

# Efficacy of continuous employee learning and development in the South African public service between 2014 to 2023 era

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Copyright © 2024 by author(s). Journal of Infrastructure, Policy and Development is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license. https://creativecommons.org/licenses/ by/4.0/ Abstract: Modern technologies have intensified innovations and necessitated changes in public service processes and operations. Continuous employee learning development (CELD) is one means of the molecule-atom that keep employees motivated and sustain competitiveness. The study explored the efficacy of CELD in relation to modern technology in the South African (SA) public service departments between 2014 to 2023 era. Departments are faced with challenge of equipping their employees with adequate professional and technical skills for both the present and the future in order to deliver specific government priorities. Data for the study were gathered utilizing a qualitative semi-structured e-questionnaire. The study sample consisted of 677 human capital development practitioners from national and provincial government departments in SA. The inefficacy CELD and the inadequacy of technological infrastructure and service delivery can be attributed to the failure by executive management and senior managers to invest in CELD to prepare employees for digital world. It is recommended that departments should use Ruggles's knowledge management, Kirkpatrick's training, and Becker and Schultz's human capital models as sound measurement tools in order to gain a true return on investment. The study adds pragmatic insight into the value of CELD in the new technological environment in public service departments.

**Keywords:** continuous employee learning and development; human capital development; public service; technological revolution

# **1. Introduction**

Technology advancement in the 21st century necessitates organizations to evolve and to adopt various cardinal strategies to constant innovation, creativity and adaptation to dynamic ways of working (Moloi and Mhlanga, 2021). However, new technologies pose a serious threat to traditional modes of working and employment (Moloi and Marwala, 2020). This implies that organizations across the public and private sectors need to reinvigorate their human capital development (HCD) policies, processes and practices to remain zealous and robust. Human capital development is defined as the "levels of requisite skills, knowledge, expertise, abilities, experiences, values and social assets" (Pepple et al., 2022) that are vital for the organization and employees' growth, development and wellbeing (Eigbiremolen and Anaduaka, 2014). Therefore, CELD is cardinal underpinning the success and strengths of an organization (Moloi and Mhlanga, 2021). In this regard, Mamburu (2020) asserts that CELD is been characterised by cost-efficiency, productivity, motivation and growth, and leads to a positive return on investment (ROI).

Public service employees require nurturing and motivation if they are to render

better service and ensure continuous productivity and performance (Public Service Commission (PSC), 2021; Shkoler and Kimura, 2020). CELD is a valuable moleculeatom that can help to consociate people and sustain organizational competitiveness (Moloi and Mhlanga, 2021). Technological advancement in the form of 4IR in SA today means that technological transformations is needed *inter alia* in government and its operations. Whereas previously 4IR was perceived as a politician's vernacular and not being of any great importance. Following the Covid-19 pandemic both the public and private sectors have embraced it and the opportunities it offers. The technology revolution has changed the world of work, with new employee roles and activities and new professional and technical skills and expertise being required. Therefore, both organizations and employees should approach learning as a continuous or lifelong process (Moloi and Marwala, 2020), and employees will need to be reskilled or upskilled to face and overcome the current and future uncertainties (Mphaphuli, 2021). However, this does not always characterise the departments, despite the introduction of comprehensive and sustainable HCD interventions in place.

The Public Service Commission (2015, 2017, 2021), supported by various scholars, has raised concerns regarding the inadequate implementation of CELD in the public service between 2014 and 2023 era and the extent to which departments are able to emblematise the modern technological innovations in all their operations. Stats (2021) and Agrawal et al. (2020) make the observation that all three spheres of government and its institutions are faced with the challenge of continuously equipping its employees with adequate current and future professional and technical skills in order to perform better and fulfil specific government priorities. This finds reflection in the current status quo in the public service departments, where retention of competent staff is low, attrition of competent staff is high, and service delivery is dismal. Agrawal et al. (2020) maintain that as a result of modern working life and technological intelligence, organizations across sectors should champion the modification of jobs and empowerment of employees to acquire the necessary skills sets, knowledge, expertise and experiences in order to remain effective and efficient. However, the modernisation and reform of public administration remains the ultimate challenge for most public service.

These challenges were exacerbated by the resurgence of Covid-19 pandemic, which in essence shut down both the private sector and government operations as the country entered lockdown in March 2020 in an effort to curb the spread of the pandemic, in the process austerely restricting the rendering of services to stakeholders. It was notable during the course of the pandemic that vigorous HCD is vital, *inter alia* for the public service to thrive. Public service HCD units are faced with enormous challenges relating to improving the professional and technical skills, knowledge, expertise, productivity and behaviour of employees at all levels to effectively adapt to or champion new technological prerequisites. A critical question, therefore, is whether the public service has developed adequate skills, knowledge, productivity and behaviour to equip employees to thrive in times of complexity and unpredictability.

The aim of the study was to explore the efficacy of CELD in relation to technological developments in the SA public service departments between 2014 and 2023 era. The objectives of the study were to examine the efficacy of CELD and to determine the impact of modern technology innovations and effectiveness on

employees' skills, knowledge, productivity and behaviour to optimise efficiency and effectiveness.

The study is significant in its potential contribution to overcoming potential shortcomings relating to CELD and improve understanding of HCD practices in a dynamic work environment, and consequently abet public service departments and other institutions in measuring and evaluating CELD and return on investment (ROI) in it. These shortcomings translate into a dearth of critical skills and expertise that could impede governments' quest to build an ethical, professionalised and meritocratic-oriented public service.

# 2. Theoretical foundation

### 2.1. Continuous employee learning and development

Continuous employee learning and development (CELD) is widely recognized as an indispensable and efficacious integrated set of planned programme to equip employees with new tangible and intangible skills, knowledge, expertise and behaviours or offer them professional development opportunities (Daniel, 2018; Eigbiremolen and Anaduaka, 2014; Pepple et al., 2022). Andriotis (2021) adds that it motivates employees "to swirl their own continuous and long-term personal growth and career goals" to leverage organizational competitive advantage. This implies that CELD is an ongoing or lifelong initiative, moving employees and organizations forward. These views echo the quote from Lincoln Abraham (n.d.) that "I am a slow walker, but I never walk backwards". CELD stimulants employees (Pfeiffer, 1994) and "equips them to face uncertainties, take effective decisions in time, and handle challenging work tasks" (Daniel, 2018).

# **2.2.** Human capital models in relations to continuous employee learning and development

The study was anchored in Ruggles's knowledge management model, Kirkpatrick's training model and Schultz's human capital model.

### 2.2.1. Knowledge management model

Ruggles's (2001) knowledge management model identifies four categories of employee's learning and development, namely cognition, customization, accumulation and context. As part of cognition, knowledge of employee behaviour is typically used to inform the design of learning and development programmes. Customization entails collecting knowledge about individual employees to develop employee profiles, and to tailor training needs (in the public service context this is referred to as a workplace skills plan) and training offerings to suit specific employees or groups of employees. With regard to accumulation, the concern is less with the individual employee and more with profiles of employee knowledge and behaviour in general, which offer insights into strategic institutional direction. Lastly, at the context level, the relationship between learning and development programmes and employee knowledge forms the basis for evaluating performance against objectives, and informs the review of those objectives.

#### 2.2.2. Kirkpatrick model of training

Kirkpatrick's (1956) four-level model denote four criteria, namely reaction, learning, behaviour and results. Reaction and learning have an internal focus, while behaviour and results have an external focus. The external criteria tend to be prone to changes that take place externally, such as in the political, economic, social or organizational contexts, or in the area of technological advancement (4IR) (Alsalamah and Callinan, 2021; Arthur et al., 2003; Cahapay, 2021; Kirkpatrick and Kirkpatrick, 2009; Praslova, 2010; Ruiz and Snoeck, 2018). Reaction entails the description of employees' "feelings and impressions" regarding CELD and provides "information about whether or not employees found the CELD valuable" (Alsalamah and Callinan, 2021). This criterion is multidimensional (Alsalamah and Callinan, 2021), as it measures employees' levels of satisfaction with CELD. Learning explores the extent to which employees' skills, knowledge, abilities and behaviour (i.e., goals, motivation and attitude) relating to CELD improved (Deodhar and Powdwal, 2017). Behaviour relates to how employees transfer the acquired skills, knowledge and behaviour to the workplace (Kirkpatrick and Kirkpatrick, 2009). The reinforcement of positive conditions and behavioural change are crucial in this instance for yielding a positive work performance (Ruiz and Snoeck, 2018). Lastly, results measure the effect of CELD on the organization with regard to ROI, focusing on improved efficiency and effectiveness (Alsalamah and Callinan, 2021; Cahapay, 2021; Praslova, 2010) and service delivery. Therefore, in the public service context, it is vital for line managers and supervisors to take into account both quantitative and qualitative considerations during the mid-year review and annual assessment, including the employee development plan as well as observation to gain insight into whether the knowledge, skills and behaviour add value into practice or actual work.

#### 2.2.3. Human capital model

The human capital model was devised by Schultz (1961) and globally advocated by Becker (1964). This model identified different kinds of capital, such as investment in education, training and development and health as being the most valuable capital, with an ROI that can be accounted for (Becker, 1993; Schultz, 1993). An example of health as capital is the world experience of the Covid-19 pandemic, which forced both the private and public sectors to provisionally shut down, embrace technology, and devise new ways of managing employees in order to survive. Other forms of capital, such as talent, behaviour and effort, can be added to the first four (Davenport, 1999), with great emphasis on investment in skills, knowledge, abilities and behaviour (Becker, 1993). The views of Becker (1993), Davenport (1999) and Schultz (1993) accentuate the importance of a results orientation rather than an activity-based orientation. Results orientation focuses on impact, cost-benefit, output focus, and performance effectiveness as well as shift in HCD policy and practice; in this it differs from an activity-based orientation, which focuses on input, a routine, and so on (Wuttaphan, 2017).

An analysis of the views of Becker (1993), Davenport (1999) and Schultz (1993) corroborate the following points raised by Wuttaphan (2017) that (a) Skill is expertise utilized at work such as the human skills and job mobility. (b) Knowledge includes intelligence quotient, and the direct and common knowledge required to work. (c).

Talent is an employee's natural traits, which natural and can be enhanced through development. (d) Behaviour involves both the covert and overt expression of ethics, personal beliefs, and norms. Lastly, (e) Effort is involved when employees attempt to exploit their natural or individual resources such as time devoted to work, knowledge, experience, ability to perform and advance talent. Thus, employees can build up skills, knowledge, expertise, behaviour and abilities through education, training and development by taking advantage of various opportunities, resulting in increased lifelong learning and enhanced performance of both an employee and organization (Becker, 1993; Davenport, 1999; Schultz, 1993; Wuttaphan, 2017). Therefore, investment in CELD is a vital ingredient in outsmarting competitors, sustaining institutional memory and enhancing an employee's productivity, satisfaction, employability and economic wellbeing (Pepple et al., 2022) and ensuring greater efficiency, effectiveness, motivation, agility, a sense of belonging, emotional intelligence, citizenship behaviours, innovation and wellbeing (Anvari et al., 2023).

The models devised by Ruggles (2001), Kirkpatrick (1956) and Schultz (1961) were adopted in the study for the following reasons: (a) the models are congruent with the fact that an organization needs to take cognizance of absorptive ability in the form of acquisition, adaptation, transformation and exploitation (Noblet et al., 2015), which have the capacity to boost an employee's productivity, motivation and satisfaction (Wuttaphan, 2017); (b) the models are related, despite differences in some characteristics, and provide a solid foundation to motivate line managers/supervisors to empower employees with intellectual capital to successfully execute their current and future responsibilities to leverage their productivity, motivation, engagement and job satisfaction; (c) none of the models can be applied in isolation, but should be used in sync with other training models because of their changing relationship and interrelationship to yield a positive result (Nhede et al., 2022) and also discourage employee attrition; (d) the models emphasise value creation, focusing on the growth and improvement of employee skills, knowledge, expertise, behaviour and ability to increase performance and sustain competitive advantage (Wuttaphan, 2017) and also to boost an employee's personal, economic and social well-being (Pepple et al., 2022); (e) the models are universally acknowledged and draw on systems thinking to obtain accurate data and facts in growing and unleashing employee expertise through CELD to the advantage of their organization (Cahapay, 2021; Kirkpatrick and Kirkpatrick, 2009; Praslova, 2010; Ruiz and Snoeck, 2018). Systems thinking focuses on cognizance and analyses of systems interconnectedness and people interactions within the organization, and provides a solution for heterogeneous problems by overpassing the diverse management levels (Goede, 2005; Tate, 2009).

# **2.3.** The public service human capital development frameworks, strategies, interventions and prescripts

CELD and the use of modern technologies are fundamental versatilities to a number of government strategies, interventions and prescripts for building a capable, professional and ethical public service. These include, *inter alia*, the Human Resource Development for the Public Service (HRD-PS): Strategic Framework vision 2015; Human Resource Development Strategy for South Africa (HRD-SA) 2010–2030;

Department of Public Service and Administration (DPSA): Guideline for Mentoring, Peer Support and Coaching (GMSC) for the SMS, 2015; Medium Term Strategic Framework (MTSF) (2019–2024); National Development Plan (NDP) Vision 2030; White Paper on the Transformation and Modernisation of Public Administration (WTMPA); and lastly, the Constitution of SA, 1996; the Public Service Act, 1994, as amended; the Public Service Regulations, 2016; the Skills Development Act (SDA), 1998 as amended and Skills Development Levy Act (SDLA), 1999.

HRD-PS emphasises the development of talent management practices aligned with departmental mandates. HRD-SA and DPSA: GMSC for senior managers focuses on addressing, inter alia, the use of technological innovations for the public service and fostering strategic partnerships among public and private higher learning institutions and professional bodies for the continuous improvement of the skills, abilities and knowledge of public servants to achieve high performance and government competitiveness. The MTSF and NDP promote an ethical, merit-based and professional public administration that facilitates professional and technical development in the areas of "knowledge and skills, financial management, governance and accountability, operational (business process and practice), information and communication technology infrastructure, and project management" (NSG, 2020). The WTMPA provides guidance on the modernisation of public administration and its operation to deliver services to the public and enhance online learning (DPSA, 2020). Section 195(1)(a) and (h) of the Constitution, 1996 sets out principles for standards of professional ethics, "the cultivation of good human resource management, careerdevelopment practices and personnel management practices" based on "objectivity, fairness and competence". Chapter 3(7)(b) of the Public Service Act, 1994 provides that executive management are responsible for the effective and efficient learning, development and utilization of employees, and also to ensure ethical management and administration in their departments. Furthermore, the Public Service Regulations, 2016, specifically Regulations 74, 75, 76 and 77, underscore the importance of learning and development interventions for building skilled employees. Lastly, the SDA and SDLA denote a fundamental approach to promote CELD as lifelong learning supported by the employer to improve employees' knowledge, behaviour and prospects at all stages of their working lives. This means changing current negative behaviour on the part of management of departments in favour of embracing and fully investing in CELD as a key to enhance service delivery. However, these interventions, strategies and prescripts are not positively advanced in enhancing human capital development and tend to be disregarded or marginalised in public service departments.

# **2.4.** The public service continuous employees learning and development context

To be effective and efficient, public service departments depend on the competencies, norms and standards, values and principles, and performance of their employees (Mdhlalose, 2020). Mdhlalose (2020) points out that SA government departments spend millions of rand on CELD, yet continue to perform poorly. After the 2009 SA national elections, the overwhelming majority of appointments in public service departments were ANC party loyalists with inadequate skills, no experience,

or no qualifications. Zondo (2022) further affirmed that the ruling party's (ANC) cadre deployment policy and practice was unconstitutional and illegal, and violated section 195 of the Constitution, which proclaims that appointments in the public sector must be based on competence, objectivity and fairness. Zondo (2022) draws attention to the lack of ethics, and the dishonesty and manipulation that led to the recruitment and selection of incompetent or unqualified people for key management positions, which had a negative impact on the physical and psychological health of competent employees. As a result, investment in CELD was disregarded in most departments (HRDC, 2021), despite the public service having various HCD strategies, frameworks and mechanisms that advocate CELD interventions. This practice counter chapter 13 of the NDP, which has the purpose of "ensuring the appointment of suitable skilled people who demonstrate a professional ethic and commitment to the Public Service to effectively implement public policy priorities and to deliver public services" (PSC, 2022).

Continuous employees learning and development in the public service is a vital means to equip the workforce to deal with changing political, social, economic and technological revolution demands and challenges in the quest to build an ethical, meritocratic and professionalised public service (Moloi and Marwala, 2020; NPC, 2021; PSC, 2021) and to render quality services to citizens (DPSA, 2013). Nhede et al. (2022) argue that employee retention, competitive advantage in the provision of services to stakeholders and constant technological changes require the public sector, particularly government, to establish novel CELD strategies to embrace technological changes. Therefore, public service employees need to constantly acquire the skills, knowledge and behaviours required to use modern technologies and to resolve service delivery problems. Studies (DPSA, 2020; Moloi and Marwala, 2020; Nhede et al., 2022; NPC, 2021; PSC, 2021) are in agreement that employees should be recruited, transferred laterally and promoted on merit, and undergo continuous development to perform actual and prospective jobs. In the public service context, CELD is managed, monitored and implemented through the performance management system, which focuses on short- and long-term employee development plans to identify the extent of CELD required (Daniel, 2018) and to achieve tangible employee growth and success (SHRM, 2022). In other words, identifying individual productivity levels, performance deficiencies and clear CELD interventions is necessary for the accomplishment the standard of performance desired or to close the gap identified.

Scholars are of the view that prioritising CELD enhances employee confidence, productivity, motivation, satisfaction and commitment to organizational performance (Daniel, 2018), and assists organization in retaining valuable employees rather than recruiting new ones (SHRM, 2022). Daniel (2018) and SHRM (2022) assert that if it is properly planned, CELD can result in employees who are more ethical, efficient and productive, and can ensure ROI. Scholars argue that if an acceptable ROI is to be achieved, key result area or key performance indicators should be smartly developed and effectively monitored to measure and track employees' progress and training effectiveness (Mamburu, 2020). However, the public service performance management and development system (PSPMDS) remains a serious challenge in the public service (PSC, 2018). PSC (2018) and Tyokwe and Naicker (2021) state that the effectiveness of the PSPMDS is diluted by the deliberate lack of adherence to the

system, bias, dishonesty on the part of stakeholders, and the fact that some managers or supervisors use it as a means to punish less favoured, hardworking employees at the expense of favoured employees. This results in dissatisfaction with the final performance scores or outcomes, which often leads to frustration, low employee morale and disloyalty as well as complaints and grievances (PSC 2018; Tjale et al., 2019). Madlalose (2022). Findings by Tyokwe and Naicker (2021) corroborate the findings of this study that public service executives and senior management seem either consciously or unconsciously not to understand the PSPMDS or do not see it as an important tool adding value to CELD as per the agreed or desired performance. Ultimately, this erodes the purpose of the PSPMDS to enhance employee performance and accomplish government goals (Tyokwe and Naicker, 2021). This is because "various executive and senior management allegedly obstruct the resourcefulness of HCD, and particularly line managers do not consider their HCD accountabilities seriously" (Mtotywa and Mdlalose, 2022).

Some studies suggest that poor CELD and problems relating to the PSPMDS are exacerbated by the size of the public service (Moullin, 2016; Swanepoel et al., 2013). Our study does not support the findings of Moullin (2016) and Swanepoel et al. (2013), the public service's CELD and PMDS are made to appear complex, and that this has hindered the measurement of ROI (Mdhlalose, 2020; Zondo, 2022). The Departments of National Treasury (Finance), International Relations and Cooperation, and Forestry, Fisheries and the Environment are good examples of investment in and championing of CELD aligned with employee development plans, and many other departments can learn from them. However, this is misplaced antecedent in most public service departments. Daniel (2018) asserts that inattention or inadequate CELD makes employees feel "less productive, less creative; less of an asset to the organization" and therefore reluctant to go the extra mile. This explains the failure of most departments to render efficient service and retain competent, qualified and skilled staff (Mdhlalose, 2020, Zondo, 2022).

# 3. Method

A qualitative research design was utilized for the study. This design allowed for the identification and interpretation of individuals' experiences in the work environment (Serfontein, Basson and Burden, 2009). Data were gathered by means of a structured e-questionnaire comprising 27 questions.

# 3.1. Data collection

Employees from 28 of 42 national and 96 of 111 provincial public service departments participated in the study. A purposive sampling method was used to select 677 HCD practitioners for participation in the study. The employees of the departments helped in distributing the electronic questionnaire to both the national and provincial departments, and in ensuring that they were completed and returned. The credibility of the study (Lincoln and Guba, 1985) was ensured through a virtual engagement with participants via Microsoft Teams to beseech further insights and validate the findings of the study.

#### 3.2. Data analysis

Data collected from two spheres of government departments were organised and analysed employing thematic analysis. The aim of thematic analysis pursues to discover the themes instrumental in the data and these themes were scrutinised, delimited and labelled (Braun and Clarke, 2006). The selection procedures used for data analysis were suitable for naturalistic study and thematic design. Researchers read and reread data consolidated from electronic questionnaires to ensure the transparency and replicability of the study. They next analyze the data by connecting it to the research objectives to determine its underlying meaning, creating data atoms as 'codes'. Subsequently, relevant themes were constructed using data reduction, which involved identifying connections, similarities, and inconsistencies across codes. Finally, themes were constructed, integrated, and clarified. Two main themes and their subthemes were created by logically synthesizing themes in relation to one another and to existing literature.

### 3.3. Ethical statement

The PSC as the oversight institution granted permission and ethical clearance for the study. Participation was voluntary, with the return of the e-questionnaire accepted as consent to participate in the study. The study adhered to all ethical standards applicable to research involving direct contact with human subjects. The PSC adheres to section 195(1) of the Constitution of SA. Anonymity and confidentiality were ensured, with participants receiving the assurance that results would be generalized and utilized exclusively for the purposes of the study.

# 4. Results

Two themes and their sub-themes were extracted and categorised to delineate the constraints experienced by the public service departments in the implementation of CELD. These themes were treated in light of the models of Ruggles (2001), Kirkpatrick (1956) and Schultz (1961). These primary themes were: efficacy and applicability of human capital development policies, frameworks and strategies; and impact of modern technology innovations and effectiveness (4IR) on employees' skills, knowledge, productivity and behaviour.

# 4.1. Efficacy and applicability of human capital development policies, frameworks and strategies

The study revealed incongruity in the way in which departments manage and apply HCD policies, frameworks and strategies, which is probably attributable to differences between the functions of departments and the services they provide. The participants were heedful of the HCD policies, regulations and strategies in place, which abetted their departments in the application of efficacious CELD interventions and management. However, some national and provincial departments revealed themselves not to consider the HCD policies, but rather to make use of the workplace skills plan (WSP) as a guide. Congruent with Mdhlalose (2020), the quality of WSP information in most departments was found to be poor, employees' development plans were found not to be aligned to the WSP, and most departments were found not to adhere to the WSP requirements provided by the Public Service Sector Education and Training Authority.

The dominant concern expressed by participants (Letter and number to retain anonymity identify participants) was that the employer (i.e., DPSA) and Department of Labour (2009) operate separately from each other, and have introduced sets of HCD legislation, strategies and frameworks within the public service, but with a greater focus on compliance rather than on ensuring effective scrutinisation, evaluation and implementation for the purposes of improving performance and service delivery. Therefore, to some extent this makes the implementation of HCD legislation, strategies and frameworks seem unimportant and ignored in the public service. Moloi and Mhlanga (2021) and Uleanya et al. (2021) express the view that policy direction regarding the implementation of HCD strategies, frameworks and activities is the primary concern, as HCD units are strategic partners in shaping employees' learning and professional development and enhancing productivity and the behaviour expected. Our study implies that the departments should prioritise scrutinisation and appraisal of HCD strategies and frameworks that facilitate robust design and implementation of policies that can enable departments to adopt best practices. Participants attested to some of the critical challenges relating to the efficacy of HCD policies, frameworks and strategies such as inadequate and rigid budgets, lack of performance management feedback by supervisors/managers, a rigid supply chain process, and supervisors'/managers' lack of respect for subordinates and lack of understanding during the Covid-19 pandemic.

#### 4.1.1. Inadequate and rigid budget

The study revealed serious problems that prevented departments from implementing HCD policies, frameworks and strategies effectively to ensure effective and efficient public administration. Reasons included that some learning programmes require employees to travel a distance and involve the costs of shuttle transport, air tickets and hotel accommodation in addition to programme fees, and also that some training courses are only offered on e-learning platforms, requiring modern information and communication technology (ICT) infrastructure, which is not always possible in situations where budgets are constrained. Best concised responses of two participants are given below.

"Public service department's ICT infrastructure is obsolete, not reliable and expose a potential risk such as malicious ICT hacking, loss of information/files due to fire or damaged by water leakages with no credible backup system. Charlotte Maxeke hospital, amongst others, was cited as a significant example of nature." (P8)

"The outdated ICT system erratically impact on department operations and confidentiality." (P13)

Some participants identified payment of professional body membership registration/fees as another key concern, as some professions and technical learning programmes require registration with a particular professional body either prior to or post completion of a programme. The departments funds certain professions and technical occupations, which creates a degree of unfairness and discrimination, despite government efforts to professionalise the public service. Therefore, this practice dissuades some departments from permitting employees to attend training opportunities as a way of saving costs.

### 4.1.2. Rigid supply chain process

Participants mentioned that both national and provincial departments are required by the Public Finance Management Act, 1999 to obtain at least three quotations when acquiring services of any qualified and accredited service providers (providers of learning programmes); this can delay training and have a negative effect on the efficacy of learning programmes. Better views of three participants are quoted below.

"The practice of sourcing three quotes straight when dealing with some government entities such as National School of Government (NSG) is perplexing and energy wasting because in some situations the learning programmes had to be abandoned or deferred." (P56)

"The lack of accredited service providers in crux trades of certain departments and specialised work field (e.g., in Transport, Science and Innovation departments etc.), and also the prerequisite number of attendees per available learning programme impact inimically on effectiveness of HCD. The latter is a maximum challenge as most departments have to send one to four employees for training whereas the prerequisite is more than 10 attendees per programme." (P106)

"Most employees are obliged to attend some learning programmes tuition at the NSG that are not addressing employee's employee development plan challenges or add value to the actual work." (P109)

# 4.1.3. Lack of performance management and development feedback by line managers/supervisors

It is common knowledge that line managers/supervisors are expected to fulfil open-ended responsibilities and multifaceted roles, such as communication with management and employees, discipline and dispute resolution management, administrative and financial duties, performance management, monitoring the implementation of the annual performance plan and operation plan, and human capital development.

The main responsibility of line managers/supervisors is to support employee work, learning and development to achieve a set of goals and objectives (Alsalamah and Callinan, 2021). The line manager's/supervisor's feedback at all times is crucial prerequisite for employee productivity, performance and success, and it should be provided as promptly and rapportly as possible to enable the employee to act on it (DPSA, 2013; Daniel, 2018; Mdhlalose, 2020; Shkoler and Kimura, 2020). The study demonstrates insufficient performance feedback by most managers/supervisors to their subordinates, which constituted an obstacle to CELD efficacy. This finding confirms a study by Mdhlalose (2020) that most line management in the public service disregard employee performance management feedback and development plans, instead insisting on a qualitative narrative from the employee. They therefore do not acknowledge this as paramount and their main responsibility, and the management of CELD therefore suffers. Reio et al., (2017) assert that without meaningful and empathetic feedback, no change in employee skills, productivity and behaviour will happen. Participants explained that some managers/supervisors were unwilling to

provide feedback about employee performance in terms of learning programmes attended and whether these responded to the gaps identified or yielded the desired outcome, thus constituting ROI.

In addition, some HCD units compel employees to attend learning programmes that do not add value to their profession or field of specialisation or form part of their employee development plans, but rather are in line with the WSP that is used for compliance and auditing purposes. This brings to mind a quote from Aristotle (n.d.) that "educating the mind without educating the heart is no education at all". This quote advance Maslow's hierarchy of needs suggestion that there is more to learning than just pedagogy. Further, the findings of this study are consistent with Mdhlalose's (2020) observation that most government departments arrange learning and development programmes that are irrelevant to the tasks performed by employees and "ROI has generally been low concerning the impact of CELD on department performance" and service delivery. The PSC (2011) states that at worst most departments "does not have a tool to measure the impact of learning and development" and ROI.

#### 4.1.4. Lack of respect of supervisors/managers towards subordinates

Lack of respect on the part of supervisors/managers towards subordinates attending a learning programmes and a tendency to overlook the importance of training and development in the public service is widespread and venerated as a norm, despite sound HCD strategies, prescripts and legislative frameworks. Participants mentioned that there are some unprincipled senior managers, including some accounting officers, who grant approval for subordinates to attend particular training programmes, but later instruct supervisors/managers to withdraw employees in the middle of training; abandoning a paid-up training programme in this way could qualify as poor compliance, and/or fruitless and wasteful expenditure. The findings of this study are consistent with those of Alsalamah and Callinan (2021), who found that the efficacy of CELD is substantially dependent on management commitment and organization support, which plays a paramount role in the evaluation and measurement of CELD outcomes. However, these findings are commonly ignored in the public service. Also, after having attended a particular training programme or having completed a particular course of study, an employee is at times isolated or made to continue working outside of the area in which they have qualified or specialised. These findings suggest poor assessment of employees and evaluation of CELD. This could explain why some public service employees lack creativity, are less productive, and feel themselves to be less of an asset to their department. Consequently, some employees feel too demoralised to undergo current and future CELD programmes. Daniel (2018) states that such destructive management practices often undermine employee motivation to enrol for future training programmes, since no matter how developmental their training, it will serve little purpose-yet training should be an excellent motivational factor related to professional and personal drive, with employees being enthusiastic about solving work-life problems. Moloi and Mhlanga (2021) in this regard make the observation that in most government departments post the 2000 national elections there tended to be a mismatch between people and qualifications, skills and experiences, and a widespread disregard for CELD.

#### 4.1.5. Problems arising from Covid-19

The present study demonstrated that the unexpected onset of the Covid-19 pandemic and 4IR as prime challenges had both positive and negative effects on the efficacy of CELD. Indeed, the pandemic placed pressure on employees to acquire new skills, reskill, and upskill to acclimatise to the digital world (Mphaphuli, 2021). OECD (2020) further reveals that Covid-19 has brought about a worldwide reliance on connectivity and interconnectivity for the delivery of goods and rendering of services. This shows that organizations globally do not function linearly, but instead participate in a living system of political, social, economic, technological and environmental systems that are constantly being updated. The participants summed responses are that:

The pandemic caught departments unprepared, and they had to rapidly devise new innovative ways of operating. Covid-19 fundamentally changed the world of work, as employees had to work remotely to avoid human contact to minimise the spread of the virus. In response to the pandemic and the technological developments adopted in response to it, a remote working model and virtual meetings were introduced, which necessitated departments to purchase high-tech laptops and grant airtime and data allowances to enable employees to connect and access the internet and workplace intranet remotely.

Remote working entails employees performing their work responsibilities or duties away from their traditional workplace or from different locations (Sucheran and Olanrewaju, 2021). Some participants explained that in their departments remote working was constrained due to budget limitations on support in the form of laptops, and the data allowance was made available only to certain employees, depending on the criticality of their functions. These findings are consistent with those of Sucheran and Olanrewaju (2021), who reported that the pandemic and sudden technological changes had a negative impact on business operations and the lives of employees and their satisfaction and well-being, which suffered as a result of remote working and the pressure to be more productive. In addition, participants' achoed that remote working was made more difficult by working longer hours, the lack of resources, reduced levels of human interaction, poor internet connectivity and a non-conducive home environment. However, Magwentshu et al. (2019) and Uleanya et al. (2021) argue that the remote working model is a new phenomenon that African governments should find worth adopting due to its cost effectiveness to employees and developments in digitalisation as another mechanism for minimising operational costs and improving ICT infrastructure. However, it may not be suitable for all employees. With regard to sustaining optimal levels of productivity and performance, Sucheran and Olanrewaju (2021) identify the main advantages of flexible working arrangements as being "increased productivity, spending less time travelling to work, the feeling of making a positive contribution to the environment and being more focused due to less office distractions and interruptions from colleagues". For the remote working arrangement to be implemented effectively in the public service a policy shift is imperative, as government is transversal in nature (Marwala, 2020). Further, public service policy makers "should make concerted and sincere efforts in allocating adequate resources across all levels so it does not harm productivity and wellbeing levels to a significant effect" (Sucheran and Olanrewaju, 2021).

With regard to policy shift, most participants explained that their departments were at the time reviewing various policies in response to the Covid-19 pandemic and difficulties relating to the technological advancements (4IR developments) required to deal effectively with operational and strategic matters, including training. The outbreak of Covid-19 and remote working models resulted in the majority of employees feeling anxious about attending classroom-based learning programmes, as they feared exposure to infection. For this reason, most departments adopted online learning platforms. However, there were a number of employees at all levels who were technologically illiterate and not comfortable attending online learning programmes or working remotely. There were also a number of employees who used both the pandemic and the remote working arrangement as an excuse not to undergo training, citing insufficient organizational support or network connectivity challenges. The study revealed that some departments did not arrange any training for their employees, either because they were not technologically equipped to do so, or because funds were misappropriated due to the relaxation of regulations. A further obstacle was that most training service providers registered on the government database were caught unprepared by the pandemic and lockdown, and did not have plenteous time to adapt and align their traditional pedagogy to online teaching.

Several studies caution that online teaching should not involve merely copying classroom content and pasting it into an online platform, but should rather accentuate critical thinking through active stimulating learning activities (ASU, 2022; Basubramanian, 2020). This explicate why the training service providers needed more time to align and adapt their traditional pedagogy to an online/virtual learning platform. The findings of this study corroborate those of Mhlanga and Moloi (2020) and Uleanya et al. (2021) that in most SA organizations both prior to and following the Covid-19 pandemic, the transition to online teaching and learning technologies was slow and limited in comprehensiveness.

Covid-19 indentured the public service to realise the value of a flexible remote working arrangement for certain job categories and at certain levels to optimise efficiency and productivity in rendering quality services. Most participants stated that it compelled the public service departments to invest in and embrace high-tech modern ICT innovations to replace outdated technology. These findings are consistent with those of Moloi and Mhlanga (2021) that the government was found unprepared to deal with the Covid-19 pandemic and the technological innovations of 4IR, and therefore needed to speedily reassess, adapt, prioritise and champion technologies, as many jobs were at risk and most departments were using outdated technologies. Furthermore, they needed to engage in a process of intensive policy review and systems reconfiguration.

# 4.2. Technology innovations and effectiveness influencing employees' skills, productivity and behaviour

Compared with other African countries, South Africa is known to have embraced the technological revolution (Nhede et al., 2022; The Economist Intelligence Unit, 2018) and to cultivate the skills needed to ensure competitiveness (Magwentshu et al., 2019). However, this does not always apply in all the government departments. The results of this study establish that the outbreak of Covid-19 necessitated the introduction of technological changes, which prompted departments to replace outdated and neglected ICT infrastructures and embrace high-tech ICT infrastructure in keeping with 4IR. Mhlanga and Moloi (2020) and Nhede et al. (2022) are in agreement, however, that although there were exceptions, most government departments lagged in fostering the 4IR skills, knowledge and behaviour needed for competitiveness in a technology-driven society. Despite these findings, there were few departments that adapted and progressed greatly to the Covid-19 challenges and the utilization of modern technology to optimise employees' effectiveness and efficiency to improve service delivery.

Apart from playing a role in operational requirements and strategic issues such as e-recruitment, e-submissions and e-signatures, virtual interviews and virtual offices, remote working has stimulated some employees' morale, enthusiasm and confidence to explore more innovative ways to interact, learn and perform better to improve service delivery. Some employees had completed or were in the process of completing online learning programmes offered by the National School of Government (NSG). Online learning platforms draw better attendance of training programmes than traditional, classroom-based learning, and could even be undertaken after working hours, especially in the case of senior or middle managers; this could apply equally to staff at lower levels. Technological developments have therefore required departments to reassess current and future skills and behavioural competencies required to meet operational and technological needs. Lastly, remote working has inculcated new digital interactional behaviour and skills, and staff are able to interact virtually and in a cost-effective way with diverse stakeholders from other departments and countries by means of software such as Microsoft Teams and Zoom. However, most district and regional offices did not display the same enthusiasm about remote working as compared to the provincial and national departments. Participants from most of the district and regional offices stated that internet and departmental intranet connectivity remained a serious challenge and nothing being done to improve the situation; ultimately, this had a negative impact on their behaviour, some operational requirements, and service delivery.

These findings affirm the finding by Sucheran and Olanrewaju (2021) that public servants working in the outskirts of cities or metro municipalities face a myriad of challenges, including a lack of resources, poor connectivity and a non-conducive home environment, which have a dire impact on their lives. Participants identified a frustrating lack of coordination and implementation of the HCD policy and CELD among regional and provincial offices. Magwentshu et al. (2019), Nhede et al. (2022) and Uleanya et al. (2021) all underscore that in the context of 4IR, the development of employees' skills, both soft and technical, is vital for both the employees themselves and the growth of the organization. Scholars postulate that technological innovations/revolutions have significant direct and indirect impact in areas such as organizational policies and systems, economic strength and competitiveness, and employee morale, skills, productivity and behaviour (Moloi and Marwala, 2020; Moloi and Mhlanga, 2021; Uleanya et al., 2021).

The Public Service Commission (2021) of SA argues that in order for public service departments to thrive in the modern technological world and achieve

developmental and merit-based state, multiskilling, upskilling and reskilling for their current and future roles becomes paramount if employees are to remain relevant and employable. This suggests that CELD has a significant part to play in improving service and employee behaviour, as well as meeting demands (Nhede et al., 2022). However, the multiskilling, upskilling and reskilling of employees remains a farreaching challenge for the public service. "Upskilling and reskilling entails learning new competencies to stay in one's current role due the change in skills required", or adding certain competencies for career progression (PSC, 2021). However, participants reiterated that this remain a daunting tasked to be seen based on the current political climate, which serve as an obstacle to career advancement and service delivery. The participants further revealed that some employees were opposed to reskilling and upskilling attempts to align them with 4IR, viewing this as a waste of government resources because some senior managers continued to overlook their skills, knowledge and aptitude and did not provide them with proper infrastructure or place them in their area of expertise. Research conducted by the World Economic Forum (2020) on the future of jobs worldwide and Roux, Viljoen, and Samson (2019) on how the 4IR will affect futures of work in South Africa maintain that pragmatic retraining and upskilling induce employees' motivation drivers to embrace 4IR in the workplace, particularly if emphasis is placed on both soft and technical skills. Nhede et al. (2022) argue that "equipped with the requisite soft and technical skills, public service employees can embrace the 4IR without any apprehension". Soft skills are the most neglected ingredient in government departments. Some of the soft skills departments can cultivate in order to embrace 4IR, according to the World Economic Forum (2020) and Public Service Commission (2021), are people management, judgement and decision-making, complex problem solving, conflict resolution management, critical thinking, coaching and mentoring, emotional intelligence and artificial intelligence, which are vital in technologically driven society. In this vein, most participants identified coaching, emotional intelligence and conflict resolution skills as the most critical missing puzzle with the situation blurred by power abuse and political interference, particularly at senior management level.

# 5. Discussion

The multiplex and revolutionary nature of the political, economic and technological changes that emerged in response to the Covid-19 pandemic revealed the inadequacy of CELD, technological infrastructure and service delivery failures as well as low employee morale and disloyalty (Moloi and Marwala, 2020; Mphaphuli, 2021; Pepple et al., 2022; Tjale et al., 2019). However, the findings of the study reveal that these cannot be attributed purely to only to the multiplex and revolutionary nature of the environment in which they occurred, but also to a great extent to the failure on the part of executive management and senior managers to invest in CELD to equip their employees to deal with digital world of work.

Continuous employee learning and development is paramount for the growth, productivity, sustainability and prosperity denominator of any organization (Daniel 2020; Pepple et al., 2022). It is therefore vital that the public service executive management and senior managers take straightforward cognizance of CELD and

galvanise employees at other levels to reciprocate to add value to the public service. The study established that the participants understood the HCD policies and strategies pertaining to CELD in the workplace and serving as a strategic blueprint guiding government departments to be professional and developmental. However, the lack of support from executive management and senior managers and the non-alignment of departmental HCD and ICT policies with technological advancement and National HCD frameworks and strategies remained a major concern throughout the period from 2014 to 2023. Despite the above findings, a small number of departments are gradually paying heeds to CELD and gearing themselves towards the digital era. Nhede et al. (2022) argue that public service management should strive to align CELD with 4IR to increase skills and expertise by adopting advanced ICT technology for their departments in order to operate within a sophisticated digital era. CELD is a source of competitive advantage and sustainability for departments, and it is essential for equipping the "human elements of an organization with the requisite sets of skills required to overcome workplace dilemmas" (Pepple et al., 2022). Therefore, embracing CELD in the 4IR environment could result in improved employee competencies, wellbeing, morale, productivity and behaviour for better service delivery (Mphaphuli, 2021; Nhede et al., 2022; Shava and Hofisi, 2017). Moloi and Mhlanga (2021) and PSC (2021) are in agreement, affirming that technotransformation in the public service context is necessary to keep up the contemporary technological developments and to stimulate employees to adapt to, embrace, understand and appreciate the digital work environment.

The study also revealed that the lack of performance management feedback and the disregard for HCD responsibilities demonstrated by most executive and senior management blurred and reduced the ability of CELD to keep up with constant technological advances in the departments, which require new skills, knowledge, expertise, experience and behaviour to redefine the current and future nature of work. In consequence, inadequate CELD in the public service led to "stressed, disengaged, demoralised and demotivated employees" (PSC, 2021). It is for this reason that senior managers need to champion HCD effectively as a prevention and rehabilitation mechanism to ensure that CELD reduces the gaps identified and suits particular employee career goals and organizational needs in the technological context to help employees provide services effectively and efficiently.

# 6. Conclusion

# 6.1. Implications

Neglecting CELD and positive performance management feedback can have detrimental psychological effects on employees and frequently reduce employee motivation (Mokgolo and Barnard, 2019), who must maintain competitiveness and innovation in the fast-paced technological environment. Pepple et al. (2022) aver that empowerment and development of employees are salient "to increase their motivation and adaptability to organizational dynamics and changes." In the high-tech era, it is critical to take CELD into account in order to help and rehabilitate employees deal with both present and future workplace challenges. Government departmental policies and procedures should also be in line with the organizational context to promote

employee commitment, motivation, retention, and the sustainability of competitiveness. To ensure the sustainability of HCD strategies and new models of staff management, modern technology is essential. Redesigning HCD strategies and putting out fresh approaches to manage employees are critical tasks for contemporary technology (Anvari et al., 2023). This may present the opportunity for government departments to reconsider conventional HCD practices and enhance CELD and associated costs. Therefore, the best way to encourage employee innovation and motivation and maintain competitiveness worldwide is to implement CELD policy and strategy vigorously (Anvari et al., 2023; Li et al., 2022; Nhede et al., 2022). This means that with a balanced maximum commitment from top management and line managers as well as a continuous review of CELD policy and strategy in accordance with cutting-edge technology, the best levels of employee motivation, retention, return on investment, and competitiveness may be attained.

### 6.2. Limitations and future research

The study represented the views of national and provincial HCD practitioners and their managers/supervisors, and a purposive sampling method was used. Future research could focus on non-HCD senior managers as to gain further views concerning CELD and its impact A qualitative method was used to explore the efficacy of CELD and the impact of modern technology on employees as a way to optimise efficiency and effectiveness in the public service. Future studies could explore a similar study using a quantitative method to identify heterogeneous issues and areas for improvement, post Covid-19. Another limitation is that motivation, trust and benevolence among senior managers/supervisors and subordinates was not studied, despite their importance for enhancing CELD in the public service. Future studies could explore the levels of motivation, trust, and benevolence among senior managers/supervisors to enhance understanding and optimize the efficacy of CELD in local government and state-owned entities. Furthermore, the study did not explore how CELD affects competitive advantages, agility, and organizational citizenship behaviour. Potential avenues for further research include examining how CELD affects competitive advantages, agility, and organizational citizenship behaviour. This study did not focus on police officers or nurses, but rather on HCD practitioners in a government setting. Future studies, however, might collect information from nurses and police and compare the outcomes. Finally, the study's only focus was on South African government. Future studies should compare the outcomes and look at different countries in order to increase our understanding of the effectiveness of CELD at the individual and organizational levels. The research broadens the body of knowledge on HCD and organizational organizational effectiveness.

#### **6.3. Recommendations**

In view of the findings of this study, support of the quest of the PSC of South Africa and NDP vision 2030 to build an ethical, merit-based and professionally oriented public service, we recommend that the management of public service departments should:

Promote CELD as a lifelong learning activity; moreover, senior management

should make it a priority for the achievement of employees' and departments' strategic objectives (Pepple et al., 2022). As contemplated in the HRD-PS 2015, HRD-SA 2010–2030, MTSF 2019–2024, NDP Vision 2030, SDA 1998, and WTMPA, it is necessary to invest in HCD and the best ICT infrastructure that stimulates acquisition, assimilation, transformation, exploitation and training transfer (Noblet et al., 2015) and to harness CELD.

- Ensure that employees, including senior managers, are multiskilled, reskilled and upskilled to embrace the digital world of technology with confidence (Moloi and Mhlanga, 2021).
- Modernise and take PSPMDS seriously as their primary responsibility to achieve a better fit between departmental HCD complexities to optimise their operations and the services they render. Therefore, PSPMDS should be prioritised in a systematic manner and not managed on an adhoc basis as it is always the practise in the public service.

### 6.4. Conclusion

The study was conducted in an effort to answer a research question relating to the efficacy of CELD in relation to modern technology in the public service. Analysis of the literature and the findings of the study revealed that departments lack the tools to measure the impact of ROI in CELD. Departments may benefit from using Kirkpatrick's training, Ruggles's knowledge management and Schultz's human capital models as sound measurement tools in order to ascertain the true value of ROI and balance CELD accordingly. Departmental line managers should prioritise CELD and high-tech technologies to maximise employees' creativity, wellbeing, motivation, satisfaction and productivity, and departmental performance.

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