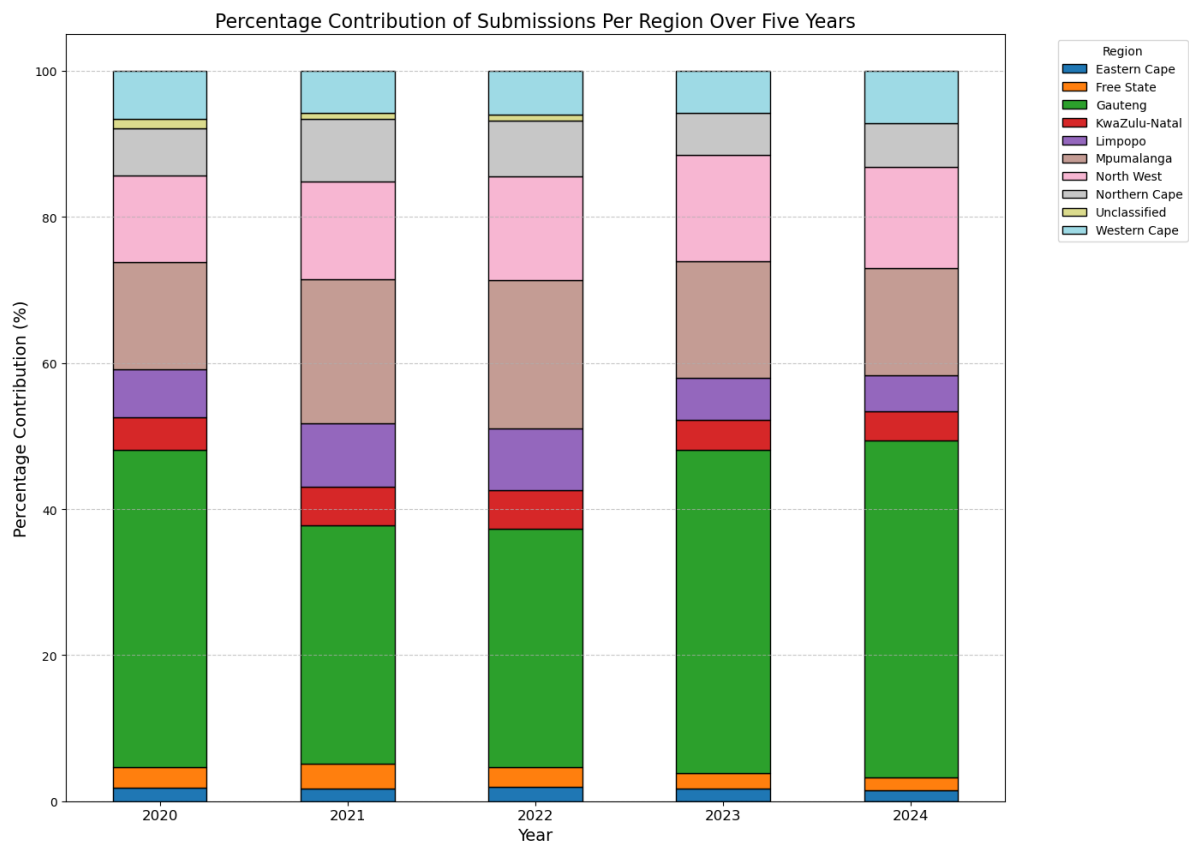


Figure 9: Submission by region

The chart presents the distribution of WSP/ATR submissions across various regions from 2020 to 2024, visualized as stacked bars for each year. Each segment represents a specific region's contribution to the total submissions. The following are the key observations:

Trends

- The total number of submissions fluctuated over the five years, with 2024 having the highest submissions.
- Certain regions, such as Gauteng, Northwest and Mpumalanga, consistently dominate the submissions, forming the largest portions of the stacked bars.

Regional Contributions

- Gauteng: Gauteng is the largest contributor in all five years, indicating its prominence in WSP/ATR submissions. The region contributed over 40% in 2020, 2023, and 2024. In 2021

and 2022 the region contribution as a percentage of total declined. It is therefore important for MQA to keep a close eye on the region. The province's dominance is partly a result of most HQs based in the province. Findings from qualitative interviews suggested that regional MMS operations advocate for decentralisation of submissions, such that the regions submit separately.

- Mpumalanga and Northwest: Mpumalanga and Northwest consistently contribute significant portions, being the second- and third largest contributors overall, respectively. Mpumalanga has consistently contributed over 10% submissions, which is very significant, while Northwest weighs in with about 8%. There are huge opportunities to increase submissions in these areas. It will be important for the MQA to closely watch Mpumalanga in the next five years to see the impact of the global call for a shift away from coal mining. Mpumalanga is anticipated to grow when considering the increasing importance of PGMs in the green hydrogen economy.
- Limpopo, Northern Cape and Western Cape: These regions maintain steady but moderate contributions over the years, with slight fluctuations.
- Smaller Regions: Regions like KwaZulu-Natal, Eastern Cape, and Free State contribute relatively small but consistent shares. The Unclassified category is minimal, appearing only in 2020, 2021 and 2022 and then disappearing, suggesting improved categorization and data quality in subsequent years.

Year-on-Year Observations

- 2020–2023: Submissions grew steadily, but the composition of contributions by region remained largely consistent.
- 2024: The sharp increase in total submissions is largely driven by regions like Gauteng and KwaZulu-Natal, suggesting potential policy changes or increased compliance rates in these regions.

4.1.4 Submissions per sub-sector

The heatmap (Figure 10) visualizes the number of WSP/ATR submissions across various sub-sectors over the years 2020, 2021, 2022, 2023, and 2024. Each cell represents the count of submissions for a specific sub-sector in a given year.

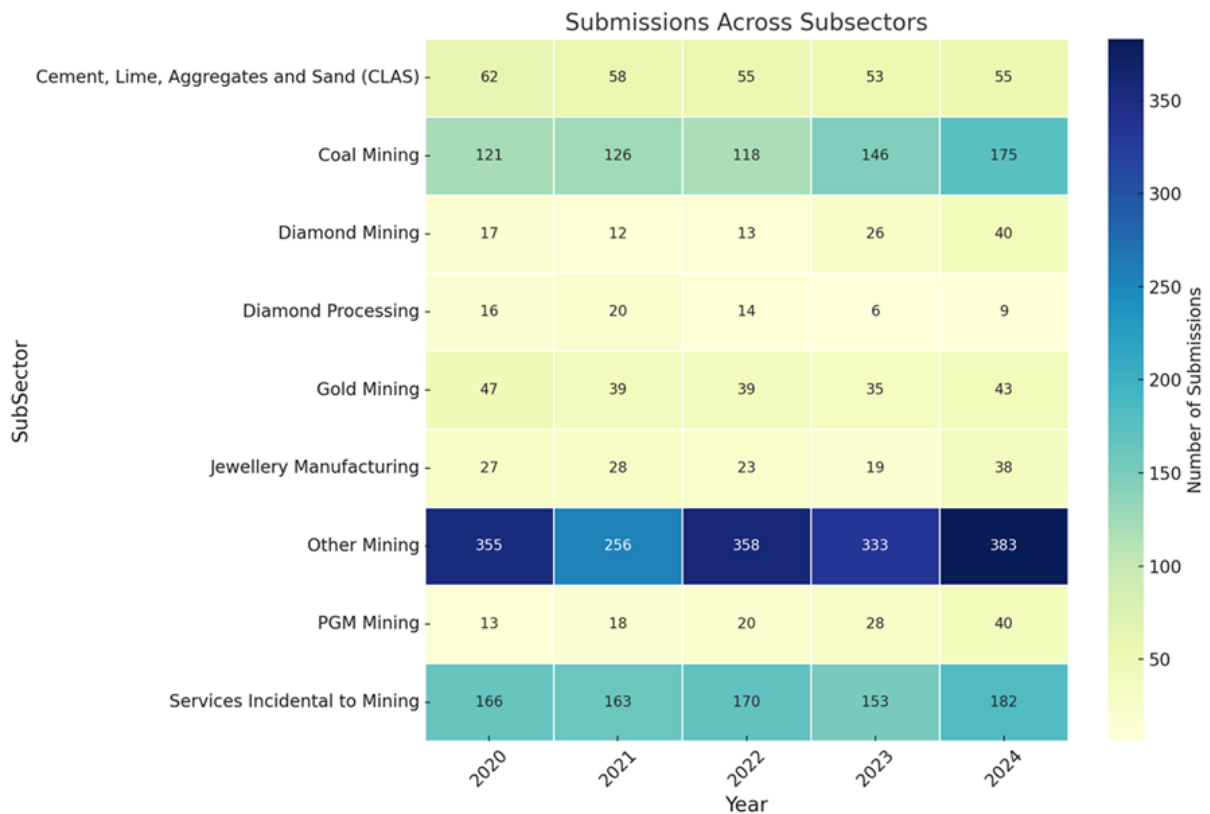


Figure 10: WSP-ATR Submission by sub-sector

Other mining consistently records the highest number of submissions across all years, indicating its significant contribution to overall submissions. What is encouraging is the growth of the sub-sector from 355 in 2020 to 383 in 2024, although there was a significant drop in 2023 (333). These fluctuations signify a lack of systematic tracking of submissions, which this study recommends for MQA.

Trends

- Coal mining and SITM show steady submission rates, making them key sub-sectors alongside other mining. Coal mining submissions grew from 121 to 175, with a decline in 2022.
- Smaller sub-sectors like diamond mining and processing, PGM mining, gold mining, and jewellery manufacturing have comparatively lower submission rates. Despite low contributions, they are very important to the MMS as they contribute to beneficiation in the sector. Findings from interviews suggest that the companies in these small sub-sectors feel neglected by policies, which in their views favour large scale mining companies, as detailed in the qualitative report section.

- Most sub-sectors display relatively unstable submission rates year-over-year from 2020 to 2024, suggesting inconsistent participation. For example, there is a notable sharp decline in 2022, and a sharp rise in 2024. This implies that, unless the MQA approaches monitoring submissions with intentionality, the rate of submissions will continue to fluctuate.
- Certain sub-sectors like diamond processing and PGM mining have very low submission counts, reflecting limited activity or representation. Although diamond mining grew from 17 to 40 over the period under study, diamond processing has seen a steady decline from 16 in 2020 to only 9 in 2024. There is need for MQA to pay particular attention to these small sub-sectors, while promoting the main contributors to ensure balance and consistency.

Figure 11 shows the Pareto Chart, which is a representation of the 20 % sub-sectors contributing 80% of all the MMS WSP-ATR submissions.

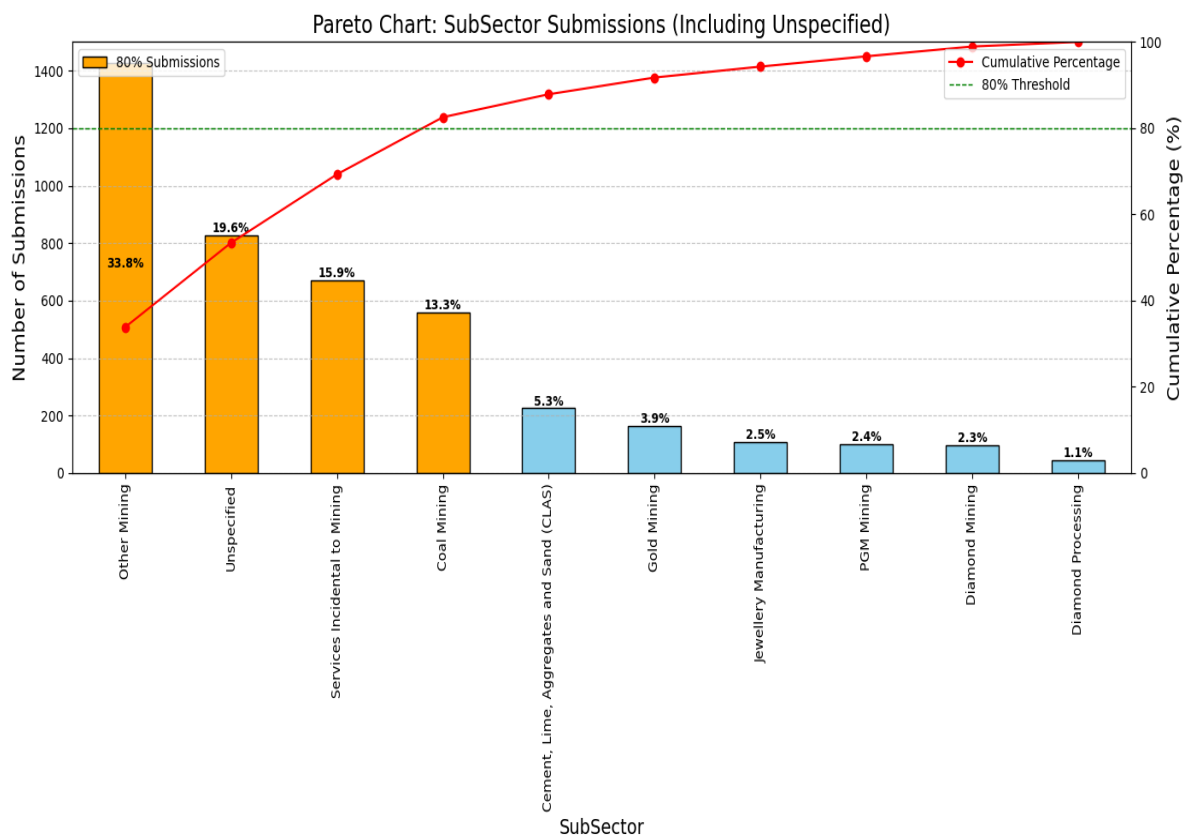


Figure 11: Pareto Chart for WSP-ATR submissions with unspecified companies

Factors Contributing to 80%

- The 80% threshold is reached by contributions from the following sub-sectors:
 - Other mining (33.8%): The largest contributor, representing a significant portion of total submissions.
 - Unspecified (19.6%): The second-largest category, heavily influenced by the entire 2021 year data being unclassified/unspecified by sub-sector.
 - SITM (15.9%): An important Sub-sector reflecting auxiliary services crucial to mining operations.
 - Coal mining (13.3%): A major Sub-sector tied to core mining activities.
- These four sub-sectors alone account for 82.6% of all submissions, highlighting their strategic importance for policy and resource allocation for MQA.

Impact of the "Unspecified" Category

- The "Unspecified" category contributes **19.6%**, making it the second-largest segment. This is problematic because it masks insights into the true contributions of specific sub-sectors. It is recommended that the MQA work on improving the quality of submissions by increasing training and educating SDC on the importance of high-quality submissions.
- With such a large proportion being uncategorized, decision-makers are unable to accurately evaluate the importance of individual sub-sectors.
- This is particularly critical because the inclusion of the entire 2021 year as "Unspecified" diminishes the visibility of other key Sub-sectors like SITM and coal mining.

Conclusion

- Other mining, SITM, and coal mining are the primary contributors driving industry submissions, and they warrant prioritized focus for resource allocation and strategic initiatives. Although the other sub-sectors contribute less than 20% to the totals, there is need to pay particular attention to them as the WSP-ATR submissions are more than just numbers but rather to inform the SSP. A SSP with input from all the sub-sectors in all regions is important for the economy.
- Unspecified as a category artificially inflates its importance and needs to be addressed for meaningful insights. This is done by improving the quality of submissions. Training and education are very important for this to happen.

Figure 12 shows the Pareto Chart without the unspecified category. As shown in the figure, CLAS becomes an important contributor to the 80% of submissions.

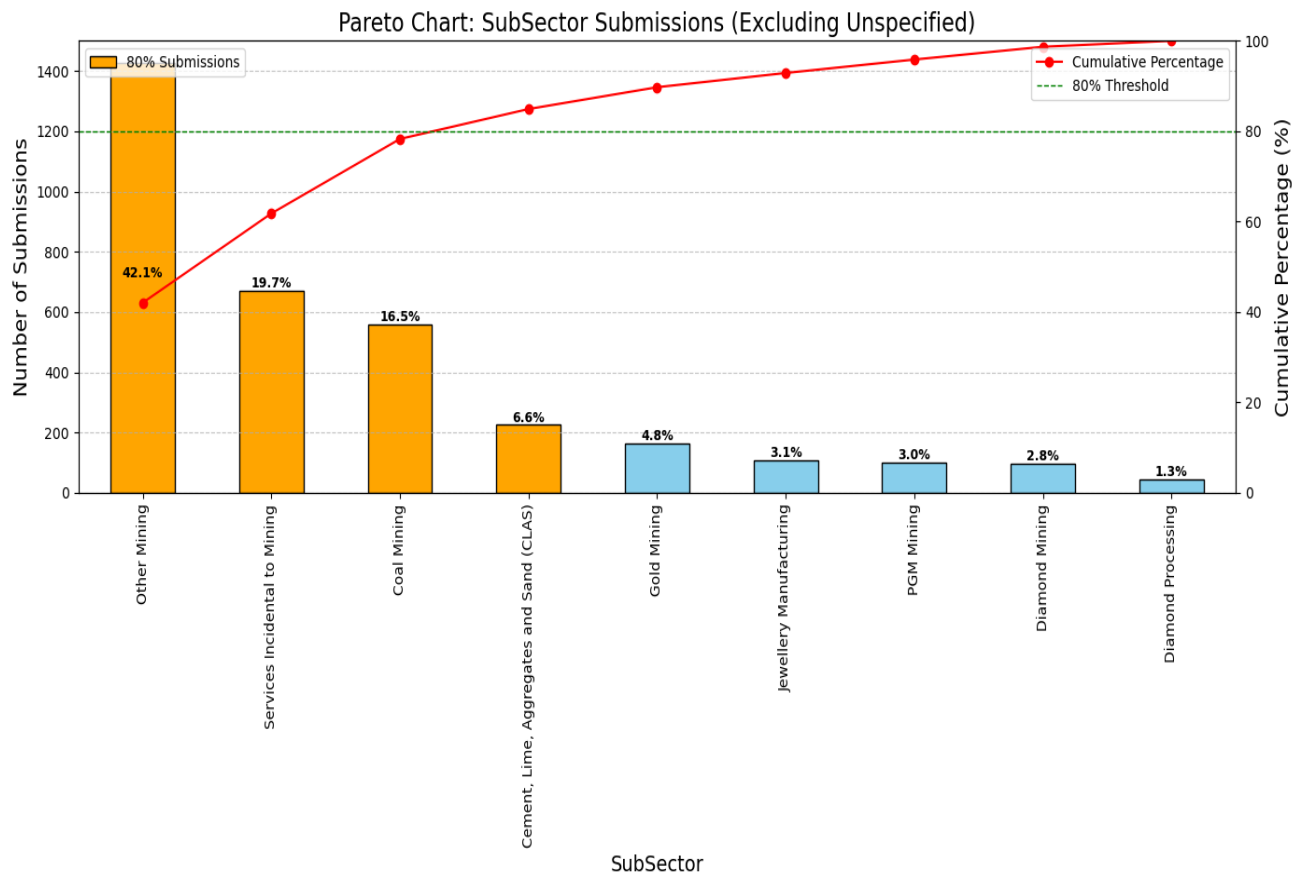


Figure 12: Pareto Chart of WSP-ATR submissions without unspecified

Figure 12 focuses on the contributions of defined sub-sectors, excluding the "Unspecified" category. Bars represent the number of submissions per sub-sector, while the red cumulative percentage line overlays the contribution progression.

Trends

- Other mining is the largest contributor, accounting for a significant portion of the total submissions (42.1% over the 5-year period).
- The top three sub-sectors (Other mining (42.1%), SITM (19.7%), and coal mining (16.9%) cumulatively account for 80% of the total submissions.
- Sub-sectors beyond these top three contribute relatively small portions, with minimal but important impact on the overall submissions.

- The 80% cumulative threshold (indicated by the green dashed line) is reached with contributions from:
 - Other Mining: The dominant contributor, representing a major portion of the cumulative percentage.
 - SITM: The second-largest contributor.
 - Coal mining: Adds enough to reach the 80% threshold when combined with the first two Sub-sectors.
- Sub-sectors such as diamond processing and mining, PGM mining, jewellery manufacturing, and gold mining contribute less significantly.
- Their cumulative percentage barely affects the line after the 80% threshold, highlighting their marginal impact compared to the top three Sub-sectors.

Conclusion

- Based on the Pareto principle, other mining, SITM, and coal mining are the most critical sub-sectors, driving 80% of the submissions.
- These sub-sectors should be prioritized for strategic decision-making and resource allocation.
- Sub-sectors with smaller contributions may require targeted engagement or support to improve their submissions, in line with the MQA and National strategic goals for skills development.
- The MQA should focus resources and policies on the top three Sub-sectors to optimize the overall submission process while exploring opportunities to enhance participation from smaller Sub-sectors.

4.1.5 Submission rates by company

Figure 13 shows the number of times each MMS company submitted their WSP-ATRs. For example, over the five-year period, 23.1% of all companies that submitted did so once as shown on the first bar, 13.5% submitted twice, 9.5% submitted thrice, 13.4% submitted four times. A total of 40.5% of the companies submitted in all the five years.

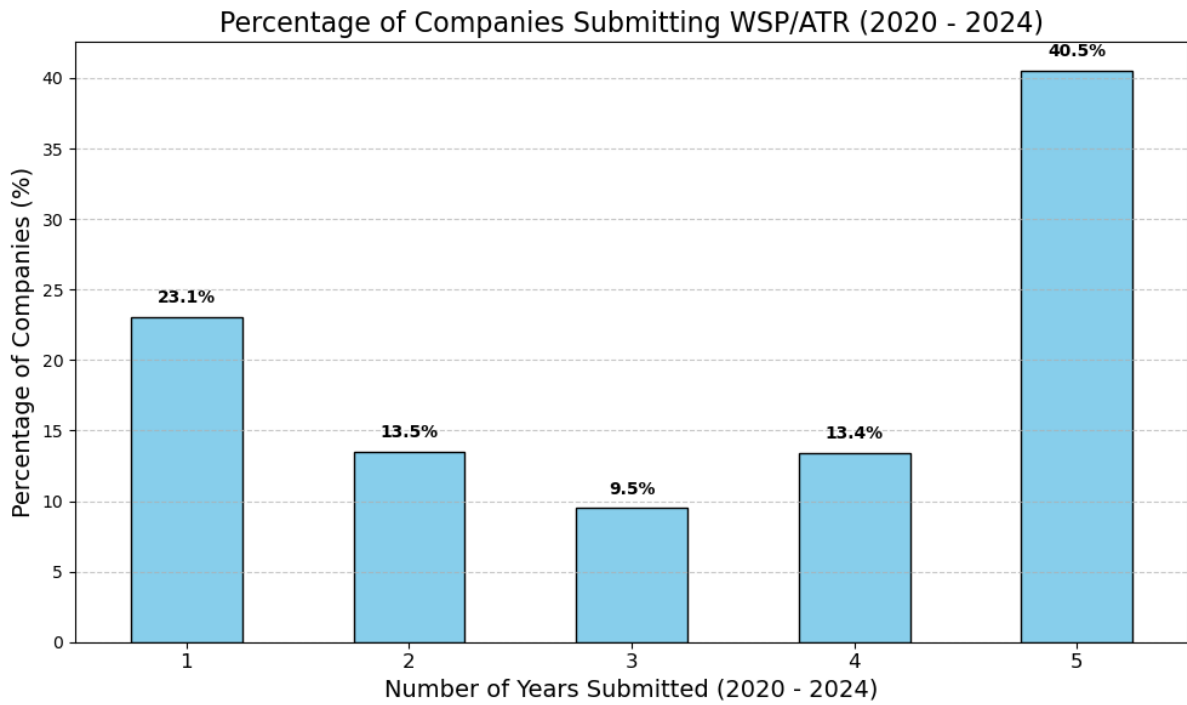


Figure 13: Submission rate by company

Trends

- 40.5% of companies submitted their WSP/ATR forms every year during the 5-year period. This group demonstrates strong compliance and operational stability, forming the backbone of the submission process.
- 23.1% of companies submitted only once during the period. These could represent new entrants, companies with limited resources, or those facing challenges in maintaining compliance.
- Participation drops significantly for companies submitting for 2 years (13.5%), 3 years (9.5%), and 4 years (13.4%). This indicates challenges in retaining companies across consecutive years, requiring targeted engagement strategies on the part of the MQA.

Implications

- Committed Participants: Companies submitting for 5 years are reliable contributors and should be prioritized for deeper engagement and partnerships.
- Retention Challenges: The high proportion of one-time submitters and drop-off for 2–4 years suggests barriers to sustained participation.
- Growth Opportunities: Focused efforts on irregular participants could lead to increased compliance and engagement over time.

Recommendations

- Support One-Time Submitters - Interviews suggested that there are barriers preventing consistence in submissions. These are tackled in subsequent sections, including lack of targeted follow-up. For example, when companies are sold or there is change of management, some new managers may not have the awareness and understanding of the importance of WSP-ATR submissions. There is, therefore, need for ongoing monitoring and support to encourage continued participation.
- Retain Irregular Participants - Engage companies in the 2–4-year categories with incentives and streamlined processes to boost retention.
- Leverage Consistent Participants - Utilize the 40.5% consistent participants as benchmarks and ambassadors for compliance, using their insights to enhance outreach strategies.

4.2 Results of WSP-ATR submissions from qualitative interviews

4.2.1 The role of human factors in WSP-ATR submissions

Perceived behavioural control is defined as an individual's perception of their ability to perform a specific behaviour. Interviews with key informants found all dimensions for perceived behavioural control. Interviewees believed that it is necessary to raise awareness, especially for those employers and SDFs who do not already show awareness, conceptualised as knowledge of the behaviour and its consequences. Several interviewees echoed the need to raise awareness with one saying: "...to me the most important driver is awareness. For me, imagine if the person who sold the business to us had not mentioned to me the need to submit the WSP-ATRs, I wouldn't know about it.... When it comes to senior management it gets even worse. They do not know about MQA and what they do. The other time I wanted to get the documents signed and I said this is MQA documents and he said, 'Who is MQA?'"

Further, it was also observed that understanding, defined as the comprehension of the behaviour and its requirements, was crucial for determining the submission behaviour of individuals. SDFs and organisations who fully comprehend the submissions and the requirements for submissions found it more desirable to submit WSP-ATRs.

The other dimensions, of PBC that were demonstrated by interviewees was perceived control, which is the belief in one's ability to perform the behaviour, and self-efficacy or the confidence that SDFs had regarding their ability to submit WSP-ATRs. The following quote from participants shows this: "I don't think with the submission there's any problem at the moment or a major problem that is there because.... Yeah, I know the system. Unless if they change the system and then and then they introduce major changes within the system it becomes a problem, but we then quickly adapt, I think for now."

Therefore, awareness, understanding, and the confidence that SDFs have in their ability to submit are important predictors of their behavioural intention to submit WSP-ATRs and ultimately their submission.

4.2.2 The role of technical factors in WSP-ATR submissions

Perceived ease of use

Interviews with key stakeholders demonstrated that they saw the perception of ease of use as very important when it came to submissions of WSP-ATRs. Most of them echoed the various challenges that they encountered and impacted significantly on the submissions in terms of whether they submit, and the time of submission. One interviewee said: "You'll follow their format, but at times it refused to add to... To accept the format that they gave to you. That's the only challenge that I've got, and also when you have to do your Organising Framework for Occupations (OFO) codes, some of the positions you find that they are not the same as what MQA is giving us in the WSP. The OFO. Yes, it's a number that is aligned to a position that we use to identify these positions."

The following example was given: "Sometimes the OFO codes that we get from MQA are different from the roles that we have. For example, in our system we have 'mining production barchwesa' but MQA calls that 'mining production assistant'."

Table 2 shows some of the challenges related to the system that was mentioned by interviewees.

Table 2: Perceived ease of use in WSP-ATR submission

Ease of Use Factor	Description
Negative factors	
Different roles on templates and in employers	Some roles have emerged or changed over time and the template does not have those roles. This results from either modernisation effects or paying little attention to smaller sub-sectors such as jewelleries.
Copy and Paste with special characters	The system does not allow 'copy and paste' of special characters.
System changes	The system changes every three years and employers struggle to keep pace
Prompts	The current system does not give prompts to go to the next steps
Positive factors	
Clear error messages	The system gives clear error messages with exact location of error
Support from MQA	The system has strong technical support

Perceived Usefulness

Some participants believed that the MQA WSP-ATR system is very useful for submitting the plans and reports, but also as a control mechanism for unplanned training demands. This enhances the management of training. For example, when asked how the WSP-ATR submissions helped in terms of organising training plans, a respondent mentioned that:

“Remember the... This would also help you when you come to your pivotal training and then because you need to put it there and then also the training plan. I mean the organisation, the operations need to put their training plans there, so as the SDF, you can prevent someone from coming up with a certain training during the year that was never budgeted for. You know you can have some reason to say you know we can't do this because it was never budgeted because it's not in the training plan. Yeah.”

The other usefulness related to the WSP-ATR reports as source documents for other reports such as BBBEE, and SLPs: “Remember, some of the things that are there are in the social labour plan. You must also report them on the, on your WSP-ATRs. Any training that you're doing, like, you must also report here. This is because the first four months of the year, especially in large organisation, there's, like dedicated time because at the same time you need to submit BBBEE. You need to also submit mining charter. So, it's important to have a system that's not going to cause any delays.”

Further, this study finds that the WSP-ATRs are important to the sector as they form the basis for the SSP. A detailed and high quality WSP-ATR is an important input in the SSP. One delegate at a feedback workshop in Limpopo Province mentioned that: “To me the WSP-ATRs are something we need to embrace as a sector because they provide important input in the development of SSPs. Unless we get it right with our WSP-ATRs, we are blindly sailing as a sector because we do not know where we are going. In IT language they say garbage-in-garbage out. The quality of the WSP-ATR is reflective of the SSP.”

Compatibility

In the context of Technology Acceptance, compatibility refers to the degree to which a new technology aligns with an individual's existing values, needs, and practices. The study shows that the extent to which the MQA technology supports the tasks and activities involved in WSP-ATR submissions (task compatibility), the degree to which the technology aligns with the SDF's cultural values, norms, and practices (cultural compatibility), the extent to which the technology integrates with the individual's existing workflows and processes (process compatibility), and the degree to which the technology aligns with the individual's personal goals (goals compatibility) are important predictors of SDFs' behavioural intention to submit WSP-ATRs. Further, it was also found that the extent to which the technology is consistent with the individual's prior experiences and familiarity with similar technologies (prior experience compatibility) is crucial in driving the perceived usefulness and perceived ease of use. The following Table 3 shows some of the quotations confirming these findings:

Table 3: Quotations from respondents showing compatibility dimensions

Dimension of Compatibility	Quotation From Interviewees and Workshops
Task compatibility	So, I think whoever that is working with the report, he or she needs to have more knowledge of the system of the programmes itself. Well, I must tell you the first time was very rough because I was in the deep end. I had no idea what to do. And then at this stage I at least know what must be uploaded.
Cultural compatibility	So, I've got it. I've I'm a very structured person, so I've got a tracker, and I've got a provide timelines and I have I've got weekly progress update meetings with all the operations. So, I'll start early in the year to support them to.
Process compatibility	It it's easy to see from the spreadsheet itself to check the formulas because if you are not familiar with the. With the programmes, let's say because we are using Excel in most cases, if you are not using Excel, you might have problems where you think that your report is accurate or 100% correct.
Goals compatibility	Computer training. I've got an ICDL, computer training, I did that but digitally as part of my career goal to remain relevant.
Prior experience compatibility	The challenges with the WSP-ATR, honestly from our side, we don't have challenges because I think we've been using the system for a long, long, long time where now it's

Dimension of Compatibility	Quotation From Interviewees and Workshops
	easier for us. That will be only small things that maybe can give you a problem.

4.2.3 The role of organisational factors in WSP-ATR submissions

Organisational Climate

The study identifies the key dimensions of organisational climate which are trust, communication, leadership, and teamwork. Trust within mining organisations, for example, was mentioned as important in SDFs' ability to submit WSP-ATRs. This has often manifested as lack of signatures during submission, where unions or senior management do not sign because they need to first get to understand the contents even after taking part in the consultation processes. The trust based relationships were seen as important. Synthesis of data suggests a relationship building model with specific steps (Table 4).

Table 4: The process of building trust with the workers unions

Step	Description
Shop Steward Legitimacy	It is important to build legitimacy of the unions in the eyes of the workforce. One interviewee identified a tendency by some companies to thrive on a weak union, arguing that is a recipe for disaster.
Education and Training	It was mentioned that educating and training the employees and the unions was important for capacity building and for them to be aware and understand why WSP-ATR is important and why it is done. The training needs to be broad to cover technical but personal development
Evaluate	There is need to understand how the unions and people assimilate the knowledge.
Impact Assessment	There is need to understand if they appreciate the impact these WSP-ATRs have on the organisation, and the industry

In emphasising the need for educating the workers, including unions, one interviewee mentioned that: “What I see here, especially from where I am, from my company. I think that the union needs to be involved with workflow so that they can get the background or the idea. What does the WSP entail? A lot because some of them they are reading it differently.” and “Since they are thinking that maybe if we complete the WSP we are giving them we are getting lots of money, they don't have the understanding that the WSP has nothing to do with money. It is only for us to get our grant as the skills development Levy says that we need to submit and then we'll get that certain percentage for us to empower our employees.”

Communication is an important aspect of the organisational climate. Organisations that foster internal communication enhance their ability to submit WSP-ATRs. What was remarked was the need for proactive communication where the unions are genuinely consulted and problems are resolved. Some employers even established employment equity and skills development committees where training is reported every month to reduce friction during signing of WSP-ATRs. “... if you communicate a lot with the guys, it becomes easy for the guys to understand, even when there's time to when attempt to sign off.”

One interviewee said that: “OK, let me take you from the people that are putting that on the system. Normally we have our monthly or weekly meetings where we need to discuss the importance of capturing information accurately because whatever there is captured, we are using it one day for WSP-ATRs. Therefore, they need to be vigilant of all the information that they are putting on the system.” Similarly, another respondent from a large organisation responsible for consolidating the WSP-ATRs mentioned that: “I do an internal workshop with them after the MQA workshop, just to make sure everybody is aligned. Inform them of any changes in the template or things they need to be aware of. We do quarterly, bimonthly, actually bimonthly meetings with the operations.”

Another important dimension that was echoed by several respondents was the reward given by the organisation which is an important motivator. “Reward- Yeah, because I'm here. I'm paid for that. This is part of my work, but we do this for the money. To say okay, like for

instance, we already started with the 20 for next year's WSP, which was due last week. So, there is constant communication, constant progress, update constant and sharing because they also have to have quarterly committee meetings on site."

It was also noted that consultation builds trust as unions and employers proactively communicate transparently, building relationships and jointly planning and executing training. The SDF should generally be a proponent of training. One said: "I actually, have been supporting the learning management system within the company as well." During the national WSP-ATR feedback sessions, senior leadership was identified as an important driver of submissions. When senior management supports submissions, they avail the much-needed resources to facilitate submissions.

Instrumental factors

There is need for support with resources and human personnel that work on the submission processes. In smaller organisations, the issue of resources was highlighted as a major concern, but large organisations are fairly supported. "So, we are fully supported when it comes to that department. We do honestly, have lots of equipment that is given to us, for an example, like me? Now I have two computers that's in my system. I've got a laptop that I'm taking with home. If maybe I need to work at home."

4.2.4 The role of institutional factors in WSP-ATR submissions

Although the study hypothesised that pressure from colleagues within the company and other professional entities, the interviews seemed to imply that SDF job is largely a lonely journey where people in the organisation do not always understand or show interest in understanding what they do. One interviewee had this to say: "You know, for me what I see in terms of submission, there's no people that are influencing us to submit because we've we know very well that it's very imperative for us to complete the WSP in order for us to get the grant. And honestly, we are getting the grants from MQA based on what we submitted. To us, I don't want to lie to you. We get the grants for all the positions that you are applying for, for the interns, for your P1P2, for your learnership, and also by submitting the WSP you allow a lot of mandatory training to be paid off."

This seem to suggest that normative pressure may not be an important driver of submissions as the real drive is on the incentives given by MQA for submission. This, therefore, makes coercive pressure, or legal statutes are more important than normative factors. Although incentives are seen as important, there are issues that were raised where one particular respondent mentioned that she has been submitting WSP-ATRs for the past four years but never got mandatory grants. "Because I was worried about why we're not getting any funds back. So, I thought maybe that was the problem. So, I started putting that in and then the other difficulty I had was, the previous year I had to sign and upload two documents but still I did not get the MGs."

A question was also raised about the small companies who get discretionary grants but are not mandated to submit WSP-ATRs. The question was where does the money to pay them come from? The thinking is for them to belong in that category for a specified time and then graduate to WSP-ATR submission.

Participants lamented the shambolic state of the employer database. It was proffered that there is need for a database clean up. When a participant was asked to comment on mechanisms the MQA used to reach or approach new employers, the participant had this to say: "I hoped you do not ask me that question. There is need for cleaning the database from DHET, DMRE, and SARs. There is the levy download with about 2500 levy paying employers, this comes from SARs, then there is the DHET database of employers with very old, suspended, closed etc. 8000plus. Now, now the 8000 is inclusive of active, suspended and inactive companies, so that list is not entirely clean on its own because even ABC Company is on that list with their old living number that they registered in 1967. And there's also, there's companies there in 1960, something. And then ABC Company has a new levy number that they registered I think in 1992."

The seem to be lack of a clear mechanism for reaching out to newly registered companies, or companies that do not submit have unclear statuses, which makes targeting them very difficult. Companies seem to approach MQA on their own when they find word of mouth.

One participant said: “Yeah, it's requirement for us, remember, to submit. Yeah, I think from a strategic perspective, it's about, because strategically, if you don't submit that's one of your audits. One of your audits, it could be an audit finding on your triple BEE scorecard because you need to submit your workspace skills plan and annual training report because that's one of the requirements for you to get your triple BEE certification. Some regulatory aspects around that to make sure it gets submitted because it impacts other aspects of the organisation. So, I think for me from a strategic perspective, it's making sure we are compliant.”

4.2.5 MQA Support and WSP-ATR submissions

An important driver of submissions that emerged in the study is the MQA support to the SDFs when they submit their WSP-ATRs. Generating data from feedback workshops conducted in all the provinces in South Africa, and interviews with key informants, we found that MQA supported submissions in several ways. There was consensus that the tea at MQA was supportive: “I think even though there are changes, what I like about MQA, they will constantly hold the workshops to give us more guidelines on how to do it prior to submission.”

However, the participants mentioned that workshops are not enough to reach out to everyone. “I think the workshops are not enough for people that are staying far from the venues where they normally held their workshops. What they can do, I will suggest that maybe they identify those companies that are not complying and then maybe make a roadshow on that. Those specific companies. Maybe, let's say in North West they identified some companies. They need to be here for a week knowing that they gonna go to do that particular company and maybe speak to their management and sit with them and the people that doing the WSP-ATR. That will be your SDF sitting with them down and doing the ritual with them. And also, the most important thing is not to forget to teach them the importance. I believe other people they are not well informed. What is the benefit, what companies get when they submit their documents? But I, for me it's good to always check on the SDF. Not I only at this big company but to check everyone if they are familiar with the template. Because knowing that some of the people. Cannot express themselves in public, but when you attend to them the way you attended to me currently, I think it will open. It will open opportunities to find a

way for everyone to be able to tell his difficulties that he got into the system. So, from my side I really appreciate a lot just to check.”

Evidence suggested that people who attended workshops were more likely to submit than those who did not. They were more knowledgeable about the WSP-ATR processes and more comfortable working with the system. Interview participants and workshop delegates echoed that MQA members of staff would assist during odd hours on odd days with one citing Sunday night and the other mentioning 21h00 in the evening. “To summarise, whatever that I just said, I don't want to lie to you, MQA does look after us in terms of WSP-ATRs and even the people that they gave us to consult with. They are there to assist. One day. I think it was the submission of this year. One Sunday. Somebody called me on a Sunday and asked me, are you done? Are you winning? Do you want me to log in to help you? So, I feel that the MQA as an organisation. They are doing very well.”

Triangulating data with MQA interviews confirmed that indeed there were workshops and support for SDFs to submit the WSP-ATRs seamlessly. “OK, so there's various ways on the system. There is an e-mail account that is submissions. So, we also send an e-mail through submissions, or we can give them a call or we can also send via our emails.” Some of strategies the MQA uses which were regarded as effective are feedback sessions, capacity building workshops and stakeholder engagement sessions.

Key informants mentioned that the constant change (every three years) in the system requires the level and nature of support from MQA. However, what was also clear was the need to intentionally manage transitions. For example, before the contracts with one service level provider, there was need to onboard the next one for seamless transition. “But yeah, when a system changes, it's like you know it does, it's added pressure I think to organisations to make sure that they can successfully submit.” It was proposed that thorough testing of the system be carried out and this requires that SLA are done on time. For this reason, one participant compared MQA to other SETAs and concluded that: “The system is user friendly for me. I like the way the process is sort of captured in the system of every step that has to be followed clearly. I got to experience a difference. I tested the system and I'm like, OK, the MQA is like

100 steps ahead in simplifying and the user-friendly system. I have to be honest. Oh, now please. I've experienced last year a different SETA's system as well, so I must actually give A, and I think I did that in one of the workshops really applaud the MQA for continuous improving in the way we do submissions”.

4.2.6 External context/Other factors

There are other factors that were raised by participants but never anticipated in the theorisation of the study. The context in which WSP-ATR submissions are made is very significant. Interview participants mentioned that the economic situation in the country was affecting several mining and minerals companies. An important aspect of that dynamic has been the rate of turnover that has increased in the past few years. Organisations are scaling down operations with resultant increased mobility of staff. This is presenting challenges in the reporting of accurate information. “I think the biggest challenge is, especially in a in a big organisation. Is where people have been moved or transferred between operation and I think the biggest challenge is to avoid duplicate reporting. I think that's the biggest challenge because you know they have to report and present data based on that reporting period for that specific operation. But the same person might have moved in the last three months of the reporting period to different operation. And have received training on that operation.” For example, it becomes difficult to align different OFO codes with the emerging roles and titles.

The other worrying trend has been the rise of cybersecurity concerns. Although this is not ordinarily seen as a threat to WSP-ATRs, the level of complexity of the submission systems are a direct result of these fears, for example not accepting special characters, or restrictions on cut and paste or dragging of data. A participant had this to say: “The governance around data and integrity of that is the most complicated thing I think.”

The economic decline and the many restructurings have had a negative impact on people motivation, which tends to influence their commitment to WSP-ATR submissions. A key informant mentioned that: “Yeah, I know you spoke about culture, earlier, but you know it's difficult in a space where people might feel demotivated. Or because of so many restructurings, some happening in most of the mining companies and we understand based

on their economy and everything, it has impact, it does impact people's motivation and making sure things get done. Yeah, it does.”

Timing is an important driver of submissions due its link with signatures. Conversations during feedback sessions identified lack of signatures on submitted WSP-ATRs as a major concern. When asked what the main reasons for these challenges and low submissions in general using Mentimeter, these are some of the results (Figure 14).



Figure 14: Polokwane feedback workshop on factors affecting WSP-ATR submissions

Time emerged as an important factor in determining submissions. Based on the word cloud, delegates were asked how time affected their submissions. Issues around time in terms of when the system is made available to employers to submit, time as a resource competing with other roles in the organisation. An interesting dimension of time is Kairos, which refers to the timing or opportune moment. If for example the submission coincides with other commitments for the CFO, CEO, or the unions take advantage because they are during a time of negotiation of remuneration, then submissions are affected.

4.3 Results of WSP-ATR submission from Quantitative data analysis

Leveraging surveys from 273 participants across all sub-sectors and company sizes, this study developed a robust model to predict WSP-ATR submissions. The model was built by conducting a systematic review of literature to base on the Technology Acceptance Model as anchor and then borrowed from other theories such as Theory of Planned behaviour and Institutional Theory.

To ensure validity and reliability, the study utilised existing scales and refined them based on practical relevance to the need to increase WSP-ATR submissions. Further, the study then leveraged archival data analysis and key informant interviews to determine constructs to use in the model and composition of respondents. Respondents were drawn from companies that submitted and those that submitted sometimes and those that never submitted.

4.3.1 Respondent attributes

Respondents by province

This study ensured that the participants are representative of the different provinces in South Africa. Figure 15 shows the representation of respondents for each province.

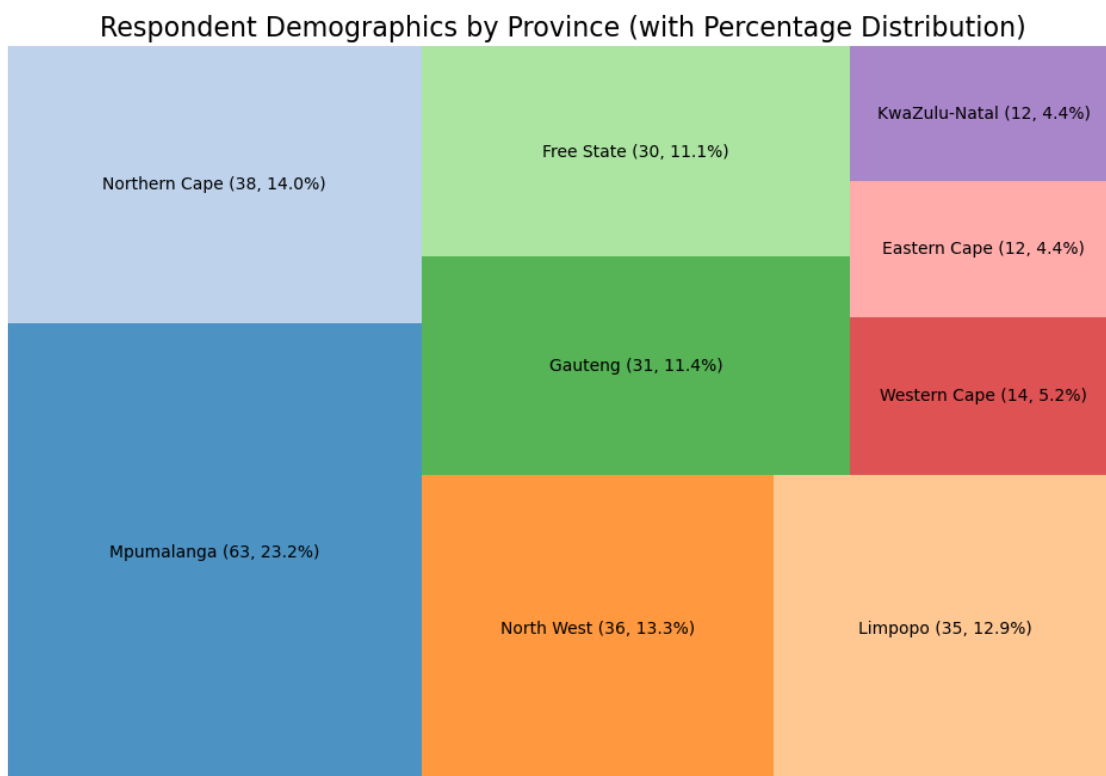


Figure 15: Respondents representation per province

Key Highlights:

- Mpumalanga: Represents the largest group, with 63 respondents (23.2%). This highlights the province's significance in the mining sector.
- North West: The second largest group, with 36 respondents (13.3%), indicating a strong mining presence in this province as well.
- Northern Cape: Accounts for 38 respondents (14.0%), further emphasizing the concentration of mining activities in these regions.
- Limpopo: Includes 35 respondents (12.9%), solidifying the importance of these four provinces in the South African mining landscape.

Mid-Tier Representation:

- Gauteng: A notable presence with 31 respondents (11.4%), likely due to its role as a major economic hub with supporting industries.
- Free State: Similar to Gauteng, with 30 respondents (11.1%), suggesting a significant mining presence.

Lower Representation:

- KwaZulu-Natal and Eastern Cape: Both provinces have 12 respondents (4.4%), indicating a relatively smaller mining sector compared to the leading provinces.
- Western Cape: Has 14 respondents (5.2%), reflecting its more diversified economy with less reliance on mining.

Observations:

- Concentration of Mining Activity: The data clearly shows a concentration of mining activity in Mpumalanga, North West, Northern Cape, and Limpopo. These provinces host major mining operations and contribute significantly to the sector's output. The survey had wider coverage of all the provinces in the country.

Respondents by sub-sector:

The respondents were drawn from a wide range to ensure representation from all the sub-sectors in the MMS. Figure 16 shows that all sub-sectors were represented.

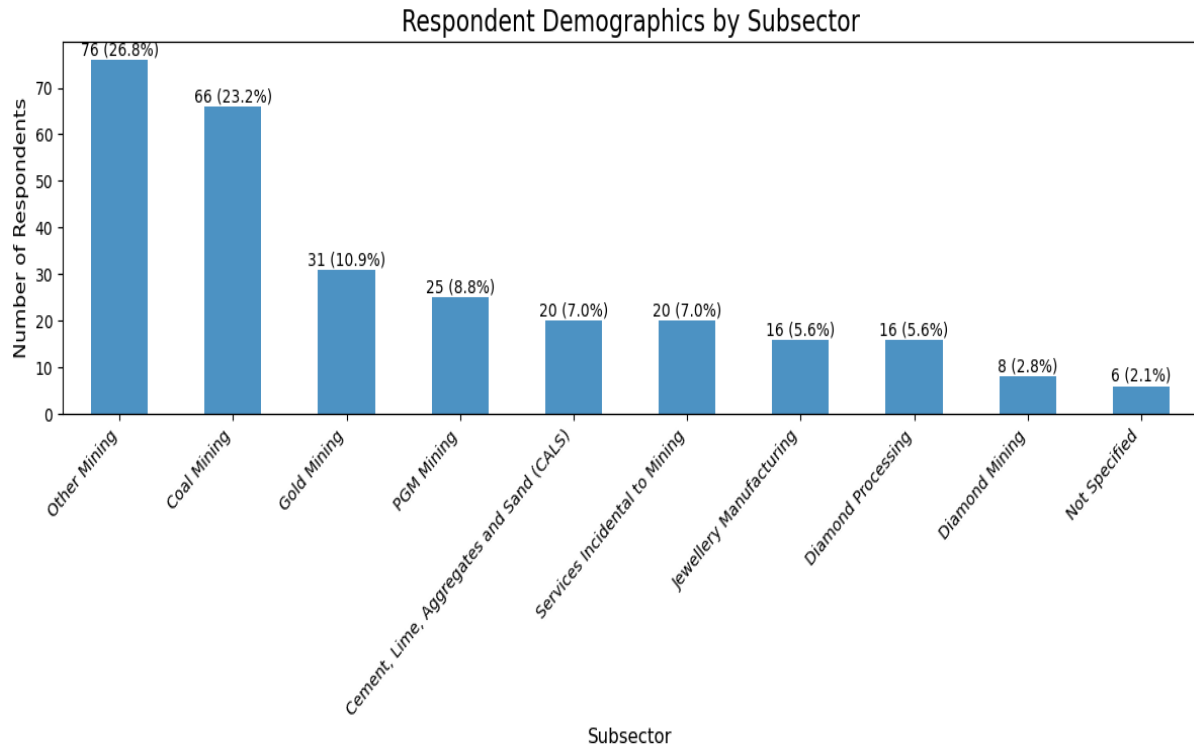


Figure 16: Respondents were representative of each sub-sector in the MMS

Key Highlights:

- Other Mining: Represents the largest group, with 76 respondents (26.8%). This broad category may include unspecified or miscellaneous mining activities.
- Coal mining: The second-largest group, with 66 respondents (23.2%), reflecting its significant role in the industry.
- Gold mining: Accounts for 31 respondents (10.9%), indicating its continued importance in the sector.
- PGM mining: Includes 25 respondents (8.8%), highlighting its relevance as a key commodity in South Africa.

Mid-Tier Representation:

- CALs: A notable presence with 20 respondents (7.0%), showing the diversity of mining activities.
- SITM: Matches the representation of CALs at 20 respondents (7.0%).

Lower Representation:

- Jewellery manufacturing: 16 respondents (5.6%).
- Diamond processing and diamond mining:
 - Diamond processing: 16 respondents (5.6%).
 - Diamond mining: 8 respondents (2.8%).
 - This reflects a smaller segment of the overall mining industry.
- Not Specified: 6 respondents (2.1%) did not indicate a specific sub-sector.

Observations:

- Diversity of Sub-sector Representation: While dominated by "other mining" and "coal mining," the data highlights the variety of sub-sectors, ranging from traditional gold and diamond mining to value-added activities like jewellery manufacturing.
- Broad "Other Mining" Category: The dominance of this category may indicate a need for better classification or specificity in the survey. This could involve providing more detailed sub-sector options or clearer definitions.

Insights:

- Coal mining and gold mining remain key players in the industry, representing nearly 35% of respondents combined.
- The representation of value-added activities like jewellery manufacturing and SITM points to the sector's broader economic impact beyond raw material extraction.
- The "Not Specified" category suggests gaps in reporting or potential ambiguity in how respondents classified their activities. This highlights the need for clearer survey design and data validation.

Respondents by company size

The other important dimension that was considered was the company size to ensure that there was representation for all the three categories of company sizes: small, medium and large companies. Figure 17 shows that all the three categories of company sizes were represented in the study.

Respondents by Company Size

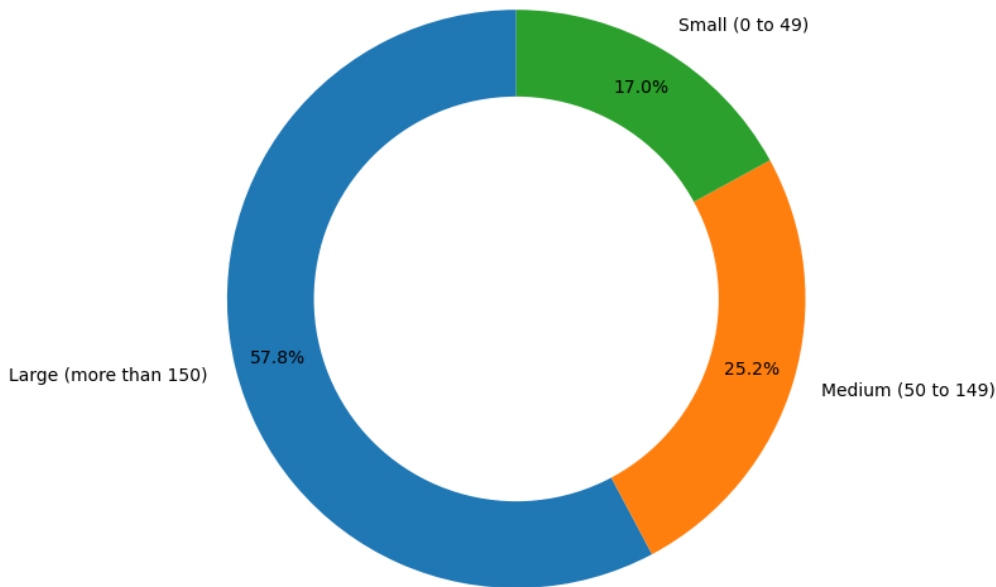


Figure 17: All three company sizes were represented in the study

Key Highlights:

- **Large Companies (More than 150 Employees):** Represent the majority, accounting for 57.8% of respondents. This indicates that most survey participants are from well-established, large-scale organizations.
- **Medium-Sized Companies (50 to 149 Employees):** Account for 25.2% of respondents. This demonstrates a significant presence of mid-tier companies in the sector.
- **Small Companies (0 to 49 Employees):** Make up 17.0% of respondents. This reflects the participation of smaller businesses, though to a lesser extent compared to larger organizations.

Observations:

- **Dominance of Large Companies:** The high percentage of respondents from large companies aligns with the industrial structure of mining, where large operations often dominate due to the capital-intensive nature of the industry.
- **Balanced Representation:** While large companies are dominant, the presence of medium and small companies indicates a healthy mix of company sizes within the sector. This suggests a diverse ecosystem with opportunities for businesses of various scales.

Insights:

- Industry Dynamics: The data reflects the typical structure of the mining industry, with a concentration of employment in larger companies. This could be due to factors such as economies of scale, resource access, and capital requirements.
- Since the bulky of the respondents were drawn from MQA workshops, this may suggest that the attendance is mainly by large companies, which in itself is an important insight as more submissions are coming from the small and medium companies.
- There is, therefore, need to find more creative mechanisms to reach out to smaller companies in workshops and in future studies

Respondents by highest level of qualification

Figure 18 shows the diversity of respondents in terms of their highest level of qualification.

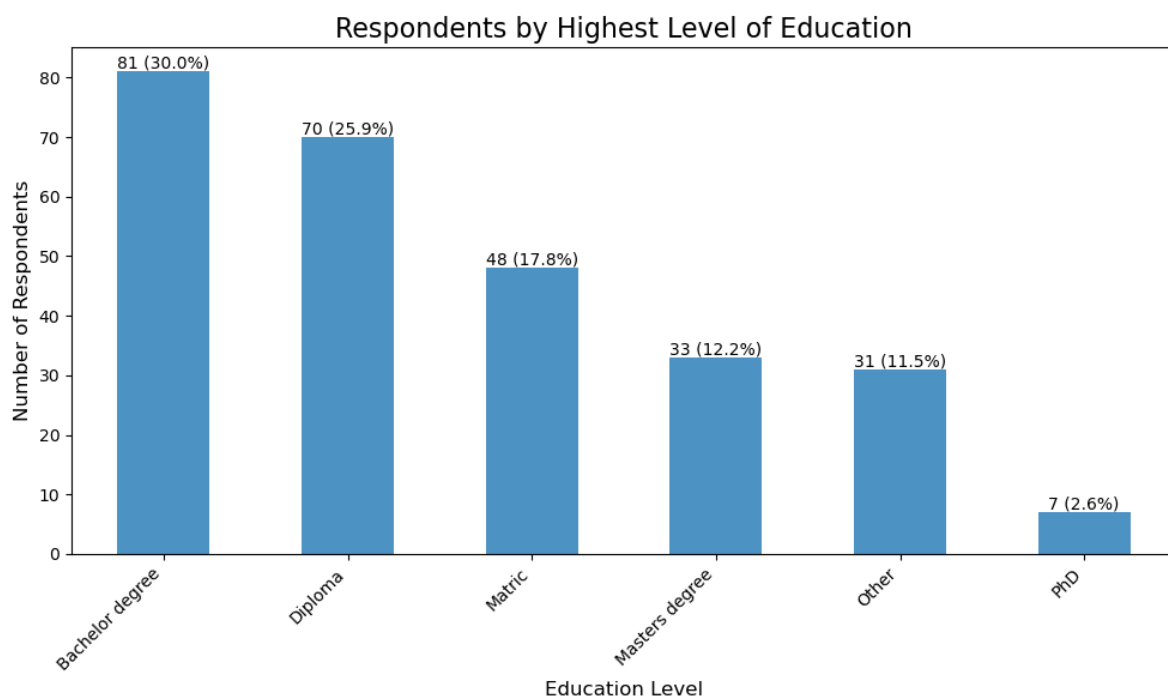


Figure 18: Respondents by highest level of qualification

Key Highlights:

- Bachelor's Degree: Represents the largest group, with 81 respondents (30.0%).
- Diploma Holders: A significant portion, 70 respondents (25.9%), have diplomas.
- Matriculation (High School Completion): 48 respondents (17.8%) indicated this as their highest qualification.

- Master's Degree: Represents 33 respondents (12.2%), showcasing a subset with advanced education.
- Other: 31 respondents (11.5%) fall into this category, which may include unclassified or vocational qualifications.
- PhD Holders: Only 7 respondents (2.6%) reported having doctoral qualifications.

Observations:

- The majority of respondents (55.9%) hold post-secondary education qualifications, such as bachelor's degrees or diplomas. This suggests a workforce with a solid foundation in higher education.
- Advanced degrees (Master's and PhD) make up a smaller proportion (14.8%), indicating that the workforce may lean more towards practical or technical expertise rather than purely academic research.
- The "Other" category could include vocational qualifications, certifications, or respondents who did not specify their qualifications explicitly. Further investigation is needed to understand the composition of this group.
- The "Other" category primarily comprises respondents with:
 - Management Development Program certificates.
 - Trade and vocational certificates.
- A notable number of respondents in this category did not specify their highest qualification in the "Other highest qualification" column.



Figure 19: Word cloud of respondents occupation

Respondents by work experience in the MMS

This study sought to understand the nature of people responsible for WSP-ATR submissions in the sector. Figure 20 shows that there is a significant presence of employees with less than a year in the MMS.

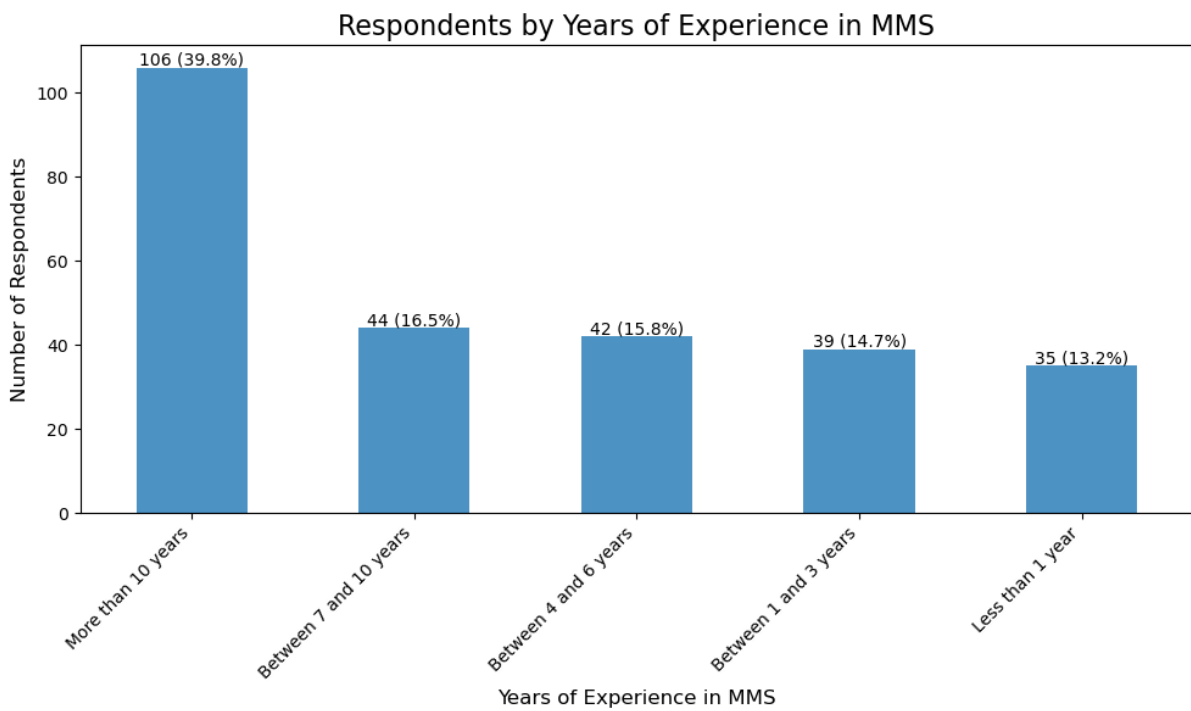


Figure 20: Respondents' years spent in the MMS

Key Highlights:

- **Experienced Professionals:** The majority of respondents (39.8%) have more than 10 years of experience in MMS (Mine Management Systems). This indicates a workforce with substantial expertise and knowledge in this domain.
- **Mid-Career Professionals:** A significant proportion of respondents fall within the mid-career range:
 - 16.5% have between 7 and 10 years of experience.
 - 15.8% have between 4 and 6 years of experience.
 - 14.7% have between 1 and 3 years of experience.
- **Early-Career Professionals:** 13.2% of respondents have less than 1 year of experience, representing a smaller but still notable segment of newer entrants to the field.

Observations:

- **Experience Concentrated in Senior Roles:** The dominance of experienced professionals suggests that MMS roles are often filled by individuals with a long history in the mining sector. This could reflect the complexity of these systems and the need for in-depth knowledge of mining operations.
- **Steady Influx of New Talent:** The presence of professionals across all experience levels, including those with less than one year, indicates a healthy pipeline of new talent entering the MMS field. This suggests ongoing growth and development within this specialized area.

Insights:

- **Knowledge Transfer:** The mix of experienced levels highlights the importance of knowledge transfer and mentorship programs within mining organizations. Experienced professionals can play a crucial role in guiding and developing newer entrants to the field.
- For WSP-ATR submissions, this reflects the need for increased MQA support in the coming year as these new entrants submit WSP-ATR for the first time.

Figure 21 shows the diversity of people who are responsible for submission of WSP-ATRs.



Figure 21: Diversity of roles who submit WSP-ATRs

Respondents by years of experience in current role

Figure 22 shows that as many as 15% of the respondents had less than a year in the current role, suggesting they could be probably having the submission experience for the first time.

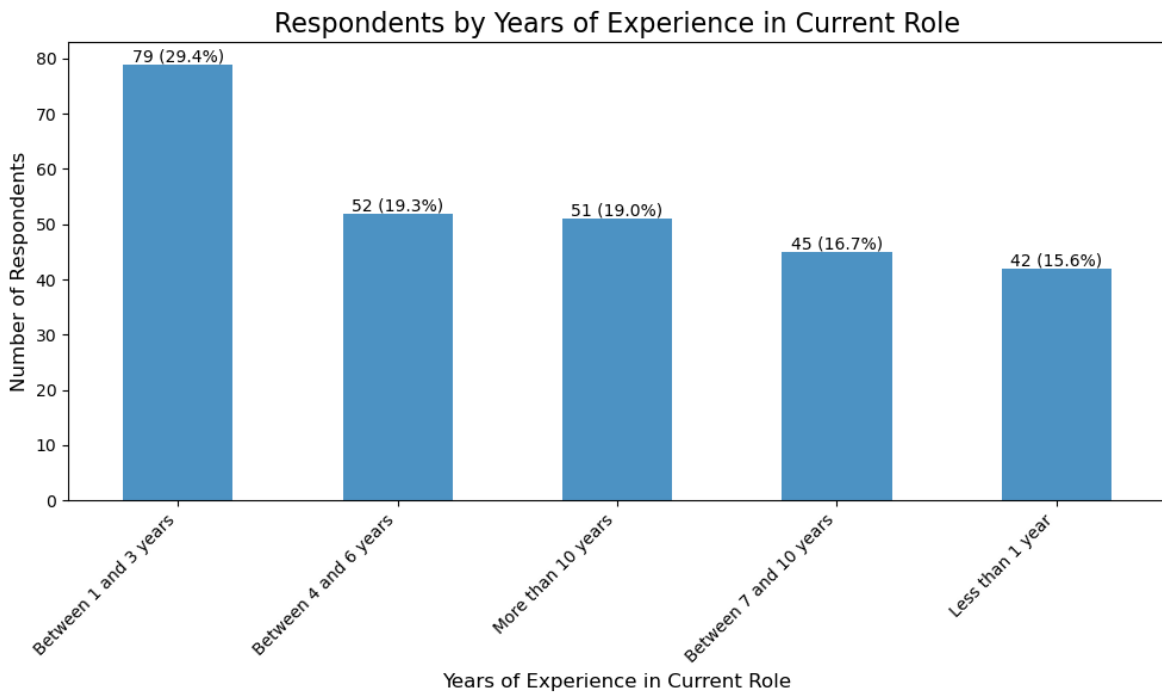


Figure 22: Respondents experience in the current role

Key Highlights:

- 1 to 3 Years: The largest group, with 79 respondents (29.4%), indicates that many individuals are relatively early in their current roles. This suggests potentially high workforce mobility, recent promotions, or an influx of new hires within the mining sector.
- 4 to 6 Years: Represents 52 respondents (19.3%), highlighting a cohort that has settled into their roles and is building experience.
- More than 10 Years: Comprises 51 respondents (19.0%), showing a significant portion of long-serving professionals in stable positions. These individuals likely hold senior roles and contribute valuable institutional knowledge.

Mid-Level Tenure:

- 7 to 10 Years: Accounts for 45 respondents (16.7%), indicating a strong representation of individuals with well-established roles and significant experience within their current positions.
- Less than 1 Year: Includes 42 respondents (15.6%), reflecting recent appointments, role transitions, or workforce expansion within the industry.

Observations:

- **Balanced Experience Levels:** While a large number of respondents have shorter tenures (1 to 3 years), there is a healthy distribution across all experience levels, indicating a mix of stability and mobility within the mining workforce.
- **New Entrants and Long-Tenured Professionals:** The combination of newer entrants (less than 1 year) and those with over 10 years in their roles suggests the industry values both fresh perspectives and seasoned expertise. This balance can foster innovation and knowledge transfer within organizations.
- **From a WSP-ATR submission perspective,** there is need for increased MQA support this coming submission period. This finding also confirms interview informants who spoke about high levels of restructuring which is hindering submissions.

Respondents technical background

The other insight emerging from this study is the diversity of people who have the responsibility of playing a role in submissions (Figure 23).

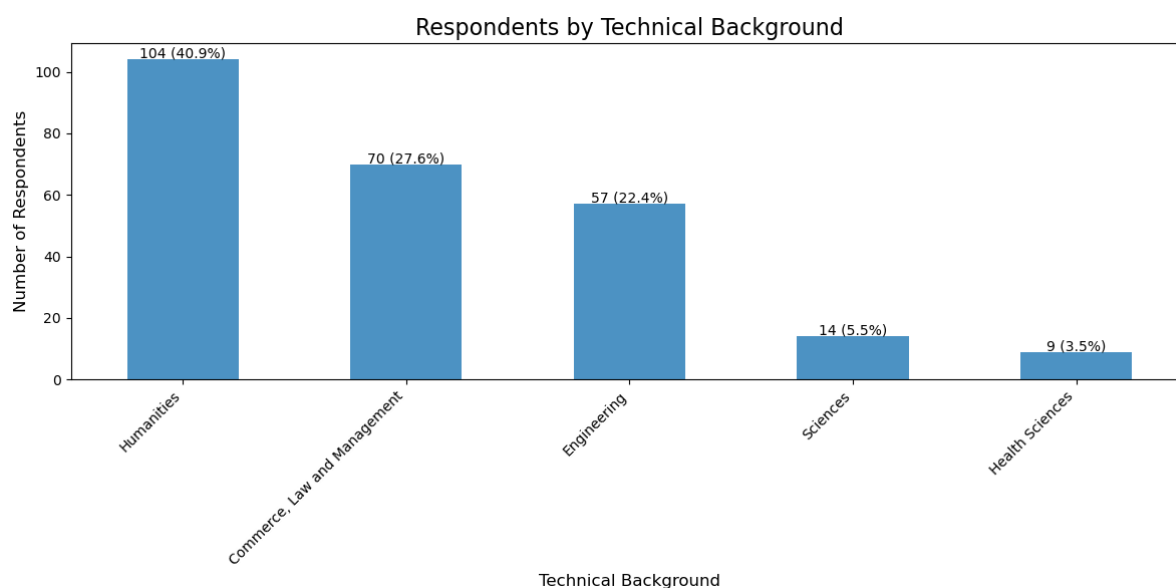


Figure 23: Submission interventions should recognise the diversity of people responsible for submissions

Key Highlights:

- **Humanities:** The most represented category, with 104 respondents (40.9%). This indicates a significant focus on skills related to human interaction, communication, and societal understanding within the context of workplace skills plans and annual training reports in MMS. This could imply a strong emphasis on training and development programs that foster soft skills, communication, and interpersonal abilities within the MMS.
- **Commerce, Law, and Management:** Includes 70 respondents (27.6%), reflecting the importance of administrative, legal, and business management expertise in the sector. This suggests that professionals with backgrounds in these fields play a crucial role in managing and overseeing the submission of workplace skills plans and annual training reports, ensuring compliance and effective implementation of training initiatives.
- **Engineering:** Comprises 57 respondents (22.4%), emphasizing the critical role of technical and operational expertise in the MMS. This highlights the involvement of engineers in developing and implementing training programs related to MMS, ensuring alignment with technical requirements and operational needs.

Smaller Representations:

- **Sciences:** Includes 14 respondents (5.5%), representing knowledge areas like general science and research-based disciplines. This suggests a limited but potentially growing role

for scientific expertise in the development and analysis of workplace skills plans and training reports, possibly related to data analysis, research, and innovation within MMS.

- Health Sciences: Accounts for 9 respondents (3.5%), showcasing a limited but niche role of health and safety expertise in the sector. This could indicate the involvement of health and safety professionals in developing and delivering training programs related to MMS, ensuring compliance with safety regulations and promoting a safe working environment.

Observations:

- Humanities and Commerce Dominate: Combined, these categories make up nearly 70% of respondents, underscoring the sector's reliance on soft skills, business acumen, and human-centric capabilities in the context of workplace skills plans and annual training reports. This suggests a strong focus on developing a skilled and competent workforce through comprehensive training programs, with a particular emphasis on communication, management, and interpersonal skills.
- Engineering as a Core Function: While not the largest group, the significant presence of engineering highlights its importance in the technical operations of the industry and its contribution to the development and implementation of MMS-related training initiatives.
- Limited Scientific and Health Backgrounds: The relatively smaller representation of sciences and health-related expertise might point to niche applications or underreported roles within the scope of workplace skills plans and annual training reports in MMS. This could indicate a potential area for growth and development, as the industry may benefit from increased involvement of scientific and health professionals in training and development initiatives.

Figure 24 represents the diverse technical backgrounds of the respondents.

needs, implementing development programs, and supporting WSP-ATR submissions. This highlights the diverse range of professionals involved in the process.

- **Interdisciplinary Expertise:** Terms like "Psychology," "Artisan," "Sampling," and "Metallurgical" suggest the broad spectrum of expertise contributing to the alignment of organizational skills needs with WSP-ATR guidelines. This emphasizes the need for collaboration and knowledge sharing across different disciplines.

Observations:

- **Enablers of WSP-ATR Submissions:** Roles focused on training, resource management, and quality assurance are instrumental in accurately reporting and aligning skills development plans with industry and organizational needs. This suggests that strong support from these functions can facilitate successful WSP-ATR submissions.
- **Barriers to Submission:** The diversity of roles and technical backgrounds points to potential challenges in coordination and standardization across teams when preparing WSPs and ATRs. This highlights the need for effective communication and collaboration mechanisms to ensure a smooth and efficient submission process.

Insights:

- **Key Drivers of Submission Rates:** The prominence of training-focused roles, HR, and quality assurance suggests these are critical in influencing the success of WSP-ATR submissions. This emphasizes the need for organizations to invest in these functions and empower them to drive the process effectively.
- **Opportunities for Improvement:** The need for interdepartmental collaboration is evident from the varied technical and managerial expertise represented. Improved communication and alignment across these roles can enhance submission rates and quality. This suggests that organizations should focus on building strong cross-functional teams and promoting a culture of collaboration.
- **Focus on Skills Alignment:** The significant emphasis on development and resource planning highlights the importance of tailoring workplace skills plans to address both current needs and future workforce requirements. This underscores the need for a strategic approach to skills development that aligns with the long-term goals of the organization and the evolving needs of the mining industry.

4.3.2 Respondent Perspectives on Their Role In WSP/ATR Submissions

The level of awareness of WSP-ATR was hypothesised as important in driving submissions as a dimension of perceived behavioural control. This is the extent to which people think they have the ability to perform a task, in this case submit WSP-ATRs. Figure 25 shows the responses to the statement “I am aware of the WSP-ATR submission legal requirements”

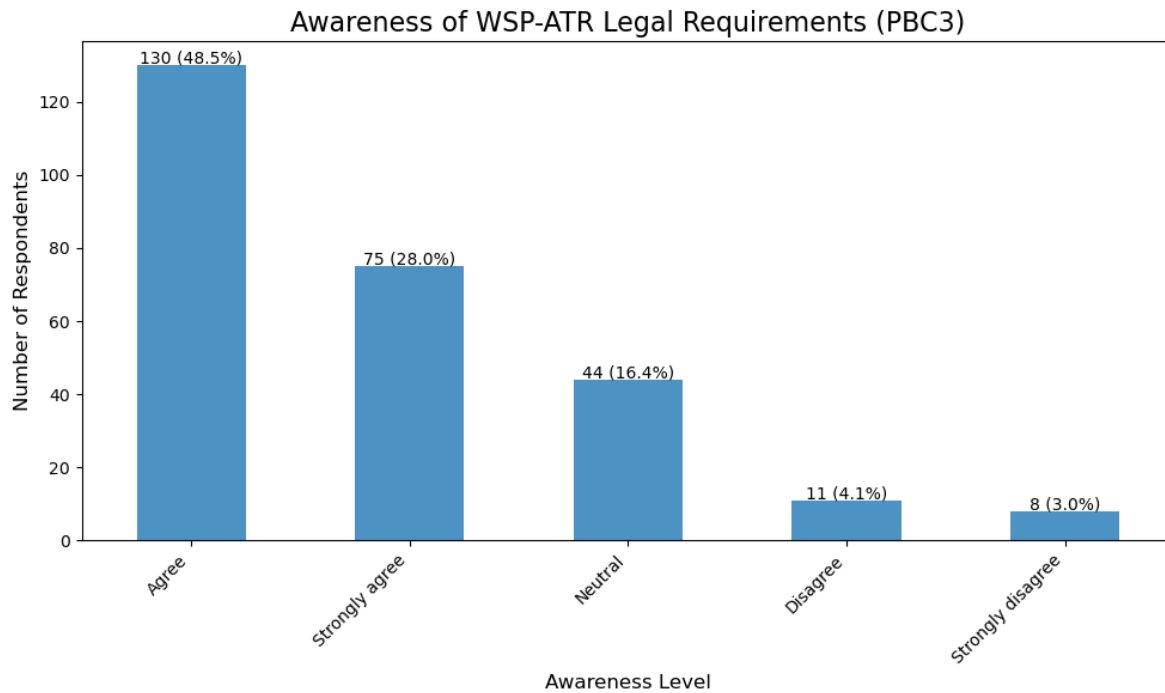


Figure 25: Awareness of WSP-ATR submission legal requirements

Analysis of Awareness of WSP-ATR Legal Requirements (PBC3)

Key Findings:

- High Awareness Levels: A significant majority, 76.5% (combining "Agree" and "Strongly Agree"), are aware of the legal requirements for submitting Workplace Skills Plans (WSPs) and Annual Training Reports (ATRs). This indicates a strong baseline knowledge across the respondent population.
- Moderate Uncertainty: 16.4% (44 respondents) selected "Neutral," indicating potential uncertainty or incomplete understanding of the WSP-ATR legal requirements. This group represents an opportunity for targeted interventions to improve compliance.

- Low Awareness: Only 7.1% (19 respondents) disagreed (4.1%) or strongly disagreed (3.0%) with being aware of the requirements. This small group may require more intensive support to ensure compliance.

Observations:

- General Awareness: With three-quarters of respondents aware of the legal requirements, there is a solid foundation for compliance efforts. This suggests that most organizations and individuals understand the importance of submitting WSPs and ATRs.
- Potential Gaps in Knowledge: The "Neutral" group and those with low awareness suggest opportunities for further education, targeted communication, or engagement efforts. Addressing these knowledge gaps could lead to improved compliance rates.
- Small Uninformed Group: The combined 7.1% who are unaware generally faced challenges in meeting submission deadlines or understanding the importance of compliance. Findings from qualitative interviews suggest that this group may require more direct intervention and support to ensure they meet their legal obligations.

Another important dimension of perceived behavioural control is the understanding of WSP-ATR submission requirements. Figure 26 shows the respondents perception of their understanding of submission requirements.

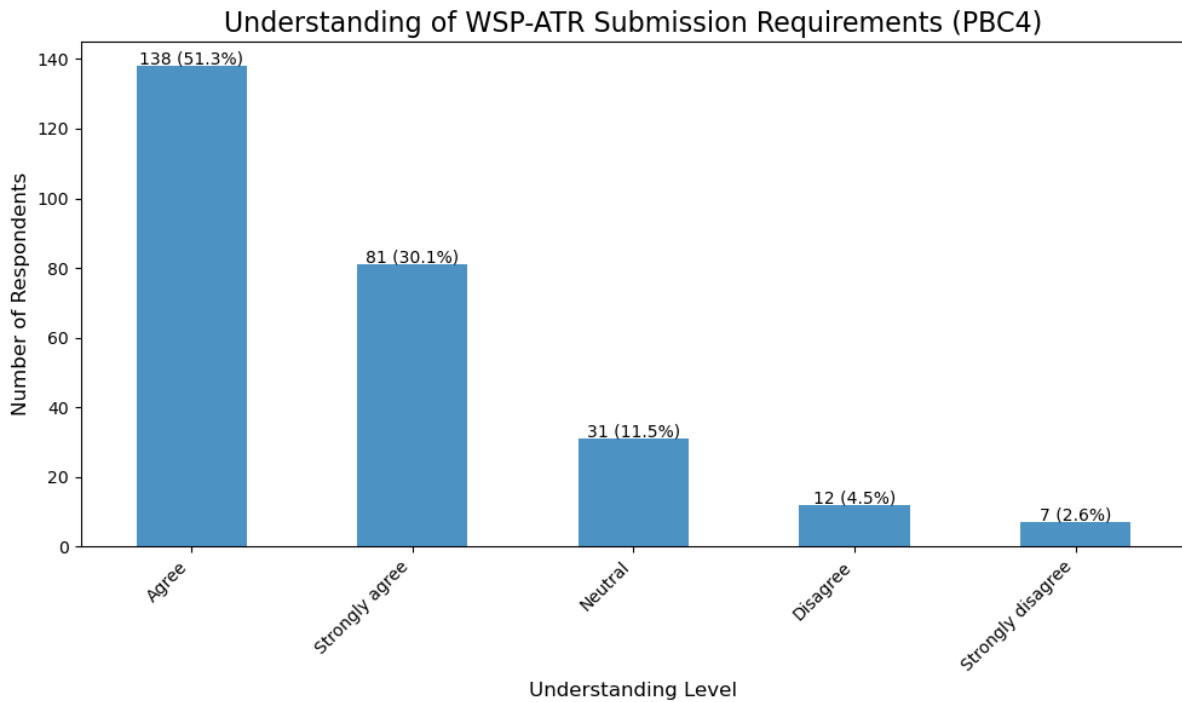


Figure 26: Understanding of WSP-ATR submission requirements

Analysis of Understanding of WSP-ATR Submission Requirements (PBC4)

Key Findings:

- **High Understanding:** A majority of respondents indicated that they understand the WSP-ATR submission requirements:
 - 51.3% (138 respondents) agree.
 - 30.1% (81 respondents) strongly agree.
 - Together, 81.4% of respondents have expressed a strong understanding. This indicates a solid foundation for compliance with WSP-ATR processes.
- **Moderate Uncertainty:** 11.5% (31 respondents) selected "Neutral," indicating either limited understanding or uncertainty about their knowledge of the requirements. This group represents an opportunity for targeted interventions to improve comprehension.
- **Low Understanding:** Only a small proportion:
 - 4.5% (12 respondents) disagreed.
 - 2.6% (7 respondents) strongly disagreed.
 - This suggests that a small minority may require more intensive support to ensure compliance.

Observations:

- **Solid Baseline Understanding:** A strong majority (over 80%) understand the submission requirements, which is critical for ensuring compliance with WSP-ATR processes. This suggests that most respondents are well-equipped to navigate the submission process.
- **Room for Improvement:** The "Neutral" and low-understanding groups (11.5% and 7.1%, respectively) suggest opportunities for targeted communication and training to improve awareness and understanding. Addressing these knowledge gaps could lead to improved compliance rates.

Insights:

- **Understanding as a Key Driver of Compliance:** Respondents who understand the submission requirements are more likely to comply effectively with WSP-ATR processes. Clear comprehension of the process can empower individuals and organizations to fulfil their submission obligations.
- **Barriers to Submission:** The 18.6% (Neutral and low-understanding respondents) may face challenges in navigating the submission process, potentially contributing to lower submission rates or errors in submitted reports.

Figure 27 shows the consistency experience in submitting WSP-ATRs. It is anticipated that people who have the experience are likely to control their behaviour better so as to submit as they have confidence.

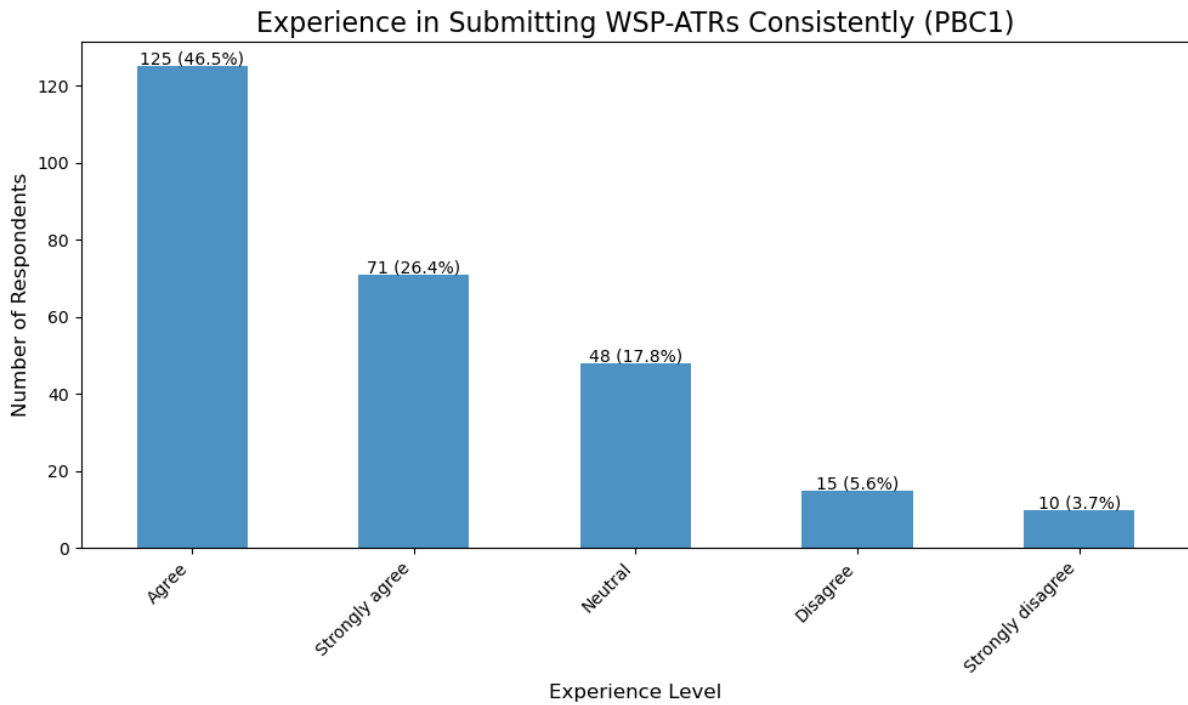


Figure 27: Consistent submission experience

Analysis of Experience in Submitting WSP-ATRs Consistently (PBC1)

Key Findings:

- High Experience: The majority of respondents have experience submitting WSP-ATRs consistently:
 - 46.5% (125 respondents) agree.
 - 26.4% (71 respondents) strongly agree.
 - Combined, 72.9% of respondents have indicated significant experience. This suggests a strong foundation of practical knowledge and familiarity with the submission process.
- Moderate Experience: 17.8% (48 respondents) selected "Neutral," indicating some uncertainty or lack of strong experience in consistently submitting WSP-ATRs. This group may benefit from targeted support to enhance their skills and confidence.
- Low Experience: A smaller proportion:
 - 5.6% (15 respondents) disagreed.
 - 3.7% (10 respondents) strongly disagreed.
 - This indicates that a minority of respondents may require more focused assistance to gain experience and improve their ability to submit WSP-ATRs consistently.

Observations:

- **Established Experience:** Over 70% of respondents have experience in consistent WSP-ATR submissions, reflecting a strong baseline capability in the workforce. This suggests that a majority of individuals possess the practical knowledge and skills required for successful submission.
- **Potential Gaps:** The "Neutral" group and those with low experience (21.5% combined) may need additional support or guidance to build confidence and improve consistency. Addressing these gaps could enhance overall submission rates and compliance.

Insights:

- **Experience as a Compliance Enabler:** Respondents with prior submission experience are likely key contributors to high WSP-ATR submission rates. Building experience in the "Neutral" and low-experience groups could drive further improvements in compliance and efficiency.
- **Barriers to Submission:** The 9.3% who disagree or strongly disagree may face challenges such as lack of training, system familiarity, or organizational support. Identifying and addressing these barriers is crucial to ensure consistent and successful WSP-ATR submissions.

Figure 28 shows the proportion of respondents and their views about their capabilities when it comes to generating and submitting WSP-ATRs.

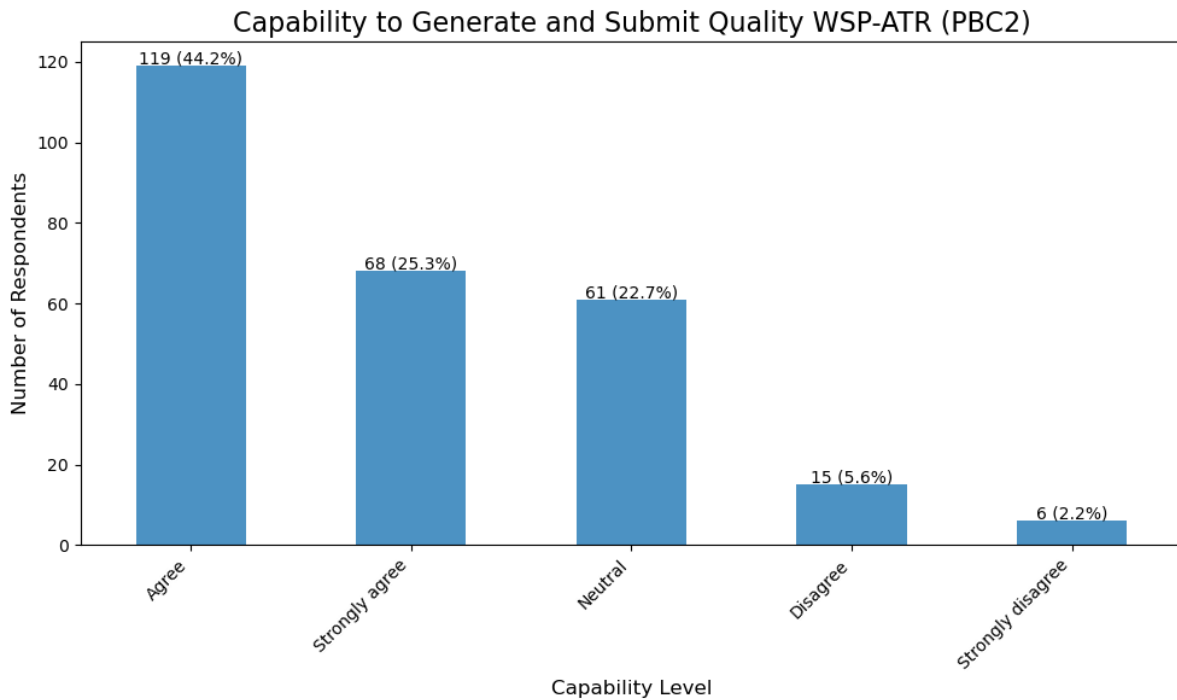


Figure 28: Capability to generate and submit WSP-ATRs

Analysis of Capability to Generate and Submit Quality WSP-ATR (PBC2)

Key Findings:

- **High Capability:** The majority of respondents indicated they have the capability to generate and submit quality WSP-ATRs:
 - 44.2% (119 respondents) agree.
 - 25.3% (68 respondents) strongly agree.
 - Together, 69.5% of respondents expressed confidence in their capability. This suggests a strong foundation of skills and knowledge within the workforce.
- **Moderate Capability:** 22.7% (61 respondents) selected "Neutral," indicating some uncertainty about their capability to generate and submit quality WSP-ATRs. This group represents an opportunity for targeted interventions to enhance their skills and confidence.
- **Low Capability:** Only a small proportion:
 - 5.6% (15 respondents) disagreed.
 - 2.2% (6 respondents) strongly disagreed.
 - This indicates that a minority of respondents may require more focused assistance to develop their capability in generating and submitting quality WSP-ATRs.

Observations:

- **Significant Baseline Capability:** Nearly 70% of respondents have the skills and knowledge required to generate and submit quality WSP-ATRs, demonstrating a strong foundation for compliance. This suggests that a majority of individuals are well-equipped to fulfil this requirement.
- **Potential Gaps:** The "Neutral" group and those with low capability (combined 30%) may require additional support or resources to build confidence and capability. Addressing these gaps could enhance overall submission quality and compliance rates.

Insights:

- **Capability as a Compliance Driver:** Respondents with high capability are likely enablers of successful WSP-ATR submissions. Strengthening capability in the "Neutral" and low-capability groups could further improve compliance rates and the quality of submissions.
- **Barriers to Capability:** The 7.8% (low capability respondents) may face challenges such as inadequate training, lack of familiarity with systems, or insufficient organizational support. Identifying and addressing these barriers is crucial to ensure high-quality WSP-ATR submissions.

Figure 29 shows the heatmap of submission intentions and behaviours as indicated by responses to various statements to measure intention and actual submission.

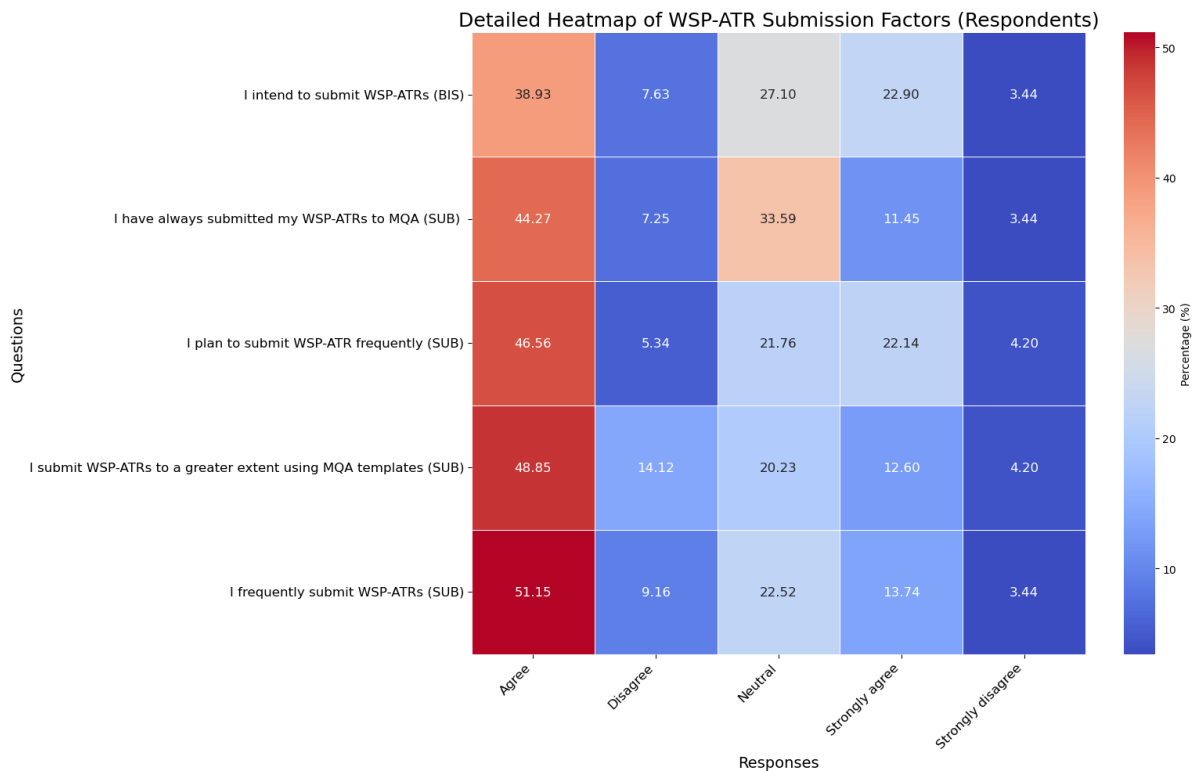


Figure 29: WSP-ATR submission heat map

Analysis of the Heatmap Data for WSP-ATR Submission Factors

"I intend to submit WSP-ATRs (BIS)":

- Agree (38.93%) dominates, showing a positive intent among respondents to submit WSP-ATRs.
- Neutral (27.10%) and Strongly Agree (22.90%) indicate a significant level of positive intent, while Disagree (7.63%) suggests barriers or uncertainties.
- Insight: The overall intent to submit is positive, but a notable proportion of respondents remain neutral or disagree. Targeted interventions could improve intent.

"I have always submitted my WSP-ATRs to MQA (SUB)":

- Agree (44.27%) and Neutral (33.59%) dominate, with Strongly Agree (11.45%) indicating a solid historical submission trend.
- Insight: While the majority of respondents report a history of submission, the high neutrality reflects inconsistency or hesitancy. Greater focus on accountability and submission tracking may address this.

"I plan to submit WSP-ATR frequently (SUB)":

- Agree (46.56%) and Strongly Agree (22.14%) reflect a strong commitment to frequent submissions.
- Neutral (21.76%) and Disagree (5.34%) suggest that some respondents remain unsure or unwilling.
- Insight: Positive trends indicate a culture of compliance, but communication and support systems could reduce uncertainty.

"I submit WSP-ATRs to a greater extent using MQA templates (SUB)":

- Agree (48.85%) dominates, with Strongly Agree (12.60%), showing high adoption of MQA templates.
- Neutral (20.23%) and Disagree (14.12%) highlight areas for improvement in accessibility or user satisfaction with templates.
- Insight: High adoption rates confirm templates' effectiveness, but addressing user feedback could enhance their impact.

"I frequently submit WSP-ATRs (SUB)":

- Agree (51.15%) is the highest among all questions, supported by Strongly Agree (13.74%), indicating a strong commitment to frequent submissions.
- Neutral (22.52%) and Disagree (9.16%) suggest room for improvement in consistency.
- Insight: Frequent submissions highlight robust organizational practices, but ongoing encouragement could address neutrality and disagreement.

Comparison Across Questions

Strongest Agreement:

- "I frequently submit WSP-ATRs (SUB)" (51.15%) reflects the highest commitment, followed by "I submit WSP-ATRs to a greater extent using MQA templates (SUB)" (48.85%).

Neutral Responses:

- "I have always submitted my WSP-ATRs to MQA (SUB)" (33.59%) has the highest neutrality, indicating fluctuating past submission practices.

Disagreement and Strong Disagreement:

- Across all questions, Disagree and Strongly Disagree responses are minimal, rarely exceeding 14%, showing that resistance is not a major issue.

Insights and Recommendations

Strengths:

- Positive responses dominate, particularly in frequent submissions and template adoption, indicating strong organizational systems and respondent commitment.

Areas for Improvement:

- High neutrality in some questions (e.g., historical submission practices) suggests uncertainty or inconsistency.
- Addressing these through improved training, awareness campaigns, and streamlined systems could enhance overall compliance.

Actionable Steps:

- Training and Communication: Provide targeted training on submission benefits and best practices.
- System Usability Improvements: Enhance MQA templates based on feedback to reduce disagreement.
- Monitoring and Feedback Loops: Track submission consistency and provide real-time feedback to reinforce compliance.

WSP-ATR Submission: Heatmap Analysis

This heatmap visualizes survey responses related to WSP-ATR submission. Key observations from the data include:

- Strong Submission Intent: A clear majority of respondents "Agree" or "Strongly Agree" with statements about their intention and habit of submitting WSP-ATRs.
- Consistent MQA Use: The highest agreement levels are seen in responses to "I have always submitted my WSP-ATRs to MQA," indicating consistent use of this platform.
- Varied Submission Frequency: Responses regarding the frequency of WSP-ATR submission show more variation, suggesting a range of submission habits.

- **Ambiguity Regarding Templates:** The use of MQA templates elicits the highest percentage of "Neutral" responses, indicating potential uncertainty or lack of strong opinions in this area.
- **Low Disagreement Rates:** Across all questions, disagreement with WSP-ATR submission remains consistently low.

4.3.3 Respondent perspectives on the role of organisations, institutions and compatibility in WSP/ATR Submissions

A key objective of this study was to determine the various factors influencing WSP-ATR submissions. This section focuses on the role played by various factors in driving submissions. Figure 30 is a heatmap showing the role of organisational factors, institutional factors and compatibility in driving WSP-ATRs submissions.

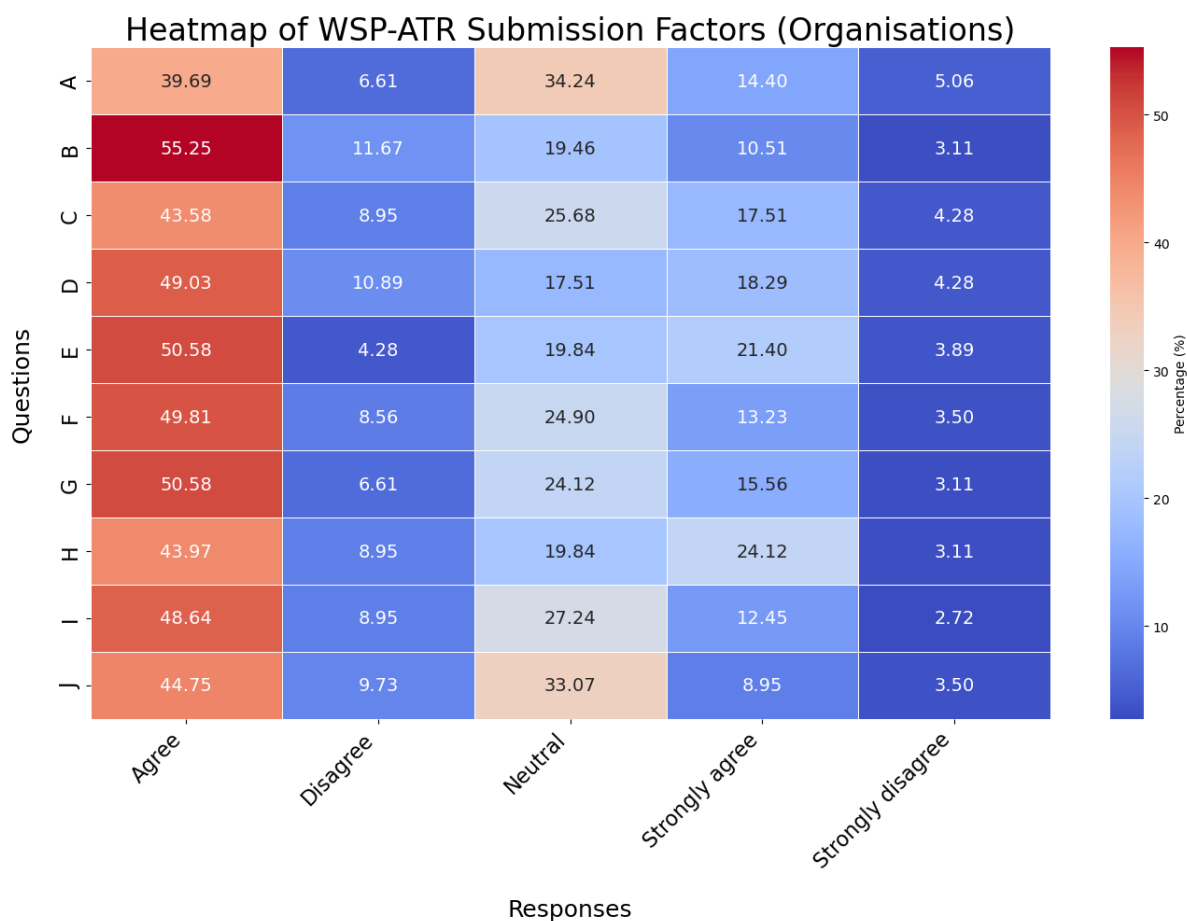


Figure 30: Organisational factors and their role in WSP-ATR submissions (see legend below)

Legend for Heatmap Labels in Figure 30	
A	The management in my organisation provides the necessary support for me to submit the WSP-ATR on time (Organisational Climate)
B	It is easy to coordinate and communicate with key colleagues during the WSP-ATR submission process (Organisational Climate)
C	My organisation provides the needed resources (human, financial, system) to support the WSP-ATR submissions (Organisational Instrumental Factor)
D	We have enough technical resources to submit WSP-ATRs (Organisational Instrumental Factor)
E	My organisation belongs to networks that encourage me to submit WSP-ATRs (Mimetic Pressure)
F	Peers in my organisation are the reason for me to submit WSP-ATRs (Mimetic Pressure)
G	Our company does not tolerate non-compliance, so I submit WSP-ATRs (Coercive Pressure)
H	The incentives for submission of WSP-ATR encourage submission of WSP-ATR (Coercive Pressure)
I	The submission of WSP-ATR is embedded into our workflows (Compatibility)
J	The key staff in my organisation have prior digital skills necessary to submit WSP-ATR (Compatibility)

In-depth Analysis of WSP-ATR Organisation Submission Factors

The heatmap and table provide valuable insights into respondents' perceptions and behaviours related to WSP-ATR submissions. Each question focuses on critical organizational, institutional and technical expertise compatibility with submissions factors influencing compliance, resources, and commitment. Below is a detailed breakdown according to different thematic categories, as per the following grouping of questions:

- Organizational Climate (A, B): These questions assess whether the organization fosters a supportive environment for WSP-ATR submissions.
- Resource Availability (C, D): Focus on the adequacy of technical and human resources for submission.

- Network and Peer Influence (E, F): Measure the impact of networks and colleagues on submission behaviour.
- Compliance/Coercive Pressure (G, H): Reflect the organization's tolerance for non-compliance and the role of incentives.
- Process Compatibility (I, J): Examine workflow integration and digital preparedness for submission processes.

Key Observations

Organizational Climate:

- "The management in my organisation provides necessary support to submit the WSP-ATR on time (A)":
 - Agree (39.69%) and Neutral (34.24%) dominates, with lower levels of Strongly Agree (14.40%).
 - Insight: While management support is generally perceived as present, the high neutrality indicates inconsistent or inadequate levels of managerial involvement. There is need for moral suasion on the part of MQA strategies to persuade senior managers in MMS to support SDFs. This issue was also raised in interviews with SDFs requesting the MQA to devise ways to encourage senior management support through workshops and perhaps dinner galas and breakfast meetings.
- "It is easy to coordinate and communicate with key colleagues during the WSP-ATR submission process (B)":
 - The highest Agree (55.25%) score in the dataset indicates positive communication and coordination.
 - Insight: Strong internal communication suggests a culture that values teamwork, but the Neutral (19.46%) responses indicate room for improvement in consistent workflows.

Resource Availability:

- "My organisation provides the needed resources (C)":

- Agree (43.58%) and Neutral (25.68%) show mixed satisfaction with resource availability.
- Insight: While many perceive resources as adequate, a notable percentage (8.95% Disagree) reflects gaps in support.
- "We have enough technical resources to submit WSP-ATRs (D)":
 - Agree (49.03%) and Strongly Agree (18.29%) highlight a better perception of technical resources compared to general resources.
 - Insight: Organizations appear to prioritize technical infrastructure over other types of resources.

Network and Peer Influence:

- "My organisation belongs to networks that encourage me to submit WSP-ATRs (E)":
 - A high Agree (50.58%) and Strongly Agree (21.40%) indicate the significant influence of external networks.
 - Insight: Networks act as a strong motivator for compliance, potentially tied to industry standards or peer pressure.
- "Peers in my organisation are the reason for me to submit WSP-ATRs (F)":
 - Similar scores for Agree (49.81%) and Neutral (24.90%) suggest that peer influence is a moderate factor.
 - Insight: Peer motivation is strong but varies across organizations, requiring a more cohesive compliance culture.

Compliance Pressure:

- "Our company does not tolerate non-compliance (G)":
 - Agree (50.58%) and Neutral (24.12%) suggest that compliance policies are generally effective but unevenly enforced.
 - Insight: Intolerance for non-compliance drives submissions but must be coupled with positive reinforcement.
- "Incentives encourage WSP-ATR submission (H)":
 - The lowest Agree (43.97%) and high Neutral (19.84%) reflect uncertainty about the effectiveness of incentives.

- Insight: Current incentives may lack clarity or alignment with employee motivators.

Process Compatibility:

- "The submission of WSP-ATR is embedded into workflows (I)":
 - Agree (48.64%) and Neutral (27.24%) highlight moderate integration into workflows.
 - Insight: While integrated processes reduce barriers, inconsistencies in embedding submission practices remain.
- "Key staff have prior digital skills for submission (J)":
 - Neutral (33.07%) is the highest in this question, indicating uncertainty about staff readiness.
 - Insight: Digital skills gaps may hinder effective submission practices, requiring training and upskilling efforts.

Insights and Recommendations

Strengths:

- Strong Agreement Rates: Most questions show significant agreement (43%-55%), reflecting overall satisfaction with organizational practices.
- Network Influence: External and internal networks are strong motivators, demonstrating the value of industry and peer support.

Weaknesses:

- High Neutral Responses: Across several questions (A, C, I, J), neutrality rates exceed 25%, indicating uncertainty or lack of conviction.
- Inconsistent Resource Support: Disagreement rates for resources and incentives highlight gaps in organizational support systems.

Actionable Recommendations:

1. Improve Resource Allocation:

- It is encouraged that MMS companies allocate adequate technical and general resources consistently to support SDFs.
- MMS companies should regularly assess resource needs and address identified gaps.

2. Address Neutral Responses:
 - Conduct targeted surveys or focus groups to understand why respondents are neutral. Current study interviews suggested that lack of awareness was a cause for concern.
 - It will be important to enhance communication and training to clarify organizational priorities.
3. Leverage Peer and Network Influence:
 - Create peer recognition programs for consistent submission practices.
 - Encourage network-driven compliance by sharing best practices across organizations.
4. Enhance Process Integration:
 - Fully embed WSP-ATR submission into workflows, reducing reliance on individual initiative.
 - Provide digital skills training to address staff readiness gaps.
5. Revisit Incentive Structures:
 - Design clearer, more impactful incentives aligned with organizational goals and the need for compliance in WSP-ATR submissions.
 - The MQA should communicate the benefits of compliance to motivate submission behaviours effectively. These should include both the intrinsic and extrinsic benefits.

4.3.4 Respondent Perspectives on the Motivation for WSP/ATR Submissions

Figure 31 shows the different motives for submissions of WSP-ATRs.

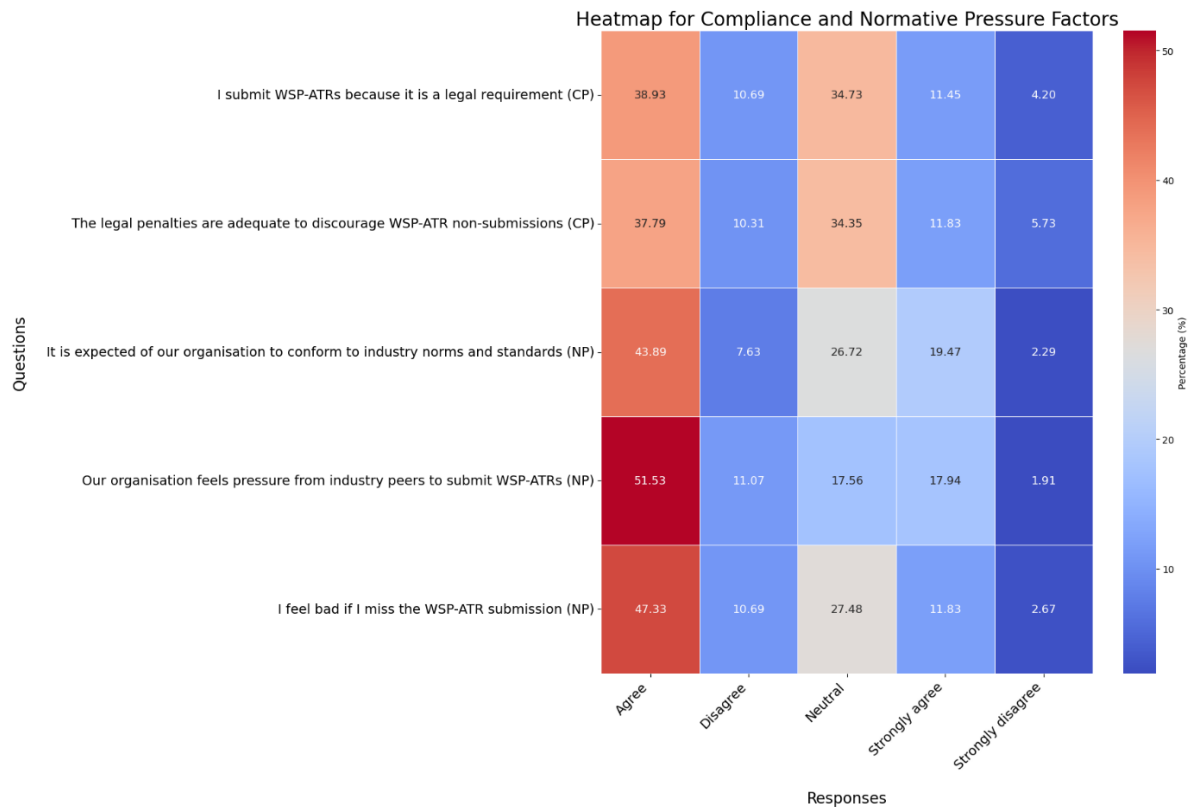


Figure 31: Understanding motivations for submissions of WSP-ATRs

Analysis of Respondent Perspectives on the Motivation for WSP/ATR Submissions

The heatmap highlights respondent motivations for submitting WSP-ATRs based on legal, normative, and emotional drivers. The responses are categorized into Agree, Neutral, Disagree, Strongly Agree, and Strongly Disagree, offering insights into the key factors influencing compliance.

Detailed Analysis of Each Question

"I submit WSP-ATRs because it is a legal requirement (CP)":

- Agree (38.93%) and Neutral (34.73%) dominate, with Strongly Agree (11.45%) reflecting additional positive intent.
- Insight: While the majority acknowledge legal requirements as a motivator, the significant neutrality indicates that some respondents do not strongly associate their submissions with legal compliance.
- Recommendation: Improve awareness of legal mandates and penalties to strengthen the perceived importance of compliance.

"The legal penalties are adequate to discourage WSP-ATR non-submissions (CP)":

- Agree (37.79%) and Neutral (34.35%) are prominent, with Disagree (10.31%) indicating scepticism about the adequacy of penalties.
- Insight: Many respondents view legal penalties as insufficient to discourage non-compliance.
- Recommendation: Reassess penalty structures and communicate enforcement policies effectively to enhance their impact.

"It is expected of our organisation to conform to industry norms and standards (NP)":

- Agree (43.89%) and Strongly Agree (19.47%) dominate, while Neutral (26.72%) suggests some uncertainty about industry expectations.
- Insight: Industry norms are a strong motivator for most respondents, but some lack clarity about what these norms entail.
- Recommendation: Share industry benchmarks and expectations more widely to ensure alignment with peer practices.

"Our organisation feels pressure from industry peers to submit WSP-ATRs (NP)":

- Agree (51.53%) is the highest among all questions, with Strongly Agree (17.94%) reinforcing the influence of peer pressure.
- Insight: Peer pressure is a significant driver of compliance, indicating that respondents are motivated by maintaining reputational standards within the industry.
- Recommendation: Leverage peer influence through industry forums and collaboration to promote compliance further.

"I feel bad if I miss the WSP-ATR submission (NP)":

- Agree (47.33%) and Neutral (27.48%) dominate, with Strongly Agree (11.83%) indicating emotional engagement.
- Insight: Emotional factors such as guilt or personal responsibility play a considerable role, though the high neutrality suggests this is not universal.
- Recommendation: Foster a culture of accountability by highlighting the personal and organizational benefits of compliance.

Key Insights and Trends

- Legal Compliance: While legal requirements are acknowledged, the perceived adequacy of penalties is a concern. Enhancing penalty structures and communication may increase compliance.
- Normative Pressure: Industry norms and peer influence are powerful motivators, with "peer pressure" achieving the highest agreement (51.53%).
- Emotional Engagement: Emotional drivers, such as guilt, motivate compliance but vary across respondents, reflecting individual differences in accountability.

Actionable Recommendations

1) Strengthen Legal Enforcement:

- Clearly articulate the legal requirements and consequences of non-compliance.
- Revisit penalty frameworks to ensure they are perceived as impactful and adequately enforced.

2) Leverage Industry Norms:

- Regularly share industry standards and best practices to encourage alignment.
- Create opportunities for organizations to collaborate and share compliance strategies.

3) Foster Emotional Accountability:

- Highlight the role of WSP-ATR submissions in broader organizational goals to enhance emotional engagement.
- Recognize and reward consistent compliance to build a sense of pride and responsibility.

4) Peer Influence Programs:

- Facilitate peer-driven initiatives such as forums or recognition programs to reinforce positive compliance behaviours.

4.3.5 Respondent Perspectives on MQA Support and System's Role in WSP/ATR Submissions

Figure 32 shows the role of Perceived Ease of Use, Perceived Usefulness and MQA Support in WSP-ATRs submissions.

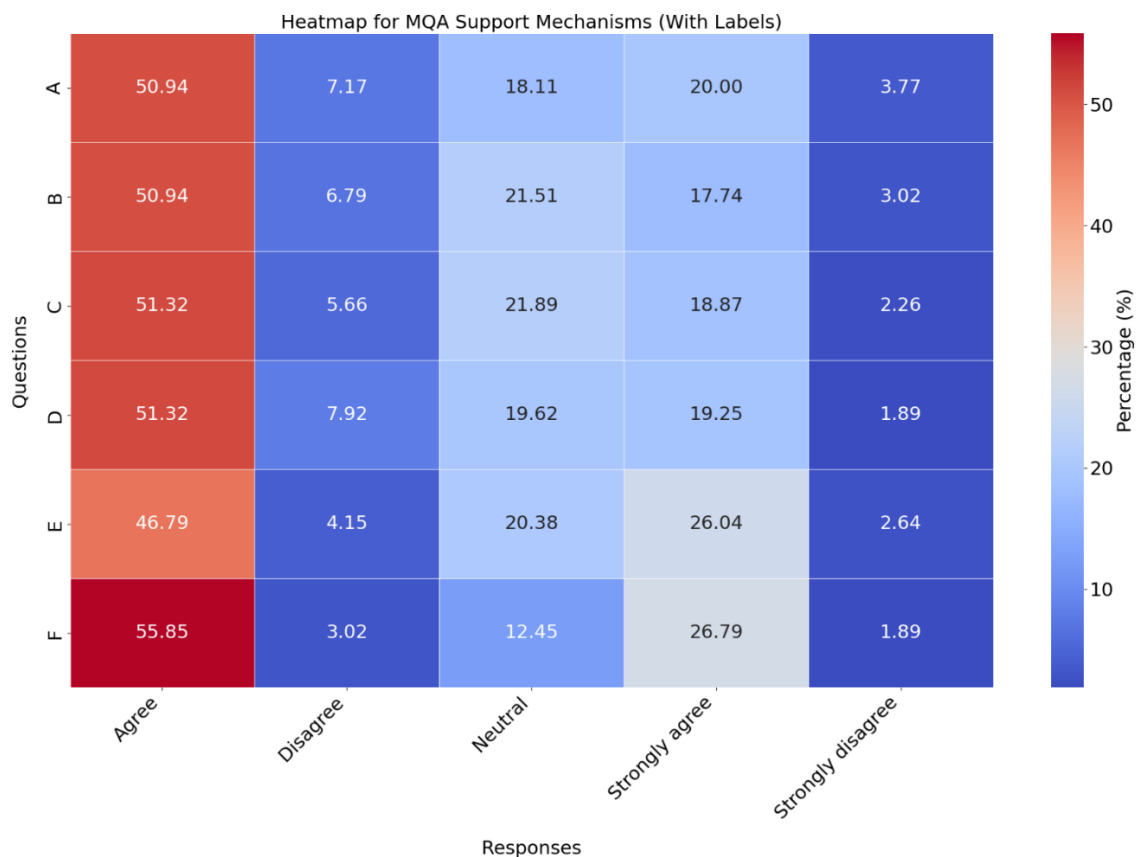


Figure 32: MQA support and its role on WSP-ATR submissions (see legend below)

Legend for Labelled Questions in Figure 32	
A	MQA support mechanisms are sufficient to enable companies to submit their WSP-ATR (MQA Support)
B	MQA provides timely response during the WSP-ATR submission process (MQA Support)
C	The MQA has put in place adequate communication channels (MQA Support)
D	The time given by the MQA to companies to submit their WSP-ATR is sufficient (MQA Support)
E	The MQA's staff is always helpful during and after the WSP-ATR submission process (MQA Support)
F	The MQA's WSP-ATR feedback sessions are useful (MQA Support)

Analysis of Perceived Ease of Use, Perceived Usefulness for WSP-ATR Submission

This heatmap provides insights into respondents' perceptions of the MQA WSP-ATR system in terms of its ease of use, usefulness, and overall system engagement. The table highlights the percentage distribution of responses across categories such as Agree, Disagree, Neutral, Strongly Agree, and Strongly Disagree.

Detailed Analysis of Each Question

"The MQA's WSP-ATR system is easy to learn (PEU)":

- Agree (45.28%) and Neutral (35.83%) dominate, with Strongly Agree (11.42%) further supporting the ease of learning.
- Insight: While most respondents find the system easy to learn, the high neutrality indicates room for improvement in training or system intuitiveness.
- Recommendation: Enhance onboarding programs or tutorials to reduce neutrality and ensure more confidence in system usability.

"The MQA's templates and spreadsheet are easy to use (PEU)":

- Agree (44.88%) and Neutral (32.68%) dominate, with Strongly Agree (14.57%) reflecting satisfaction with the templates' usability.

- Insight: While templates are generally well-received, the neutrality suggests some users face difficulties.
- Recommendation: Simplify templates further or provide clear guidelines for their use.

"It is easy to submit documents on the WSP-ATR system (PEU)":

- Agree (47.24%) is the highest among ease-of-use questions, with Strongly Agree (13.39%) showing strong approval of the submission process.
- Insight: The submission process is perceived as efficient, but a significant neutrality rate (31.89%) suggests some users still face challenges.
- Recommendation: Regular system usability checks and feedback collection can help address submission barriers.

"The process of submitting the WSP-ATR is burdensome (PEU)":

- Disagree (26.38%) and Neutral (27.95%) dominate, indicating mixed perceptions about the burden of submission.
- Insight: A relatively high Strongly Disagree (7.09%) indicates that some users do not find the process burdensome, but the high neutrality suggests varied experiences.
- Recommendation: Investigate specific challenges users face to streamline the process further.

"I will make an effort to use MQA systems to submit WSP-ATRs (BIS)":

- Agree (39.76%) is strong, but Neutral (28.35%) and Disagree (16.93%) suggest some hesitation in continued engagement.
- Insight: Positive attitudes toward system usage are evident, but engagement strategies are needed to address neutrality.
- Recommendation: Reinforce the system's benefits and provide incentives for consistent use.

"The MQA System is useful when submitting WSP-ATRs (PU)":

- Agree (47.24%) and Strongly Agree (14.17%) reflect the usefulness of the MQA system.

- Insight: Respondents largely value the system's utility, though Neutral (30.31%) shows some lack of conviction.
- Recommendation: Communicate the system's impact on organizational goals to enhance perceived usefulness.

"I find WSP-ATR submissions useful in skills development in my organisation (PU)":

- Agree (43.31%) and Neutral (33.07%) dominate, indicating a moderate acknowledgment of the submission's role in skills development.
- Insight: The high neutrality indicates that not all respondents see a direct link between submissions and skills development.
- Recommendation: Showcase case studies or success stories where submissions have positively impacted skills development.

"I submit WSP-ATRs to a greater extent using MQA templates (SUB)":

- Agree (49.21%) and Strongly Agree (13.78%) show strong adoption of MQA templates.
- Insight: Templates are widely accepted and useful, but Neutral (20.87%) suggests room for improvement.
- Recommendation: Regularly update templates based on user feedback to maintain high satisfaction.

Key Insights and Trends

- Ease of Use: Most respondents find the MQA system and templates easy to use, though neutrality suggests potential barriers for a subset of users.
- Perceived Usefulness: Respondents largely agree on the system's usefulness, particularly for submitting WSP-ATRs, but neutrality highlights opportunities for better communication of benefits.
- Engagement Challenges: The mixed responses on effort and burdensome processes suggest the need for more user-friendly systems and clearer engagement incentives.

Actionable Recommendations

- 1) Enhance Onboarding and Training:

- Provide detailed tutorials or training sessions to reduce neutrality and boost confidence in system usability.
- 2) Streamline Submission Processes:
- Address specific bottlenecks in submission workflows through regular user feedback and iterative improvements.
- 3) Reinforce Perceived Usefulness:
- Showcase the positive outcomes of WSP-ATR submissions to strengthen the perceived value.
- 4) Regularly Update Templates and Systems:
- Ensure templates and systems remain user-friendly and aligned with evolving organizational needs.
- 5) Motivate Continued Engagement:
- Use recognition programs or incentives to encourage consistent use of MQA systems.

4.3.6 Respondent Perspectives on MQA Support Initiatives in WSP/ATR Submissions

Figure 33 shows MQA additional support and processes and how they influence submissions of WSP-ATRs

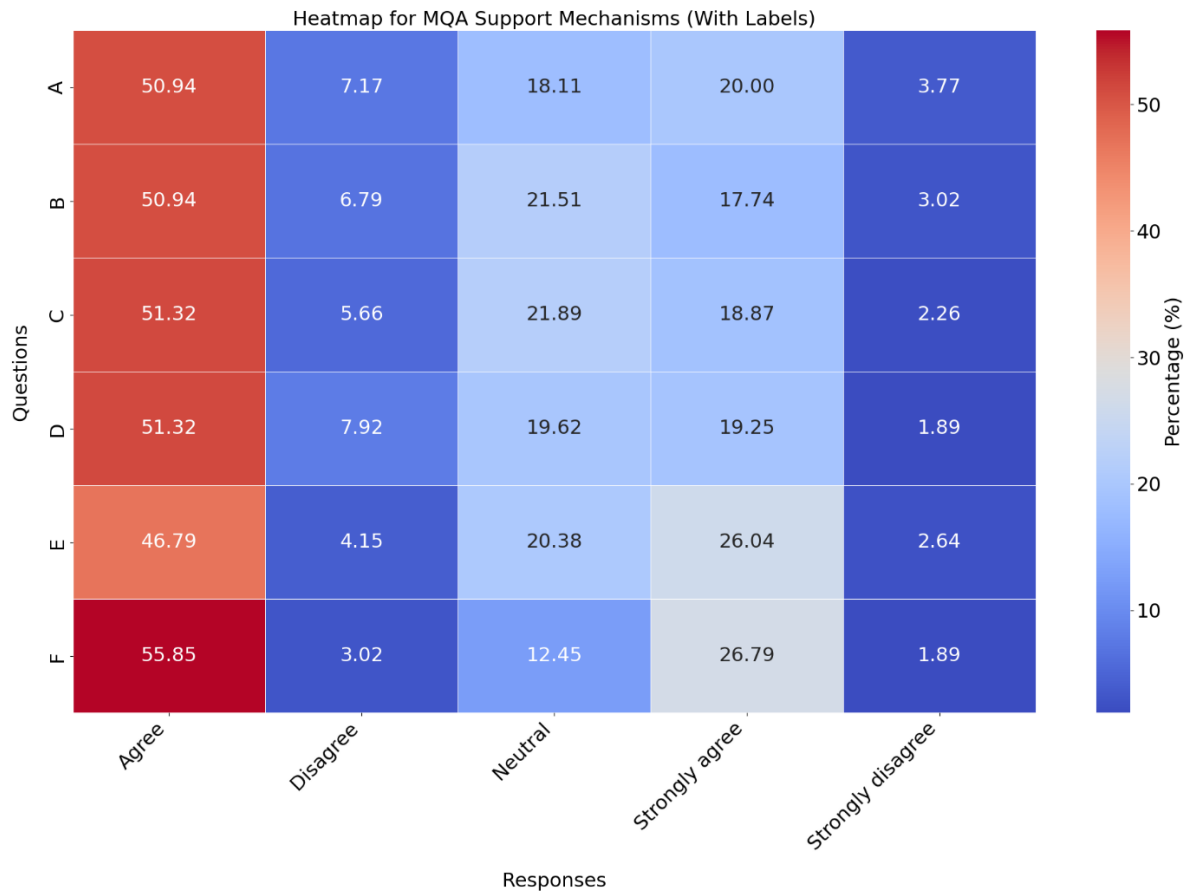


Figure 33: MQA additional support and processes (see legend below)

Legend for Labelled Questions in Figure 33	
A	MQA's support mechanisms are sufficient to enable companies to submit their WSP-ATR (MQA Support)
B	MQA provides timely response during the WSP-ATR submission process (MQA Support)
C	The MQA has put in place adequate communication channels (MQA Support)
D	The time given by the MQA to companies to submit their WSP-ATR is sufficient (MQA Support)
E	The MQA's staff is always helpful during and after the WSP-ATR submission process (MQA Support)
F	The MQA's WSP-ATR feedback sessions are useful (MQA Support)

Analysis of MQA Support Mechanisms for WSP-ATR Submissions

This heatmap provides insights into respondents' perceptions of the MQA's support mechanisms, including communication, timeliness, and staff assistance. Each question

evaluates a specific aspect of support, offering a comprehensive view of satisfaction levels and potential areas for improvement.

Detailed Analysis of Each Question

"MQA's support mechanisms are sufficient to enable companies to submit their WSP-ATR (MQA Support)":

- Agree (50.94%) and Strongly Agree (20.00%) dominate, reflecting widespread satisfaction with the support mechanisms.
- Neutral (18.11%) indicates that some respondents are unsure about the sufficiency of support.
- Insight: While most users find the mechanisms sufficient, there are gaps in perceptions of adequacy.
- Recommendation: Ensure support mechanisms are standardized across all companies to reduce variability.

"MQA provides timely response during the WSP-ATR submission process (MQA Support)":

- Agree (50.94%) and Neutral (21.51%) are prominent, with Strongly Agree (17.74%) showing approval of response timeliness.
- Insight: Timeliness is generally well-received, but the high neutrality suggests some inconsistency in response rates.
- Recommendation: Implement response time monitoring to ensure timely support for all users.

"The MQA has put in place adequate communication channels (MQA Support)":

- Agree (51.32%) and Strongly Agree (18.87%) indicate effective communication channels, though Neutral (21.89%) reflects uncertainty among some users.
- Insight: Communication channels are viewed positively but require improvements in reach and responsiveness.
- Recommendation: Enhance communication by ensuring all channels are responsive and provide regular updates.

"The time given by the MQA to companies to submit their WSP-ATR is sufficient (MQA Support)":

- Agree (51.32%) and Strongly Agree (19.25%) dominate, with Neutral (19.62%) showing some dissatisfaction with timelines.
- Insight: While timelines are sufficient for most users, clearer deadline communication could address concerns.
- Recommendation: Use multiple communication channels (e.g., emails, reminders) to reinforce submission deadlines.

"The MQA's staff is always helpful during and after the WSP-ATR submission process (MQA Support)":

- Agree (46.79%) and Strongly Agree (26.04%) reflect high satisfaction with staff assistance, though Neutral (20.38%) suggests inconsistent experiences.
- Insight: Staff support is a strong point but varies across respondents.
- Recommendation: Train staff to provide consistent and high-quality support throughout the submission process.

"The MQA's WSP-ATR feedback sessions are useful (MQA Support)":

- Agree (55.85%) and Strongly Agree (26.79%) achieve the highest ratings, with minimal Neutral (12.45%) responses.
- Insight: Feedback sessions are highly valued, indicating their role in improving submission quality.
- Recommendation: Maintain or expand feedback sessions to include actionable insights and interactive discussions.

Key Insights and Trends

Strengths:

- Most respondents view the MQA's support mechanisms positively, with Agree responses consistently exceeding 50% across all questions.
- Feedback sessions are highly appreciated, with the highest positive responses, indicating their critical role in fostering compliance and submission quality.

Areas of Concern:

- Neutral Responses: Neutrality levels average around 20%, indicating variability in user experiences with timeliness, communication, and staff assistance.
- Submission Timelines: Some respondents are unsure about the sufficiency of time provided, pointing to potential clarity issues.

Actionable Recommendations

1) Enhance Communication:

- Strengthen communication channels to ensure responsiveness and accessibility.
- Regularly update companies on submission processes and timelines.

2) B. Monitor Timeliness and Support:

- Implement systems to track response times and address delays.
- Provide consistent training to staff to ensure uniform quality of assistance.

3) C. Expand and Improve Feedback Sessions:

- Increase the frequency of feedback sessions to cover all participating companies.
- Use these sessions to gather actionable insights and highlight best practices.

4) D. Improve Deadline Communication:

- Use multiple channels (emails, reminders, notifications) to communicate submission deadlines effectively.
- Include countdown reminders to ensure clarity.

4.3.7 Ranking of factors that influence WSP/ATRs Submissions

Respondents were asked to rank what they thought were the most important drivers of WSP-ATR submission. Figure 34 shows the results of their ranking.

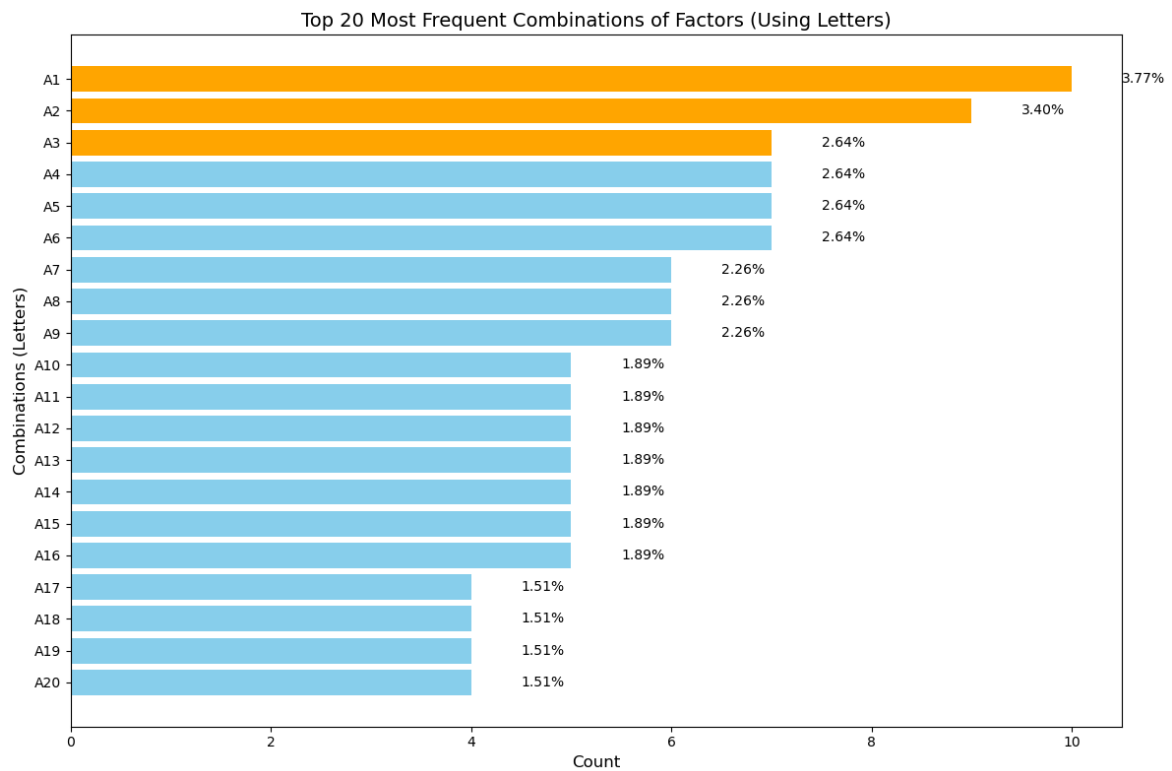


Figure 34: Respondents ranking of the most important factors in driving WSP-ATR submissions (see legend below)

Legend for Labelled Questions in Figure 34	
A1	Human factors; Administrative issues; Organisational factors; Technical factors; Institutional factors.
A2	Human factors; Organisational factors; Technical factors; Administrative issues; Institutional factors.
A3	Human factors; Technical factors; Organisational factors; Administrative issues; Institutional factors.
A4	Institutional factors; Human factors; Technical factors; Organisational factors; Administrative issues.
A5	Human factors; Administrative issues; Technical factors; Organisational factors; Institutional factors.
A6	Administrative issues; Human factors; Technical factors; Organisational factors; Institutional factors.
A7	Administrative issues; Human factors; Organisational factors; Institutional factors; Technical factors.

A8	Organisational factors; Institutional factors; Human factors; Technical factors; Administrative issues.
A9	Administrative issues; Human factors; Organisational factors; Technical factors; Institutional factors.
A10	Technical factors; Administrative issues; Organisational factors; Human factors; Institutional factors.
A11	Organisational factors; Human factors; Technical factors; Administrative issues; Institutional factors.
A12	Human factors; Organisational factors; Technical factors; Institutional factors; Administrative issues.
A13	Administrative issues; Organisational factors; Human factors; Technical factors; Institutional factors.
A14	Organisational factors; Human factors; Administrative issues; Technical factors; Institutional factors.
A15	Technical factors; Human factors; Organisational factors; Administrative issues; Institutional factors.
A16	Human factors; Technical factors; Institutional factors; Organisational factors; Administrative issues.
A17	Technical factors; Institutional factors; Organisational factors; Human factors; Administrative issues.
A18	Human factors; Organisational factors; Administrative issues; Technical factors; Institutional factors.
A19	Administrative issues; Organisational factors; Human factors; Institutional factors; Technical factors.
A20	Organisational factors; Human factors; Institutional factors; Technical factors; Administrative issues.

Analysis of the Varying Combinations of Rankings

The visualization depicts the frequency of the top 20 unique ranking combinations for WSP-ATR submission factors. Each combination's contribution is expressed both as absolute counts and as a percentage of the total dataset.

Key Observations

- **Dominance of Top Combinations:**
 - The combination labelled A is the most frequent, contributing 3.8% of the total combinations.
 - Combination B follows closely with 3.4%.
 - The dominance of these combinations suggests that specific ordering of the factors resonates more strongly among respondents.

- **Distribution Beyond the Top Two:**
 - Combinations C through F each contribute 2.6%, indicating a cluster of moderately popular rankings.
 - Combinations G through I follow, each contributing 2.3%, highlighting gradual tapering in frequency.
 - **Long Tail of Rankings:**
 - Combinations J through T show lower frequencies, ranging between 1.5% and 1.9%.
 - The long tail suggests a diverse set of ranking preferences, with many respondents choosing less common orders.

- **Cumulative Contribution:**
 - The top 20 combinations collectively contribute 43.8% of all observed combinations.
 - This indicates that while these combinations capture a significant portion of preferences, there is still a high level of variability in how factors are ranked.

Insights and Implications

Preference Clusters:

- The dominance of specific combinations, such as A and B, suggests strong agreement on the importance of certain factors when ranked in a particular order.
- These rankings likely reflect shared organizational priorities or external influences.

Moderate Agreement:

- The middle range of combinations (e.g., C through I) shows moderate agreement, indicating varying perspectives on the importance of factors.

Diverse Prioritization:

- The diversity in combinations beyond the top 20 highlights significant variability in how respondents perceive the influence of factors.
- This variability could stem from differences in organizational size, sector, or internal priorities.

Decision-Making Impacts:

- The concentration of responses in the top combinations indicates areas where organizations may align their focus to improve submission outcomes.
- Conversely, the long tail of unique combinations suggests a need for flexible policies that accommodate diverse organizational needs.

Recommendations

Targeted Support:

- Tailor support mechanisms around the most frequent combinations (A, B, etc.) to align with common preferences.

Further Analysis:

- Investigate why certain combinations dominate. Are these driven by specific organizational challenges or external mandates?
- Analyse the factors driving diversity in rankings, especially among less frequent combinations.

Customized Solutions:

- Develop flexible approaches that address the diverse ranking preferences, ensuring inclusivity for all organizational types.

Feedback Sessions:

- Use the identified ranking patterns to structure feedback sessions, addressing the top priorities expressed in the dominant combinations.

Having presented the results descriptive statistical analysis, the following section of the report presents the results of Partial-least Squares- Structural Equation Modelling of the survey data.

4.4 Results of the developed model with hypotheses testing

Ensuring quality

The literature review utilised several theories to propose a model to predict the key drivers of WSP-ATR submissions. The process involved development of hypotheses. This section of the report presents the results of the tested hypotheses. Some of the hypotheses were rejected while most of them were accepted. The purpose of developing a PLS-SE Model is to statistically establish the strengths of the drivers of WSP-ATR submissions and understand the pathways of that influence. Before the development of the model, the first step was testing for reliability and validity of the instruments. The analysis suggested the model to be valid and reliable after analysing composite reliability ($CR \geq 0.7$) and convergence validity ($AVE \geq 0.4$). The model was tested to ensure the instruments did not have collinearity.

The overall predictive power of this model is shown by the ultimate value of 0.503, which is way above the minimum 0.2. This suggests that this is a robust model that can explain at least 50.3% of variations in the WSP-ATR submissions.

Testing the hypotheses

The decision for accepting or rejecting the hypothesis is based on path coefficients. The path is statistically significant when the p-value ≤ 0.05 . Table 5 summarises the hypotheses and their p-values.

Table 5: Results of hypotheses testing

Hypothesis	Original sample (O)	Sample mean (M)	Std deviation (STDEV)	T statistics (O/STDEV)	P values
BIS -> SUB	0.442	0.443	0.067	6.633	0.000

Hypothesis	Original sample (O)	Sample mean (M)	Std deviation (STDEV)	T statistics (O/STDEV)	P values
COMPT -> PEU	0.138	0.141	0.068	2.026	0.043
COMPT -> PU	0.342	0.342	0.073	4.662	0.000
CP -> BIS	0.160	0.164	0.063	2.558	0.011
INSTR -> BIS	0.184	0.183	0.078	2.350	0.019
MP -> BIS	-0.095	-0.097	0.079	1.191	0.234
MQA_ -> BIS	-0.011	-0.013	0.067	0.160	0.873
MQA_ -> PEU	0.510	0.511	0.064	7.931	0.000
NP -> BIS	0.004	0.007	0.077	0.047	0.962
ORG_ -> BIS	0.170	0.173	0.097	1.750	0.080
PBC -> BIS	0.402	0.398	0.068	5.952	0.000
PEU -> BIS	0.214	0.216	0.088	2.427	0.015
PU -> BIS	-0.047	-0.047	0.075	0.624	0.533
PU -> SUB	0.363	0.362	0.069	5.257	0.000

From Table 5, it can be seen that some hypotheses are rejected. Although some hypotheses are rejected, we utilise insights from interviews to explain the reasons for rejection. To a larger extent, the rejections suggest that the hypothesised drivers are not mediated by behavioural intention to submit.

- MQA -> BIS: MQA support has a strong positive direct relationship with the behavioural intention to submit WSP-ATRs. As shown in Figure 35, the direct relationship between MQA and behavioural Intention to submit was not statistically significant suggesting that the influence of MQA support is through the mediating effect of Perceived Ease of use as shown in the following hypothesis.
- MQA -> PEU: MQA support has a strong positive influence on the perceived ease of use of MQA systems. This hypothesis is accepted with p-value of $0.000 < 0.05$. This means that MQA support is useful in reducing the complexity of the MQA submission system and processes. The implication of this finding is that MQA support is very significant in

simplifying the systems. It is therefore important for the MQA to increase support during the period leading to submission and during the submission period.

- NP -> BIS: Normative pressure has a strong positive effect on the behavioural intention of SDFs to submit WSP-ATRs. The quantitative evidence did not suggest a significant relationship between normative pressure that organisations face from peers and the intention to submit. Submission is less for moral reasons to please colleagues. This finding was also supported by interviews who said submissions had nothing to do with peers. However, this is contrary to some literature which suggests that colleagues may exert pressure for people to make technology related decisions.
- ORG -> BIS: Organisational climate strongly and positively influences behavioural intention to submit WSP-ATRs. This hypothesis is rejected since p-value of $0.080 > 0.05$. This finding suggests that the climate in the organisation is not mediated by behavioural intention to submit, this could imply that there is instead a direct relationship, with submission which needs further investigation to influence WSP-ATR submissions.
- PU -> BIS: Perceived usefulness of MQA systems and the WSP-ARTs has a strong positive influence on the behavioural intention to submit WSP-ATRs. This hypothesis is rejected on the basis that p-value of $0.533 > 0.05$. When viewed with the other perceived usefulness hypothesis.
- PU -> SUB: Perceived usefulness of MQA systems and the WSP-ARTs has a strong positive influence on the actual submission of WSP-ATRs. This hypothesis is accepted because the p-value of $0.000 < 0.05$. This implies that perceived usefulness influences submission directly, and not through enhancing behavioural intention. This makes sense because once an SDF perceives the system to be helpful in submission and that submission is useful, they do not necessarily need further considerations before they submit their WSP-ATRs.

The rest of the hypotheses are accepted as their p-values < 0.05 . This means that at 95% confidence, these hypotheses are confirmed in line with the model in Figure 35.

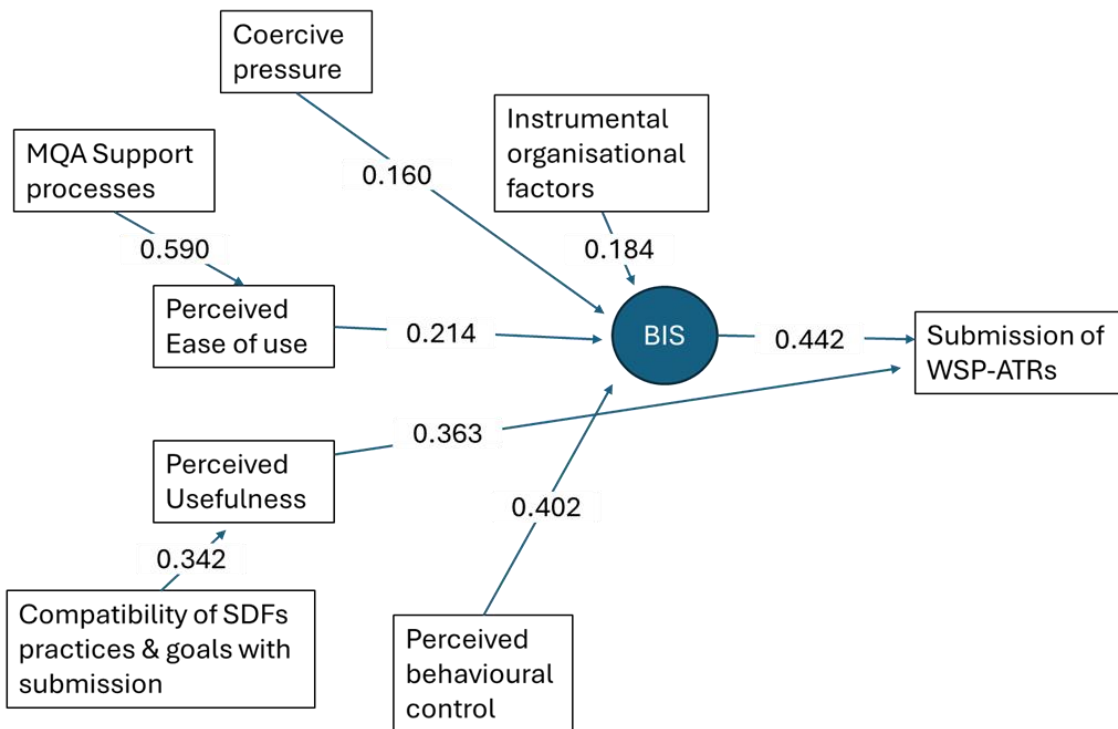


Figure 35: The model showing the WSP-ATR submission pathways

The summarised pathways of the model that are statistically significant in driving WSP-ATR submissions

Together, the model has 5 pathways that have shown to be significant when Behavioural Intention mediation is taken into consideration. These pathways are presented in the following section, and they all have a p-value less than 0.05.

Pathway 1: MQA support processes increase the perceived ease of use of spreadsheets and templates used for submission which increases submissions through encouraging behavioural intention to submit WSP-ATR

Pathway 2: Compatibility of goals and skills of SDFs with the competences required to submit WSP-ATRs increases the perceived usefulness of submitting WSP-ATRs and the usefulness of spreadsheets and templates which is important for driving submissions.

Pathway 3: The perceived behavioural control (SDF awareness, SDF understanding, SDF capability) are important in driving intention to submit (BIS) which results in submission of WSP-ATRs.

Pathway 4: Coercive pressure due to the legal requirements to submit (including penalties-fines and incentives-MGs & DGs) are important in increasing the intention to submit which ultimately drives submissions

Pathway 5: Organisational instrumental factors (availability of technical, financial and human resources) is important in driving behavioural intention (BIS) and ultimately submissions of WSP-ATRs.

More findings and implications for MQA to drive submissions

Important pathways were identified, as having the most influence in driving submissions and are summarised as follows:

- **MQA support** processes including workshops, communication activities and support during submissions contribute 50.9% to the SDF's perceived ease of systems and submission processes. This means MQA needs pay more attention during submissions. When considering that about 15% of survey participants are less than a year in their current roles more assistance is needed in the coming submission period.
- **Compatibility of SDF practices and norms** with WSP-ATR objectives were found to be significantly related to perceived usefulness of submissions. MQA interventions could include training of SDFs and educating them to recognise the importance of submissions in the broader Sector Skills Plans
- **Perceived behavioural control**, including awareness, understanding and SDF ability to generate and submit WSP-ATRs is important in influencing behavioural intention to submit (BIS) which drives actual submissions.
- **Instrumental organisational factors** are significant in determining BIS (18.4%), which drives submissions. Organisations with better resources in terms of human and technical are more likely to submit. Building capabilities among managers to understand the importance of investing in WSP-ATR related resources in important.
- **Coercive pressure**, including incentives like mandatory and discretionary grants and penalties for not submitting are found to be slightly significant as they contribute 16% to BIS.
- **Perceived usefulness** contributes significantly to submissions (36%)

- There is therefore a need for the MQA to increase support and capacity building for increased submissions as detailed in the recommendations

Additional findings from those who never submitted

The study also sought to understand the barriers that faced those companies that never submitted at all. The following insights were drawn from such companies.

- **Lack of awareness and understanding.** Participants who never submitted cited lack of understanding of the MQA's role and consequences of non-submissions. This was also expressed by those that submit less often.
- **Late opening for submissions.** Some participants mentioned the late opening of submissions as a major hindrance to their submissions "...by the time they open we are pressed with other submissions and when faced with MQA and DMRE deadlines who do we prioritise? ...they must open early"
- **Lack of business case.** Small companies highlighted the burdensome nature of submissions and the lack of business case. Someone even argued that for someone who pays R520000 salaries, for example, they get back about R104000 which they said was insignificant.
- **Lack of recognition by MQA.** Small sub-sectors argued that they did not see value in submitting because MQA see us as insignificant. They argue that programmes are designed to advantage big mining companies. For example, one said: "...we do not see value in this. For us it is not about penalties or grants, we want the MQA to recognise us as equal employers. Their programmes are for Mining companies who do not add value to the products they produce. We add value but we are small. Why should we submit?".
- **Restructuring and high employee turnout.** Another important finding from qualitative interviews was the role that restructuring was playing in disrupting submissions. "...the past four years have seen a significant instability in the sector with a lot of turnover and restructuring...this is leaving us with deploying new people to do the WSP-ATRs every year or so".

4.5 Conclusion

The findings section was divided into four components, the first focused on the analysis of archival data to assess the WSP-ATR submission trends. The results showed that submissions fluctuated a lot mainly due to the lack of consistency. An interesting finding was that three sub-sectors contributed 80% of the total submissions which provide the MQA with leverage to focus policy and resources of the performing sub-sectors while monitoring and developing the other smaller sub-sectors. The second set of results focused on presentation of qualitative data analysis. The section found the key drivers of submissions to range from MQA support, SDF experience, organisational instrumental factors, organisational climate, and institutional factors. The third component was focused on descriptive statistics, which highlighted some important insights regarding other human factors such as roles in the organisation, years of experience in the sector and in the role. The findings especially noted the significant presence of those who have been in the role for less than a year. This presents a huge opportunity for MQA to increase support to assist those new entrants. The final section then focused on the presentation of a model developed from the Partial Least Squares-Structural equation modelling.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study draws several conclusions regarding the WSP-ATR submissions. These are presented per each objective noted in chapter one of the report.

Objective 1: Analysis of the historical WSP-ATR submission trends and quality thereof.

The study analysed the historical WSP-ATR submission trends and the quality of submissions. It is concluded that the rate of submissions either declined compared to the previous year or where there were increases, the increases were not consistent over the 5-year period under investigation. Generally, submissions fluctuated over the period. However, there was a sharp increase in the 2024 period, and the interviewees suggested this was due to increased MQA support during submissions.

Objective 2: Identifying significant changes or patterns in submission rates over the five-year period (average submission rates and variations in submission rates across different sub-sectors, company sizes, or locations).

The study noted that although there was a sharp increase in overall submissions in 2024, some sub-sectors witnessed a decline from 2020 figures for example CLAS (62 to 55), diamond processing (16 to 9), gold (47 to 43). Major increases were witnessed in coal (121 to 175), diamond mining (17 to 40), PGM (13 to 40) and services (166-182)

Objective 3: Finding out the level of awareness and understanding of WSP-ATR requirements and deadlines among companies.

The level of awareness was found to be generally well above 70%. However, there are significant pockets of interview participants who showed low levels of awareness and understanding. Interview respondents also highlighted the concern with the level of awareness, especially among those who have never submitted WSP-ATRs. There are some who submitted but still did not have deeper understanding of how the processes work.

Objective 4: Assessing the existing consequence management mechanisms (effectiveness of existing penalties and incentives) for ensuring WSP-ATR compliance and meeting of the MQA requirements to access mandatory grants.

Although there was general consensus on the benefits of MGs and DGs, interview respondents were not familiar with the role of penalties. There may be need to revisit enforcement of penalties. Those that spoke about penalties, mentioned that the level of penalties was negligible to the extent that some companies even “budgeted” for them. The smaller employers expressed that the incentives were too small considering that the percentage is uniform for large and small contributors. Some suggested to introduce a higher percentage for small companies, and perhaps a different percentage for medium sized companies.

Objective 5: Investigating the MMS companies’ internal capabilities and resources of companies (e.g., HR function, skills development expertise) and their relationship to submission compliance.

It was found that internal resources were very important in driving submissions. Well - resourced organisations had better chances of submitting, for example, as they deploy internal technologies to consolidate reports and update employment and skills development changes. This was typically the case with large organisations; however, they are facing some challenges associated with restructuring and high staff turnover which are detrimental to submissions.

Objective 6: Delineating the primary reasons cited by mining companies for not submitting WSP-ATRs (perceived administrative burden or resource constraints, perceived benefits or lack of clarity in WSP-ATR purpose, concerns about data confidentiality or potential consequences of submission).

Interviews with non-submitting companies and analysis of quantitative data in relation to non-submissions showed that there were several reasons for not submitting but the main were associated with lack of awareness and understanding, and the perceived administrative burden, as shown by the importance of perceived ease of use. However, it is important to note that from the PLS-SEM analysis, perceived behavioural control (awareness and understanding) had the most significant impact on behavioural intention to submit and followed by perceived

ease of use. The role of compatibility and how the employers perceived submission as important was also a driving factor. These findings can help draw inference on the drivers for non-submitters as well.

Objective 7: Assessing the effectiveness of the MQA's current communication and outreach strategies regarding WSP-ATR requirements and perceived complexities pertaining to the submission processes and usability of WSP-ATR systems and templates.

The study found the MQA current communication and outreach strategies to be very useful in assisting the MMS companies to submit their WSP-ATRs. However, a significant proportion of those interviewed said the workshop approach (the most commonly used mechanism) was necessary, but the MQA needed to do more because the workshops are done at Provincial level and those companies, especially small ones that are further from the workshop venue, found it difficult to attend. Apparently, the training workshops held during submissions in 2024 were also found to be extremely useful but also had similar concerns. The other system that the MQA uses to communicate is the email system. There were concerns raised by respondents that not all emails in the MQA database were current and valid. Due to restructuring and high levels of staff turnover witnessed in the past four years, it was recommended that the MQA integrates roadshows and door-to-door campaigns at mining companies to raise awareness, understanding and capabilities.

Regarding the technology systems, there was consensus that they were complicated for less experienced people. There was evidence from interviews and from quantitative data that as people gained experience the systems were perceived to be easier. The other complexity was attributed to the system changing every three years. The recommendation is for the MQA to manage those transitions proactively to avoid situations where a new system is introduced without adequate time for SDFs to test and experience it. There were also suggestions to consider digital training for the SDFs as the current assumption is that they are digitally literate. Some are not. A hybrid approach to outreaches and use of different channels could be useful. The use of LinkedIn and other digital platforms could enhance the presence of MQA. For training and workshops, hybrid approaches were recommended.

Objective 8: Assessing the adequacy and effectiveness of support provided to companies for completing WSP-ATRs.

MQA support was demonstrated to be powerful in driving WSP-ATR submissions. Interviewees were unanimous in the role of the support received during submissions. Two interviewees specifically mentioned names of staff who helped them, one appreciating that she was assisted to complete on a Friday after 21h00. The other was happy that he received a phone call on Sunday evening to check if everything was going on well with his submission process. Several others shared some touching testimonies of the support they received. The support during submission was seen as exceptional. What needs to be improved is the awareness for those not already submitting.

Objective 9: Crafting creative ways of increasing WSP-ATR submissions.

There is a need for data-based decision making. To do that, the MQA will need to first clean the companies database and effectively target employers from a well informed position. For example, the study found that about 40% of the companies have submitted consistently for 5 years, while some companies submitted once, twice, thrice or four times. This shows a lack of consistency. The MQA needs to be able to identify these companies and harness them. With increased data analytics, DGs could be targeted specifically at those companies. The findings of this study could be implemented immediately to drive submissions. Various important insights and recommendations have been included throughout the report to enable the MQA to implement immediately. The recommendation section outlines specific actions the MQA could do to improve WSP-ATR submissions.

Objective 10: Leverage theories and best practice to characterise determinants of WSP-ATR submissions.

This study leveraged the Technology Acceptance Theory which is a well-developed theory to explain behavioural effects on technology or processes that have technology as a major ingredient. The use of digital templates and spreadsheets makes it prudent to conceptualise the trials and tribulations of SDFs as a technology acceptance experience. Indeed, that was an important approach as it turned out that a significant percentage of the challenges and opportunities to increase submissions lie in the technical complexities of the systems. The

institutional theory was a natural selection as the submissions are driven by legal frameworks. However, characterising the specific drivers required discernment from the researchers. A thorough exploration of literature provided important practices and concepts to characterise an otherwise abysmal field of study and practice.

Objective 11: Developing a framework for drivers of WSP-ATR submissions in the MMS

Utilising qualitative and quantitative data to test and refine a framework informed by well-grounded theories, this study developed a robust model to predict WSP-ATR submissions. The developed model is robust and explains 50.4% of variation in submissions. In the qualitative research results section, this report proffered some of the potential drivers of submissions that are not explained by the developed model. However, it is our understanding that by deploying the model, the MQA is anticipated to transform the submissions of WSP-ATRs to enhance SSPs. The study finds the key drivers to be MQA support and communication activities, SDF awareness and understanding of procedures and importance of submitting WSP-ATRs, MMS organisational support of SDFs by senior management through resources and enabling processes, compliance enforcement of mandatory submissions, and training and development to improve compatibility of SDFs aspirations with WSP-ATR submissions.

5.2 Recommendations

When asked to suggest ways through which the MQA could improve submissions, Figure 28 shows the word cloud for the 33 responses received in Gauteng, Pretoria workshop when delegates were asked to give the MQA advice to improve WSP-ATR submissions. This process was used at the 10 workshops organised by MQA to harvest recommendations from the delegates. It was clear from these sessions that it was important for the MQA to start the process of accepting the submissions earlier to avoid last minute congestion.

The following section elucidates the recommendations drawn from the study findings. It is, however, noted that the implementation of these recommendations are to be followed in line with availability of resources and in relation to other recommendations from other studies. The MQA could be constrained and therefore the need to not look at each study recommendation in isolation. Further, utilisation of research partners could be useful especially in addressing the employer database.

Recommendation 1: Develop a WSP-ATR Awareness Campaign in the mining and minerals sector.

This study has found a very low level of awareness and understanding of MQA’s WSP-ATR requirements and expectations among non-submitting employers. Specifically, it was noted that MQA workshops were very necessary but insufficient as an awareness strategy as they were limited to employers within the proximity mostly submitting employers. The MQA could create an awareness campaign to educate stakeholders about the basics, benefits and opportunities of submitting WSP-ATRs. It was noted that only those employers who submit regularly were well informed about the benefits and costs of consistency in submitting WSP-ATRs. This study found awareness and understanding to be statistically significant in driving submissions. The campaign should focus on the benefits of WSP-ATR to the employers through MGs and DGs, but also to streamlining their training programmes. It was noted, for example, for the diamond mining and jewellery sub-sectors that they are not impressed by only grants and penalties but the intrinsic value of WSP-ATR submissions. Further, it is important to articulate who is MQA and what the SETA does at various levels of organisations.

Activity	Develop a WSP-ATR Awareness Campaign in the MMS.
Timeline	Develop a campaign and launch by 28 February to 31 March 2025/2026 financial year

Recommendation 2: Create a clean and comprehensive employer database for all the active employers in the mining and minerals sector

The study found that the current status of the employer database contributed to the low effectiveness of addressing WSP-ATR submissions. The lists from DMRE, SARs and DHET are not clean, resulting in lack of clarity regarding the statuses of a significant number of

employers on the lists. Of the employers on these lists, it is sometimes unclear which have valid contact details. The study further noted that there has been an increasing frequency and severity of restructuring in organisations resulting in some people having moved, making it difficult to track SDFs. It is therefore recommended that the MQA collaborates with stakeholders to clean the database. The DMRE, DHET, SARS, and the industry will be very important in this task. A clean database is important to boost submissions in future through a massive campaign. To speed up the process, experts such as research partners with AI and machine learning capabilities will be useful.

Activity	Create a clean and comprehensive employer database for all the active employers in the MMS
Timeline	Create a clean and comprehensive employer database for all the active employers in the MMS, starting in the 2025/2026 financial year, and completed within 6 months.

Recommendation 3: Develop a plan to boost MQA support prior, during and post WSP-ATR submissions.

The study noted that a major concern for employers was the difficulty to navigate the templates and spreadsheets, especially, for new users. With the envisioned campaign it is anticipated that there will be a significant number of new applicants who will struggle to master the MQA systems, resulting in frustrations and possible non-submissions. To avoid this MQA support should aim to make the submission process and systems easy. In the previous submission, it was noted that there was significant practical support in Provincial centres. This approach was very helpful and should be maintained. However, it was noted that the only people who attend such initiatives are those closer, and those further away from the centres may be left behind. It is recommended that a hybrid approach be used where regional visits are complimented by virtual practical registration and submission bootcamps. These could be two-day bootcamps.

Activity	Develop a plan to boost MQA support prior, during and post WSP-ATR submissions.
Timeline	Plan should be developed by 28 February to 31 March 2025 and revised annually

Recommendation 4: Focus resources and policies on sub-sectors that have most contribution while supporting smaller contributors

The study identified the sub-sectors contributing 80% of the submissions using the Pareto Analysis. Specifically, the MQA is recommended to focus resources and policies on the top three sub-sectors to optimize the overall submission process while exploring opportunities to enhance participation from smaller sub-sectors. It is recommended that the identification and focus on specific sub-sectors will result in more efficiency and cost saving. The Pareto curves are presented in the report.

Activity	Categorise employers by sub-sector, and focus on those that make the most submissions while supporting smaller sectors to submit
Timeline	A categorised database should be produced by 28 February to 31 March 2025 and updated annually

Recommendation 5: Develop a training plan for SDFs in the mining and minerals sector

The MQA is recommended to create a training plan for SDFs to have a sound appreciation of digital skills. The basic assumption has been that SDFs are digitally competence. However, some of them lack basic digital skills. It should be part of the MQA training agenda to equip the SDFs with digital skills. Constructs that were measured in the current study which are important in driving submissions and could benefit from digital training are the compatibility (the extent to which skills and experiences relate to tasks) and perceived ease of use (the extent to which SDFs see submission using the MQA to be ease). Digital training will enhance these factors which are important in driving submissions. This should be achieved through integrating formal learning, informal learning, and non-formal training to give every SDF the opportunity to learn.

Activity	Develop a digital training plan for SDFs in the MMS
Timeline	Training plan to be developed by 31 July 2025

Recommendation 6: Focus resources and policies on the frequently submitting companies while supporting less frequently submitting companies.

This study identified the frequency of employers' submissions, with some having submitted

once, twice, thrice, four times or five times. It is important to determine who are regular and who are erratic so that interventions are done from an informed position. It was noted that currently there are no processes to know who the regular submitters are and how to support them. Once these categories are noted, even discretionary grants could be targeted on them.

Activity	<p>Develop a plan to:</p> <ul style="list-style-type: none"> • provide support to encourage continued participation, of one time submitters, • engage companies in the 2–4-year categories with incentives and streamlined processes to boost retention, and • utilize the 40.5% consistent participants as benchmarks and ambassadors for compliance, using their insights to enhance outreach strategies.
Timeline	The plan should be developed by 28 February to 31 March 2025 and updated annually

Recommendation 7: Develop a plan to decentralise registration of employers in terms of operation region instead of parent company

Statistics show that Gauteng is the province with most submissions, yet the operations are in other provinces. Beside that misrepresentation in conceptualisation, this has some challenges in the quality of submissions as the study found that some facts were lost along the way when the head office aggregates the reports. It is therefore important to decentralise submissions to the operating sites.

Activity	Develop a plan to decentralise registration of employers in terms of operation region instead of parent company
Timeline	Develop a plan to decentralise the submissions by 31 December 2025

Recommendation 8: Develop a new framework for rewards and penalties

It is recommended that the MQA collaborate with industry stakeholders and other SETAs to rethink and relook at the incentives and penalties for submissions. Economically, the business case for submitting WSP-ATRs is not strong enough to encourage smaller companies at the

threshold to submit. There is a range between those that are not mandated by law to submit and those just above the threshold of submissions. It is recommended that a slightly larger percentage than 20% be paid as MGs. Calculation of these thresholds is beyond the scope of the current study.

Activity	Develop a new framework for rewards and penalties
Timeline	Develop a framework by December 2027

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