The impact of the Fourth Industrial Revolution on job turnover and workforce adaptation in a selected local municipality in the Eastern Cape

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ABSTRACT

The Fourth Industrial Revolution (4IR) is reshaping public-sector organisations by accelerating digitalisation, automation, and changes in work processes, yet its implications for workforce adaptability and stability in municipal contexts remain insufficiently understood. This study examines how 4IR influences organisational adaptability, worker preparedness, and job turnover in a South African local municipality. A qualitative research design was adopted, with semi-structured interviews conducted with 15 municipal employees selected through purposive sampling. Data were analysed thematically, with data collection continuing until theoretical saturation was reached. Eight interrelated themes emerged: critical skills shortages, inadequate training, insufficient infrastructure, job insecurity, weak leadership and change management, increased workload, psychological stress, and loss of institutional knowledge. The findings indicate that limited digital preparedness, ineffective communication, insufficient organisational support, and poorly aligned technology planning contribute to employee anxiety, resistance to technological change, and heightened turnover intentions. These findings suggest that the workforce consequences of 4IR are shaped not only by technological adoption itself but also by the organisational capacity to manage technological change and support employees throughout the transition. The study contributes to the emerging literature on 4IR and public-sector workforce transformation by highlighting the organisational and human dimensions of digital transformation within a municipal context in a developing-country setting. The findings underscore the need for coordinated digital transformation strategies that integrate leadership, workforce development, infrastructure investment, employee engagement, and employee well-being. Practical priorities include structured training programmes, clear digital transformation roadmaps, upgraded ICT infrastructure, participatory change management, and targeted retention and well-being initiatives.

Keywords: *Fourth Industrial Revolution; Job Turnover; Workforce Readiness*

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INTRODUCTION

As the Fourth Industrial Revolution (4IR) transforms labour structures, administrative procedures, and public service delivery, municipalities around South Africa are about to face a period of significant technological change. Automation, robots, digital platforms, artificial intelligence (AI) and data-driven systems have the potential to enhance the effectiveness, transparency, and public participation of municipal governments (Wang, et al., 2020). However, the shift to 4IR technologies is underway in many municipalities, particularly rural and semi-urban ones, which often have limited resources, a shortage of skilled workers, aging infrastructure and ongoing service delivery backlogs (Totobayo & Ndamase, 2024).

While 4IR gives potential for governments to modernize internal processes and increase responsiveness, it simultaneously undermines established employment positions and accentuates worker volatility (Maluleke, 2024). Despite a lack of organisational capacity, inadequate training, and limited digital literacy, municipal authorities are under increasing pressure to adopt new technology. These challenges lead to employment instability, resistance to change, and increased risk of turnover within municipal institutions. Studies emphasise that public sector personnel typically face anxiety when technology advancements are implemented without clear communication, suitable skill development routes, or supportive organisational structures (Kreusch et al., 2020).

Furthermore, many communities lack the digital systems, contemporary technology, and reliable alignment needed to properly adopt 4IR advancements. This restricts the capacity to utilize data management systems, e-governance tools and automated administrative platforms that could otherwise increase productivity and reduce the need for human labour (Maxhobandile & Yusuf, 2024). As a result, the adoption of automation in municipal contexts may displace traditional administrative work without concurrently establishing new, well-supported job possibilities.

Given these challenges, creating successful municipal policies, strategic workforce planning and training interventions that support inclusive and sustainable digital transformation requires an understanding of how the 4IR impacts municipal personnel, job turnover, and organisational preparedness. This study aims to explore how the 4IR affects job turnover, workforce preparedness, and organisational adaptability within selected municipality in Eastern Cape and to identify the structural and capacity-related obstacles that determine these results.

LITERATURE REVIEW

The Fourth Industrial Revolution and Municipal Transformation

Incorporating digital tools such as artificial intelligence (AI), automation, cloud computing, and smart technologies into governance procedures, the Fourth Industrial Revolution (4IR) is transforming the way public institutions operate. According to Balledux and Iyer (2025), the 4IR offers governments the opportunity to enhance efficiency and citizen participation by integrating digital, physical and biological systems. Municipalities worldwide are increasingly utilizing e-governance platforms, automated billing systems and digital communication technologies to enhance service delivery (Mokofe, 2024).

However, in South Africa, the implementation of these technologies occurs unevenly, typically hindered by structural issues such as financial constraints, a lack of digital competency and institutional fragmentation (Sparks, 2023). As a result, the

municipal environment becomes a complicated place where structural flaws and technological advancements coexist, affecting both labour stability and service delivery.

Skills Shortages and Workforce Readiness in Local Municipalities

The absence of suitable skills among public officials is one of the biggest obstacles to successful 4IR integration in municipalities. According to Totobayo and Ndamase (2024), South African municipalities are severely lacking in digital capabilities, particularly among administrative staff who carry out tasks that are most vulnerable to automation. These challenges are exacerbated by the inability of current training programmes to equip workers for the new technology needs (Ngomana, 2023).

Internal capability-building is further undermined by such skills shortages, which lead to poor digital adoption, low system utilisation and an increased reliance on outside ICT consultants. The concern is supported by Magadla (2023), who notes that high turnover rates occur in areas with poorly linked skills development systems, as workers are either displaced or depart willingly due to technological stress. This emphasises the need for municipalities to urgently strengthen professional development and ongoing education programmes to ensure staff preparedness for 4IR-related changes.

Infrastructure Readiness and Technological Capacity of Municipalities

Adequate infrastructure plays a crucial role in allowing municipal digital transformation. This involves having access to contemporary data systems, ICT equipment, cybersecurity frameworks, reliable energy, and internet connectivity. Lorenz et al. (2019) believes that South Africa's digital progress is hindered by infrastructural shortfalls, particularly in rural areas where connectivity remains unreliable and power outages are common. These flaws hinder the adoption of automated platforms such as online customer service portals, smart billing systems, and AI-supported data management solutions.

Alexander (2021) also emphasises that infrastructural shortages hinder technological adoption, increase system inefficiencies and contribute to employee dissatisfaction. Employees who work in environments with underdeveloped or malfunctioning digital technologies often experience increased workloads and stress, which in turn increases their intention to leave (Sutcliffe & Bannister, 2020). Infrastructure investment is therefore crucial for both modernizing systems and promoting worker well-being throughout technological shifts.

Job Displacement, Job Insecurity and Turnover in the Public Sector

The 4IR has significant effects on employment trends, particularly in the public sector, where routine administrative work is prevalent. Dibakoane et al. (2022) believe that automation is most likely to replace repetitive and predictable jobs, making roles such as data collection, administrative work and frontline customer support particularly vulnerable. These jobs comprise a sizable share of the municipal workforce, contributing to widespread employment instability (Maluleke, 2024).

According to Chamisa et al. (2020), municipal workers frequently react to technological disruption with resistance and anxiety because they fear being laid off or redeployed. These emotional reactions can lead to lower productivity, increased turnover, and absenteeism. Amegayibor (2021) cautions that automation might destabilise public institutions by triggering both voluntary exit and involuntary retrenchment, particularly among employees who feel unprepared for digital tasks, in the absence of proper human resource planning.

Organisational Readiness and Change Management in Municipalities

The effectiveness of 4IR implementation in municipalities mostly depends on organisational preparation and leadership. Pillay and Kikasu (2024) emphasise that strong leadership commitment, open communication, and employee participation are necessary for effective change management. Employees who do not comprehend the goals or implications of new technology often oppose municipalities that do not utilise organised change management techniques. Municipalities must incorporate digital transformation goals into their Integrated Development Plans (IDPs) and ensure that workforce development, technology investment and leadership strategies are aligned, according to Bijalwan et al. (2024).

Weak organisational structures lead to employee mistrust and uncertainty, which in turn lowers technology adoption and increases attrition. Workforce instability poses a significant obstacle to municipal innovation (Akinyemi et al., 2022). However, when employees feel supported, properly trained and involved in implementation procedures, digital initiatives tend to succeed.

Workforce Well-being and Psychological Effects of Technological Change

For municipal workers, the use of 4IR technology has important psychological ramifications. According to Sibonde and Dassah (2021), employees who encounter rapid technological advancements without sufficient support exhibit elevated levels of stress, worry and feelings of inadequacy. These emotional pressures are heightened in municipalities where service delivery expectations are already severe, leading to burnout and lower work satisfaction.

Studies further suggest that workers who feel overwhelmed or scared by new technology are more likely to consider leaving their employment (Okatta et al., 2024). This implies that to reduce job turnover and preserve institutional effectiveness, personnel wellness must be given top priority during digital transition processes.

METHOD

This study used a qualitative exploratory methodology to investigate the effects of the 4IR on organisational adaptability, workforce preparation and job turnover in a local municipality in South Africa. The researcher investigated the lived experiences, perceptions, and emotional reactions of municipal employees to technological change using a phenomenological approach.

The study was conducted in a local municipality that is continuously incorporating digital technologies, making it a suitable context for understanding disturbances associated with the 4IR. Middle managers, senior managers, ICT workers, supervisors, and administrative staff were among the target demographics. A total of 15 participants were chosen through purposive sampling based on their exposure to or direct use of 4IR technology. When no new themes, insights, or patterns emerged during interviews, data saturation was reached, indicating that further data collection was not required.

Semi-structured interviews lasting 30 to 45 minutes were conducted to gather data, and municipal document analysis was used to provide contextual depth. Interviews examined organizational support, psychological consequences, job insecurity, leadership communication, infrastructure issues, and skill preparedness. Braun and Clarke's (2019) thematic analysis of the data allowed for the identification of significant themes across the interviews. Member verification, thorough documentation and researcher reflexivity were used to guarantee reliability. Throughout the entire study process, ethical

guidelines, including informed consent, confidentiality, voluntary participation and secure data storage, were closely followed.

RESULT AND DISCUSSIONS

Theme 1: Workforce unpreparedness and skills shortages

This theme analyses employees' perceptions of their capacity to adapt to new technology. Lack of skills has been identified as a significant obstacle to 4IR preparedness. According to research, municipal personnel are severely lacking in technical and digital skills. One participant emphasised:

> *"The technical skills gap in South Africa is huge. To sustain operations, 4IR needs highly qualified personnel. "*

This aligns with Smith et al. (2025) who argues that low levels of digital literacy and inadequate capacity-building processes have left the South African public sector largely unprepared for 4IR. This clearly confirms the notion that municipal personnel feel unprepared for 4IR. It attests to the fact that the skills gap is a nationwide structural deficiency rather than anything specific to your study location. It explains why employees view 4IR as frightening rather than empowering.

Similarly, Ye and Ortiga (2025) note that because employees are not trained to use digital technologies, many municipalities continue to rely on traditional processes. Participants' complaints that training is inadequate and reactive are supported by this. According to their interpretation, the data demonstrate a mismatch between training and policy, with municipalities implementing technology without providing personnel with the necessary training.

Nwaikpo (2025) argues that technological change increases anxiety and can result in decreased performance and higher turnover, which is consistent with the dread and psychological strain that employees reported experiencing. According to the interpretation of the data, Bardhan et al. (2022) suggest that employees' fear and discomfort are not only emotional; rather, they are a predicted labour market response when workforce capabilities are surpassed by digital roles. This is supported by one participant:

> *"Employees are not comfortable… some fear losing their jobs."*

This supports the findings by providing an explanation for the insecurity experienced by municipal employees: psychological responses to technical change are common, particularly when transitions are poorly handled. Additionally, Chigbu and Nekhwevha (2021) contend that poor training leads to employment instability, skills mismatch and organisational inefficiencies, which is consistent with participant complaints regarding inadequate training for 4IR systems. Finally, Aigbavboa et al. (2022) found that when municipal employees perceive a threat to their job security, they often react to digital changes with dread and opposition. This aligns with participants' concerns that automated technologies could replace their positions. The findings are uneasy as a logical reaction to ambiguous 4IR tactics. It presents opposition as the result of inadequate institutional communication rather than as rigid.

Theme 2: Digital transformation's infrastructure obstacles

The availability, quality, and efficiency of municipal training programs in preparing staff for the 4th Industrial Revolution (4IR) are emphasised in this theme. Municipalities lack

fundamental ICT infrastructure, according to the study's findings. According to a manager:

"We have several obstacles in the area of infrastructure development. It would be unjust to think that 4IR can resolve problems with service delivery."

The findings suggest that infrastructure limitations not only influence service delivery but also contribute to workplace discontent, which can lead to job departure. This implies that rather than being the result of local inefficiencies, the infrastructure obstacles mentioned by participants constitute a component of systemic digital exclusion. It clarifies why motivated workers are unable to use 4IR tools. Giwa and Ngepah (2024) note that South African municipalities face connectivity gaps and digital inequalities that hinder their capacity to modernize, providing compelling evidence for this. Similarly, Mishi et al. (2023) note that the use of 4IR tools in the public sector is severely hindered by infrastructure issues, including poor connectivity, inadequate hardware, and a lack of ICT maintenance.

The findings also showed that the following financial barriers prevent the purchase of digital systems:

"Operating systems and infrastructure... may be very expensive."

This is consistent with the participants' dissatisfaction with fragmented systems. According to the findings, 4IR becomes ineffective in the absence of infrastructure, increasing rather than decreasing the burden. This is consistent with Mtawa et al. (2021), which emphasises that poor communities often lack the funding necessary for extensive digital transformation, thereby exacerbating the growing digital preparedness inequality. The theme suggests a structural issue: governments aim to digitize but lack the necessary infrastructure to support their workforces and enhance operational effectiveness.

Theme 3: Increasing turnover, job insecurity, and displacement

This theme focuses on the limitations of ICT infrastructure, hardware, software, and connections. The pervasive fear of automation was an unexpected discovery. Concerns raised by participants included:

"People should not be replaced by robots or machines. The Fourth Industrial Revolution puts our employment at risk."

According to their model, municipal employees' job categories align with those expected to be automated first, which explains why they feel threatened. The findings provide empirical evidence for their theoretical prediction. This aligns with Ndatshe et al. (2024) prediction that administrative and clerical functions, which predominate in municipal institutions, will be automated. Some employees were even moved:

"Due to 4IR, about 42.46% have been repositioned."

This indicates that contract non-renewals and repositioning are common early signs of digital transformation in the public sector, particularly in emerging nations. This kind of repositioning is consistent with Mthiyane at la. (2022), who argue that technological advancements may lead to contract non-renewals and involuntary restructuring of employment in the public sector. Literature also reflects the belief that automation can lead to increased unemployment and poverty. According to Thusi and Chauke (2023), public employees who experience technology disruptions show greater levels of mental distress and desire to leave their jobs. Participants reiterated this worry:

"Most workers experience insecurity. Contracts are not extended."

These findings support the wider academic agreement that 4IR is a labour-market and technical upheaval that exacerbates employment insecurity in municipalities. Their research explains findings by connecting anxiety and terror to behavioural effects like turnover and absenteeism. This implies that job instability is both rational and emotional.

Theme 4: Organisational readiness and change management

This theme illustrates how workers view AI and automation as dangers to job security. Findings indicated that municipal leadership is unclear about 4IR processes, and staff feel unsupported. Participants said:

"Some employees become victims of repositioning or retrenchment… because of new artificial intelligence and systems."

Workers were separated from technical advancements, misinformed, and unsupported. This ambiguity supports Maenetja and Kgobe (2024) claim that poor leadership communication or employee exclusion from planning procedures are the main reasons why organizational change fails. According to the findings, employees are confused and uneasy because municipal leadership has not implemented an appropriate change management approach.

Resistance is exacerbated by the lack of organized policies and capacity-building techniques. Similarly, Tshamano et al. (2021) highlight that municipal authorities must incorporate technical planning into IDPs and establish alignment between digital tools and human resource roles. This implies that the problems facing the municipality originated from the introduction of 4IR without strategic coherence, which turned digital transformation into disruption rather than advancement. The findings clearly indicate that this alignment is absent.

Participants also voiced concerns over performance comparisons with machines:

"Employees can be charged for poor performance… compared with machines."

This is consistent with Kelly's (2020) warning that unsupportive leadership can lead to excessive expectations, lower morale, and higher turnover during digital acceleration. According to the findings, employees feel victimised and overburdened because they were not active participants in the digital transformation process.

Theme 5: Poor leadership readiness and ineffective change management

This theme emphasizes how the municipality's 4IR implementation is adversely affected by inadequate leadership, poor communication and a lack of clear strategic direction. Employee bewilderment, resistance, and job insecurity are all consequences of unclear leadership. Workers frequently complained that managers were not successfully leading the shift to digital:

"Management appears confused and fails to explain what is going on. On the day that new systems are installed, we learn about them. We don't have a clear plan for how 4IR will work."

A number of participants reported feeling alone and unsupported:

"We use the systems, but we are not involved in top-level decision-making. When even the leadership cannot understand new technologies, we cannot adapt."

A lack of organised preparation and consultation is evident in these remarks. According to Ndamase and Lukman (2025), a leader's inability to communicate effectively encourages resistance by reflecting their staff's perplexity. Malan et al. (2025) emphasise the necessity of integrating digital transformation into municipal planning; the staff's observed lack of clarity can be explained by its absence. Kumalo and Scheepers (2021) argues that keeping workers out of change processes demotivates them and raises attrition.

Employee perceptions and reactions to the 4IR are significantly influenced by leadership. This municipality has experienced uncertainty, low morale, and mistrust due to poor change management. The lack of a defined 4IR strategy leaves workers feeling uneasy and unprepared, which in turn increases resistance and turnover intentions. Strong leadership, methodical planning, and significant staff participation are essential for a successful digital transition.

Theme 6: During the digital transition, increased workload and decreased productivity

The results showed that municipal staff faced an increased effort during technological changes, despite the expectation that 4IR technologies would boost efficiency. Many digital technologies have caused redundancy, slowed processes, or system failures rather than streamlining them, decreasing productivity and causing irritation. Participants frequently stated that rather than relieving pressure, digital instruments increased it:

> *"The system is unreliable; we do double work, manual and digital. We have to redo everything by hand after the system takes a full day to respond. Technology sometimes makes our jobs harder rather than easier."*

Another participant indicated that:

> *"We troubleshoot for hours on end. It adds to our workload and postpones our actual job."*

A number of workers voiced dissatisfaction about the introduction of new technology that lacked complete functionality:

> *"We suffer every day because they introduced these systems before fixing the fundamentals."*

These claims demonstrate how poorly executed 4IR may interfere with, rather than improve, work processes. According to Mamokhere (2024), digital technologies frequently increase the burden in developing municipalities when staff lack training, or the infrastructure is inadequate. This is consistent with the experiences described by workers who said that unstable technology caused them to duplicate duties. Participants' complaints about system outages support Enwereji and Uwizeyimana (2022) claim that South Africa's digital inequality leads to irregular system performance, which can lower productivity.

According to Giwa and Ngepah (2024), incompatibilities between old and new systems may initially slow down digital transformations in public organisations. Despite the introduction of automated procedures, participants' experiences of manual work reflect this. The findings show that municipalities are adopting 4IR too quickly and with limited support, thereby increasing workloads. Digital imbalance reduces productivity

and increases staff stress, thereby increasing churn intentions rather than improving service delivery.

Theme 7: Declining employee wellbeing and psychological stress

The fourth industrial revolution also changes municipal employees' psychological landscape in addition to their technological surroundings. This theme examines the emotional and psychological impacts of 4IR-related ambiguity. Deep emotional distress related to technical advancements was stated by participants:

> *"We are constantly afraid, which affects our health. Some people cry because the new systems are too much for them to handle."*

Another *participant added:*

> *"Knowing that my job is unsafe keeps me up at night. These changes are happening too quickly. It is mentally demanding and frustrating."*

Feeling overwhelmed was noted by one participant:

> *"There is a new system or upgrade every week. We are exhausted."*

Employees view 4IR as exhausting, emotionally draining, and unstable, according to these findings. According to Piao and Managi (2022), personnel who face fast technological change are more likely to suffer anxiety, despair, and emotional exhaustion, which is similar to your participants' experiences with dread. According to Chigbu and Nekhwevha (2021), workers who feel unsupported throughout technological transformations are likely to experience stress. This validates the claims made by those who expressed mental strain and tiredness.

According to Hamilton et al. (2021), technological disruption often leads to psychological insecurity, particularly in public-sector contexts where employment volatility is prevalent. Under the strain of 4IR, employee well-being is deteriorating. Stress-reducing communication, training and psychological assistance are lacking in municipalities. One of the primary causes of turnover, disengagement and declining performance is the impact of 4IR on mental health.

Theme 8: High staff turnover and institutional knowledge loss

This theme illustrates how the 4IR damages service delivery and organizational memory by increasing employee turnover and the loss of expertise in municipalities. Resignations and early retirement have increased, according to participants:

> *"After receiving training, some people quit right away, and others take early retirement. We lose experienced staff all the time, and service delivery suffers."*

One participant indicated that:

> *"Someone leaves every month because they don't feel safe with these changes. People do not want to work in fear, which is why turnover is high."*

Additionally, one participant voiced concern:

> *"It is challenging to replace skilled workers. Every time someone leaves, the municipality gets weaker."*

According to Sutcliffe & Bannister (2020), technological changes increase employee turnover when workers feel unprepared or uneasy, consistent with findings of

high resignation rates in municipalities. According to Ndatshe et al. (2024), the departure of trained workers undermines institutional continuity, making it impossible for municipalities to sustain digital transformation. According to Phaladi and Ngulube (2024), poor retention tactics, insufficient career development, and a lack of organizational support are the main causes of turnover, and your data clearly reflects these factors. An organisation in difficulty is often characterized by high turnover. Municipalities lose continuity, institutional memory, and the ability to provide services when personnel leave. Without effective retention methods, 4IR creates a vicious cycle of skill loss, making future digital transformations much more challenging.

Theme 9: Fear of technological monitoring, accountability and surveillance

Concerns about increased performance standards and new types of surveillance brought about by digital technology were voiced by municipal employees. Participants said they felt "watched":

> *"It is frightening that these systems monitor everything we do. There is no room for error; we are now compared to machines. We are being watched by technology, and errors are swiftly corrected. We constantly feel like we are being watched."*

Some interviewees believed that trust had been undermined by technology:

> *"The machines are the supervisors; it seems like they no longer trust us."*

According to Kelly (2020), digital surveillance raises anxiety in public organizations and reduces employee autonomy. According to Selesho and Matjie (2024), monitoring technologies can place employees under psychological strain and lower morale. Ncoyini and Cilliers (2020) caution that robotic monitoring and AI can create moral dilemmas and potentially damage work relationships. Workers perceive electronic surveillance as a loss of trust, autonomy, and power. This puts employee-employer relationships at risk, raises anxiety and lowers morale. Employees may retreat, oppose technology, or quit the company if they feel they are constantly being monitored.

Recommendations

The municipality should develop a comprehensive 4IR plan that outlines departmental implementation of digital transformation. This roadmap must be included in the Integrated Development Plan (IDP) and supported by thorough action plans, clear deadlines, accountable officials and resource allocation. Developing a written strategy will enhance cooperation, reduce uncertainty and ensure that staff members understand the goals and anticipated benefits of technology changes. The municipality will be able to prioritize investments and align 4IR efforts with broader service delivery goals with a clear roadmap.

The municipality should implement organised, continuous training programs tailored to various staff groups, considering the substantial skills shortages identified in the research. This comprises refresher courses, practical system demonstrations, training in digital literacy and specialized courses for workers in highly automated positions. To ensure that staff members are prepared for new technology, it is essential to foster a culture of continuous learning. Additionally, offering reskilling opportunities can boost employee confidence, reduce job instability and enhance overall organizational preparedness for the 4IR.

Upgrading the municipality's ICT infrastructure must be a top priority to provide dependable software, contemporary hardware and steady connectivity. Investments

should focus on enhancing process efficiency, minimising labour duplication and ensuring that digital systems are compatible. Improved infrastructure will boost the success rate of digital efforts, reduce workload and minimise system failures. To achieve the long-term objectives of the 4IR, technological capabilities must be strengthened.

Driving digital change requires effective leadership. The municipality needs to offer leadership development programmes that emphasise digital governance, strategic communication and change management. Involving staff members in decision-making processes, communicating effectively about technical advancements and guiding employees through organisational transformations are all skills that leaders must possess. Enhancing leadership ability will reduce opposition, promote openness, and foster trust between management and employees.

The municipality should clearly explain how 4IR will impact job positions and long-term employment prospects to alleviate the anxiety and dread associated with automation. It is essential to implement policies that prioritize workers' well-being, including wellness initiatives, stress management classes, and counselling services. Clear communication and psychological support will boost morale, lessen insecurity, and create a more positive work environment. Reducing turnover intentions can also be achieved by ensuring that workers feel appreciated and supported.

Institutional continuity is seriously threatened by high turnover. The municipality should develop retention plans that recognise and reward staff members who adopt new technology. Career advancement routes, performance rewards, mentoring programmes and recognition campaigns are a few examples of this. The municipality's capacity to maintain digital transformation is strengthened and institutional knowledge is preserved by keeping qualified staff.

Efforts should be made to increase community digital literacy, as municipal digital platforms heavily rely on public engagement. To help citizens use internet services, the municipality should run awareness campaigns, workshops, and outreach initiatives. Improving citizen preparedness will help the municipality's digital transformation programme succeed more broadly, encourage more use of digital platforms and ease the strain on frontline employees.

CONCLUSION AND SUGGESTION

The study examined how the Fourth Industrial Revolution is impacting the labour dynamics, job security, and organisational preparedness of a South African municipality. The results show that 4IR presents a complex organisational and human challenge, rather than just a technological change. The lack of skills, inadequate training, job uncertainty and imprecise leadership communication result in increased anxiety among employees. These challenges are made worse by the municipality's inadequate infrastructure and poor change management, which lead to an increase in workload, psychological stress and a loss of institutional expertise due to employee turnover.

The study concludes that the municipality lacks a coherent plan to direct its digital transformation and is not yet sufficiently equipped for the 4IR. Instead of increasing efficiency, 4IR technologies run the risk of increasing instability in the absence of appropriate leadership guidance, staff involvement, and organized planning. Adopting 4IR successfully in the public sector requires comprehensive organisational changes that give equal priority to people, procedures and technology.

The study was limited to a single local municipality; therefore, its findings cannot be applied to other municipalities with varying organizational cultures, resources and digital preparedness. The findings may not accurately reflect the experiences of all

municipal employees in South Africa, although they provide insightful information. A small purposive sample of 15 participants was used in the study. Even if data saturation was achieved, the viewpoints that were recorded might not fully represent the range of opinions present in the municipality. Workers who decline to participate may have different views, especially if they are hesitant to discuss organizational difficulties or job insecurity.

The qualitative method relied on self-reported experiences, which may have been influenced by emotions, recollections, or an unwillingness to publicly criticize leadership. Due to power dynamics at work, some individuals may conceal significant information, even if confidentiality is guaranteed. The study may have overlooked ideas from workers who were not exposed to the new systems or who were indirectly affected by digital transformation, as it primarily focused on workers with direct interaction with 4IR technology. This could have limited the breadth of experiences examined. The impacts of 4IR on employee turnover, workforce preparedness and organisational adaptability may continue to change because the study was conducted during an ongoing phase of digital transformation. As a result, the evaluation is not a thorough longitudinal study but rather a snapshot in time.

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