

# EVOLVING ROLE OF LEARNING AND DEVELOPMENT SPECIALISTS IN THE 21<sup>st</sup> CENTURY FOURTH INDUSTRIAL REVOLUTION WORKPLACE

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## ABSTRACT

*The 21<sup>st</sup>-century 4IR workplace is riddled with rampant transformational processes that create multiple opportunities and challenges. Globally connected economies demand that learning and development (L&D) specialists transform workforce intelligence and business dynamic capabilities. Although the literature is limited on the evolving role of L&D specialists; however, a baseline study was required to gain a theoretical understanding of what transformation was essential to the L&D evolution. Findings indicate that the L&D specialist job must evolve to include these five roles: co-creators of learning portfolio and strategic knowledge; facilitators of change and innovation culture; builders of relationships and collaboration partnerships; managers of employee networks and communities; and researchers and social scientists. The paper highlights the benefits of the evolved L&D specialist to workforces, businesses, and societies. Conceptually, the paper's contribution is the Transformational Model for L&D Specialists for 21<sup>st</sup> Century 4IR Workplaces, clearly indicating how the five roles can be adopted in five steps, with skills and competencies. This paper contributes to theory by adding to the L&D body of knowledge and practically offers stakeholders a model to empower L&D specialists operating in the 4IR workplace. Businesses, employees, and societies can benefit from the theoretical and practical implications offered in this paper.*

**Keywords:** L&D specialist, Co-creators, Innovation Culture, Employee Networks, ROI, Researchers, Social Scientists

## INTRODUCTION

The global workforce of the 21<sup>st</sup> century continuously evolves due to national, continental, and internationally competitive business environments. Furthermore, there is rising complexity and advancement with the emergent of industry 4.0, commonly known as the Fourth Industrial Revolution (4IR). 4IR includes computers, the internet, smartphones, digital systems, machine learning, automation, and artificial intelligence. A blend of employees is required in current workplaces, with specific and general competencies in 4IR enabled technologies. Meanwhile, the shift to a knowledge-based economy, multi-generational workforce and shorter-shelf life of knowledge emphasizes that businesses must embrace the principles of lifelong learning, learning how to learn, re-skilling, and up-skilling of employees in the organisation (Adebayo & Kweku, 2020).

Globally, 4IR had radically shifted our paradigm of how we live, learn, work, travel, and communicate. 4IR has fundamentally changed the way the workplace is managed, how employees and managers collaborate and how businesses learn to increase quality performance

and meet their strategic goals. Technological advancements in the 21<sup>st</sup> century have skyrocketed the pace of employee, management, leadership, and community change; continually requiring new learning and development in an agile manner. 4IR changes have disrupted all business and professional functions, leading to the transformation of entire systems of production processes and corporate governance mechanisms (Schwab, 2016). The rising emphasis on learning and innovation within organisations has pointedly changed the perceptions and practices of learning in current workplaces. It has also engendered an increasingly diverse network of learning and development (hereafter, L&D) experts, professionals, and practitioners; thus creating new emerging roles that are critical to business growth. Ultimately, the L&D professional's work is to enable a sustained behavioral, attitude, and performance change leading to advancement in business performance and goals (Kim & Ployhart, 2014; Diatmono et al., 2020).

Over the last two decades, L&D scholars have professed that for L&D practitioners to be effective in the 21<sup>st</sup> century fast-paced 4IR workplace, they need to take on more than just strategic roles in organisations (Arntz et al., 2016). Strategically, practically and professionally, the role of L&D specialists has changed significantly (ElMaraghy, 2015). While traditionally the L&D specialist role was perceived as essentially costly and perhaps unnecessary even in prosperous times, recently the L&D role included linking business performance improvement to employee training. Currently, the L&D role is almost exclusively online, using 4IR technology to navigate learners through the maze of information and data that is readily available to almost every human in the 21<sup>st</sup> century. More than ever, especially since the global covid-19 virus pandemic in 2019-21, the L&D role must ensure that lifelong learning and learning how to learn become employee skills so that businesses not just survive, but thrive in the virtual world we live, learn and work in (Llandis et al., 2020).

4IR digital transformation has spiked creativity and innovation across all sectors of politics, society, and the economy, fundamentally reshaping knowledge management drivers in all countries across the globe. New virtual workplaces, meetings, and classrooms thus challenge traditional working, meeting, and learning patterns; enabling radically different, innovative L&D practices to emerge in business and societies. 21<sup>st</sup>-century L&D is considered a central function of many organisations (Hord, 2015), and L&D practitioners are seen as critical for business survival and growth (Adam, 2014). On the one hand, L&D functions in organisation have and continue to be under pressure to unambiguously explicate what its roles are in value creation and business contribution in the 21<sup>st</sup> century (Kim & Ployhart, 2014); and on the other hand, there are increasing conversations around the effectiveness of L&D practices as a critical tool to achieve organisational and financial performance (Nadiv et al., 2017). Despite the positive correlation of L&D interventions, employee development, and business performance, literature is scarce on how the role of L&D specialists has transformed and evolved, on the contribution of L&D specialists to organisational development, and on the personal development needs of L&D practitioners to meet the current 21<sup>st</sup>-century 4IR workplace requirements. The gap in the literature prompted an exploration into answering the following theoretical question, thus motivating this paper: What is the evolving role of L&D specialists in the 21st century 4IR workplace? The purpose of this paper is to identify and highlight the essential and emerging roles and functions of L&D specialists relevant to our current and future eras.

This paper reports on the theoretical and conceptual research that was conducted to achieve the following objectives: undertake baseline literature exploration on L&D role evolution; gain an in-depth understanding of the competencies and skills required for the evolving L&D specialist, and conceptualize a transformational model to equip L&D specialists with their

evolving role in the 21<sup>st</sup>-century 4IR workplace. Findings indicate that L&D specialists must transform to become the following: creators of learning portfolios and strategic knowledge; facilitators of change and innovation culture; builders of relationships via collaboration; managers of employee networks and communities; and novice social science researchers. The implications for the application of these findings are significant, indicating that the proposed Transformational Model for L&D Specialists allows L&D professionals, experts, practitioners, and students to gain global skills and competencies if implemented effectively. Furthermore, it has the potential to impact positively on employees, businesses, economies, societies, governments, educational sectors, 4IR integration, multigenerational workforces, and on co-creating smart cities, towns, and villages globally.

This paper contributes theoretically by adding to the body of knowledge on L&D specialist roles in the 21<sup>st</sup> century 4IR workplace. Practically, the paper offers L&D role players and stakeholders the Transformational Model for L&D Specialists, encouraging them to transform themselves and their learners in readiness for becoming globally competent for thriving in the 4IR workplace. The paper consists of an in-depth literature review, findings, discussion, implications for stakeholder application, and conclusion.

## LITERATURE REVIEW

An intensive literature review was conducted to explore, understand, analyze and synthesize current trends and empirical research to find answers to the research question. Recent literature that was explored is presented under these subtopics: workplace L&D; 21<sup>st</sup>-century L&D practitioners; L&D is evolving; and L&D specialist skills in 4IR workplace.

### Workplace Learning and Development

To cope with knowledge and competencies related to new technologies and processes of the 21<sup>st</sup> century, new strategic approaches for holistic human capital development are needed in the organisation. L&D specialists belong to one of the many professions where roles are expected to be redefined according to the pace of modern organisational and technological transformation in the 21<sup>st</sup> century. The role of L&D specialists has evolved over the years from one that focused on the delivery of direct training in the early stage of digitalization (Harrison, 2009), to the current situation where L&D specialists are positioned as managers of learning, change initiators, and organisational learning promoters (Nadiv et al., 2017; Abele et al., 2015).

Among the major challenges faced by L&D specialists, the lack of strategic skills, poor business acumen to leverage data and technology, and the inability to contribute to organisational strategy are glaringly significant (Nadiv et al., 2017). The inability of L&D professionals to use evidence-based precision in decision-making validates senior managers and business owners perceiving L&D roles as non-strategic and L&D specialists as insignificant partners who cannot authentically contribute to business transformation (ElMaraghy, 2015). Yet, the role of L&D has become critical to organisations globally as businesses look increasingly at the creative, innovative role of employees in the establishment of a knowledge-based workforce, especially in the current digital revolution. The rapid emergence of digital technologies, new business models, globalization, innovation, and the continuous emergence of new knowledge has a tremendous impact on the need to develop employee capability at the speed of emerging technologies. As stated by Arntz et al. (2016), L&D is becoming widely recognized as the most important means of engaging and providing employees with the opportunity to learn, develop new competencies,

provide motivation, and enhance job satisfaction. Highly motivated and engaged employees are invaluable in the implementation of new technologies and are more likely to stay in an organisation where their skills are grown and developed along their preferred career path (CIPD, 2016).

The emerging roles of L&D specialists in the 21<sup>st</sup> century 4IR workplace hinge on previous studies in which contingency ideology was used to understand how learning and development roles are shaped by contextual factors in the business environment (Liao et al., 2017). Harney (2016) argued that internal and external environments, as well as contingency factors such as strategy, organisational size, nature of business, cultural differences, and organisational coverage, are contextual issues that challenge or promote effective L&D in any organisation. Furthermore, the role-based human resource management (HRM) approach as explored by Gao et al. (2016) is another element to be considered in understanding the role that L&D specialists play in the organisation. As defined by Hord (2015), learning and development roles are clusters of interconnected competencies that portray the main attributes that must be possessed by anyone wishing to occupy an L&D role; rather than as segmental or loosely coupled entities, whose components can be understood in isolation. The 21<sup>st</sup>-century workplace requires much more than formal education and functional routines in the workplace; instead, employees are expected to take effective performance decisions and find logical solutions to performance problems. Evolving workplace L&D trends prompted an exploration into further research for this paper.

## 21<sup>st</sup> Century L&D Practitioners

For the L&D practitioners, personal credibility combined with the knowledge, skill, and behaviour is the hallmark of competencies to ensure that L&D practices are aligned with strategic goals and performance outcomes (Arntz et al., 2016). The demand of the 21<sup>st</sup>-century workplace occasioned by the 4IR era has challenged L&D practitioners to delineate what roles are peculiar to them, especially as many organisations are currently transitioning into industry 4.0. Whereas traditional L&D functions focused specifically on transactional-type roles, in the current semi-virtual workplace the emphasis is on the combination of both strategic and transactional roles (ElMaraghy, 2015). With 4IR being ushered into many organisations, L&D specialists have to build up a large network and strong social capital within and outside the organization. They must focus on how to build capacity in the usage of technology to perform both transactional and operational roles in the organisation. For the 21<sup>st</sup> century workplace, Arntz et al. (2016) stated that L&D specialists required sound skills, competencies, and development expertise in these three areas: knowledge of the process of designs, development, and evaluation of L&D programmes; measurement and management of the L&D functions; and implementation and measurement of organisation-wide L&D projects. L&D practitioners are called to embrace 4IR, global learning, and intergalactic workspaces; thus stimulating more than just local or global impending business and societal transformation. L&D professionals must identify basic areas for partnership, networking, and competence development. L&D specialists require these three domain-related competencies that are aligned to organisational transformational goals and are central to the performance and development of employees in the 4IR landscape: diagnosing, designing, and delivering L&D solutions (Arntz et al., 2016).

Literature indicates that L&D specialists are faced with significant challenges in establishing their roles and meeting expectations because of their relatively low status in the organisational hierarchy (Abele et al., 2015). The shift from traditional learning to learning dictated by 21<sup>st</sup> century 4IR practices and standards in terms of content, needs, and competencies

is highly challenging to the L&D profession (Nadiv et al., 2017). 21<sup>st</sup>-century L&D business practitioners must align with key business stakeholders to understand where the business is successful and how the L&D function can make it even more successful. The L&D profession calls for building progressive, functional L&D roles that aim to improve the learning capability of employees, businesses, and the economy. Hypothetically, in this time of disruptive and continuous technological, economic, societal, and global change, how can businesses continue to learn, and be open to change in the digital era especially since the pace of local and global digitalization and technological breakthroughs does not grant much time to prepare for so much change so quickly? The literature is silent on the lack of clarity on how L&D specialists can engender value for their organisation, economy, and society given the evolving workplace environment. The impetus for this study to explore, understand and reimagine the evolving role of L&D specialists in the 21<sup>st</sup> century 4IR workplace arose as a result of literature scarcity on this significant phenomenon.

### **L&D is Evolving**

Traditionally, educational systems prepared people for employment, with skills lasting through to retirement. A few decades ago, L&D functions were characterized by manual training, performance for existing roles, and one-size-fits-all training and L&D interventions. Recently, rapid technological advancement has considerably reduced the shelf-life of knowledge and skills and introduced lifelong vocational learning as the responsibility of individuals, organisations, and societies (Scurtu, 2015). Education, training, and development have turned out to be more effective and responsive to business, society, and planetary needs since the turn of the century, applying strategic and blended approaches in L&D interventions (Smith et al., 2017). Such developments led to an ever-growing network of diverse learning and development practitioners, with managers also taking on L&D responsibilities as work became about learning, and learning became part of work (Billett, 2001). The emerging field of L&D is seen as one that is complex to define due to the nature of the wide range of educational and business roles performed by L&D specialists within and outside the organisation (Hord, 2015).

Additionally, L&D is not a discrete field, as L&D roles now permeate all disciplines within the business as well as schools and higher education. L&D practitioners now identify with multiple roles within institutions, businesses, and society via global online connections. Abele et al. (2015) argues that the emergence of the new L&D roles reflects the convergence of training, career development, organisational development, and their integration with business strategy. Smith et al. (2017) also reported that training of staff is now more proactive, reacting to external change and negotiating with consultants, without HRM department mediation. Traversing mere andragogic (adult learning) and organisational theory, L&D specialists are called upon to innovate with individuals and company strategies (Scurtu, 2015). Historically, the L&D function has been relatively successful in assisting employees to build their skills and perform optimally in their different jobs. The principal focus of traditional L&D has been on upskilling and reskilling (Abele et al., 2015). Today L&D specialists are called upon to focus on building their necessary people capabilities to motivate, encourage, mentor, and coach talented, multigenerational, and 4IR savvy workforces. Learning and development in the modern organisation are currently undergoing radical transformation due to globalization and technological advancement; breeding new challenges as learners becomes more demanding for autonomy and independence to manage their development planning, skills need, and transitioning job roles.

With independent and virtual learning characterizing organisational learning, there are concerns that L&D specialist roles could be rendered redundant; hence, L&D professionals must become agile, quick to adapt to changing skills requirements, and evolve to meet 21<sup>st</sup> century 4IR needs (Hord, 2015). Scurtu (2015) argued that among other important functions in the organisation, L&D professionals at this time of 4IR must be the accelerator of high-performing employees through shifting their roles towards using data analytics for measuring, tracking, and reporting on the impact of learning employees on business performance. Today, L&D is faced with the challenge and the opportunity to empower a workforce spanning five generations of humans and many generations of technology; all working in a ubiquitously connected environment. Humans use mobile devices, including wearables, to learn at the point of need; accessing their network and communities of practices to solve challenges, share user-generated content and respond to community needs or just to share their learning. L&D according to Scurtu (2015) needs to build a learning ecosystem, since most employees in the 21<sup>st</sup> century are self-managed learners. Designing L&D interventions for 21<sup>st</sup>-century 4IR humans requires constant vigilance, robust design thinking, application of sound community/group management principles, and a strong change management focus. Literature is scarce on transformational models or frameworks clarifying the roles, skills, and competencies of the evolving L&D specialist.

### **L&D Specialist Skills in 4IR workplace**

The 4IR workplace requires L&D specialists, professionals, and practitioners to transform and become co-creators of knowledge while being facilitators of information. By empowering learners to learn, absorb relevant and sufficient information and co-create new knowledge, L&D professionals are builders of learning communities. As managers, L&D professionals establish processes, systems, and practices to promote employee self-managed, online and contact education, training, and development (Groscurth, 2018). L&D professionals and experts must also be able to research to monitor, manage and improve employee performance. Digital transformation and artificial intelligence allow L&D experts opportunities to transform organisations into more human-centric business environments (MacGregor, 2018).

These five intrinsic drivers empower future-ready leaders, managers, and L&D specialists: presence; agility; collaboration; development; and discernment. The call is for future-proofing employees, businesses, economies, and societies globally for the impact of 4IR (Groscurth, 2018). L&D experts are called to maximize business opportunities and possibilities by harnessing and integrating internal human intelligence with 4IR systems to meet the demands of smart, connected, networked individuals, businesses, and communities. As researchers and social scientists, L&D practitioners must promote lifelong learning, outcomes-based education, and adhere to national and international standards and qualifications specifications (Weerd et al., 2002). Their pedagogy and andragogy should measure L&D intervention benefits, costs, risks, and opportunities. L&D specialists are also expected to calculate the return on investment (ROI) of interventions, employee development, and business intelligence. Moreover, they must be able to report on research results and thus advocate to advance L&D as a profession (Phillips et al., 2020). Globally, leaders, managers, and L&D specialists experience challenges when calculating the ROI of employee performance development. The lack of ROI measurements and analysis challenges leadership decisions on budgets and projections, especially during financial crises and radical political changes. ROI statistical benefits include improvements in timeliness, talent

quality, talent retention, employee engagement, and evidence for internal promotions (Abner et al., 2020).

Globally, workplaces in the 4IR era call for induction, orientation, learning, and development programmes to develop employee capabilities and skills so that they can cope with the increasing pressures of radical technological shifts and changes. L&D specialists should become proactive green-planet supports too, ensuring sustainable and responsible employee and talent engagement projects with strong environmental, economic, and social responsibilities. The ethical dimensions of the L&D specialist roles involve ensuring that societies and communities are positively impacted by employee L&D interventions. Responsible L&D and management decisions must be made to address global challenges such as climate change and environmental degradation. Global and local environmental scanning, research, and development are advocated to drive innovative, co-creative humanitarian solutions to socioeconomic challenges, risks, and threats using big data analytics and sophisticated HR information systems (Nankervis et al., 2019). Understanding HR and human capital analysis and its relationship to performance and talent management programmes allow L&D practitioners to improve employee and business knowledge, skills, and competencies. Linking L&D interventions to business strategy via co-creative curricula increases motivation, productivity, and performance that positively impacts employees, managers, leaders, stakeholders, and customers synergistically (Diatmono et al., 2020). For L&D specialist roles to be effective and efficient in the evolving 4IR workplace, the support of competent leadership is essential to achieving L&D agency missions (Nankervis et al., 2019). The role of the L&D specialist as a social scientist researcher is new and literature is limited on what skills and competencies are required for transitioning into this role.

## Findings

A baseline theoretical analysis and synthesis of existing literature trends is lacking yet necessary in unraveling the evolving roles of 21<sup>st</sup>-century L&D specialists in the 4IR landscape. This paper undertook such a theoretical analysis to tease out the emerging trends leaning towards the competencies required for the new and evolving L&D specialist. Primarily, the new task of L&D specialists in the 21<sup>st</sup> century 4IR workplace is to nurture and shape a learning strategy based on business talent and human capital strategies. The L&D strategy must seek to support employee development and build capabilities across the organisation. Training, learning, and developmental roles must undergo a revolutionary transformation in order to keep pace with the continuous and rapid technological, big data analysis, and virtual workplace advancements globally. As a consequence, professionals in the L&D space must reimagine, rethink and reinvent themselves to be competent to deliver on their strategic role, especially in the current pandemic riddled workplace. The traditional job requirement of L&D specialists was that of training delivery. Today, L&D specialists must envision, execute and measure collaborative and supportive learning cultures that align with expected performance and organisational goals. L&D practitioners are expected to understand and advance the organisational strategy, the business model and increase business knowledge capabilities (Abele et al., 2015).

The findings of the integrated literature synthesis reveal these five emerging roles of L&D specialists operating in the 4IR globalized workplace:

- Co-creators of learning portfolios and strategic knowledge.
- Facilitators of change and innovation cultures.
- Builders of relationships and collaboration partnerships.

- Managers of employee networks and communities.
- Researchers and social scientists.

The legislative, regulatory, and governance criteria on these emerging L&D roles are assumed at local, national, and global levels as literature confirms that these five roles fulfill expected global competency criteria. L&D specialists are called upon to embrace the new, flexible, transforming, and evolving 4IR landscape with an invigorating spirit of lifelong learning, innovation, and co-creativity. Integrating 4IR technologies with 21<sup>st</sup>-century knowledge, skills, values, and attitudes must aim to accelerate the development of L&D specialists, transforming them into globally competent professionals. L&D specialists must become competent in their emerging roles before empowering others. Only after self-empowerment can the evolving L&D specialist transform and improve business and community performance, talent, innovation, and creativity. It must be emphasized that findings indicate that L&D specialists must transform themselves first, then their workforce, business, economy, and society. Transforming and evolving L&D specialists are called upon to not just transform and co-create, but to make radical advancements in 21<sup>st</sup>-century human consciousness, advocating for talent innovation, nurturing human engagements, and integrating employee functionality with intelligent machines and systems. Figure 1 presents a graphic representation of the five roles of the evolving 21<sup>st</sup> century 4IR L&D specialist.



**FIGURE 1**  
**EMERGING ROLES OF 4IR L&D SPECIALIST**



## Creators of Learning Portfolios and Strategic Knowledge

Digitization and technological advancement have positioned L&D practitioners to play the role of consultants and business partners, allowing them to integrate 21<sup>st</sup>-century knowledge into business processes, value chains, and organisation structures; thus, leveraging and advancing human and business capabilities (Ulrich et al., 2015). Studies have highlighted the importance of L&D specialists possessing practical knowledge in related areas such as finance and marketing, understanding business strategies and business models, and reporting on organisational dynamic capabilities and business goals (Hord, 2015). The emergence of tailored-made local and global products and services ushered in by the technology of 4IR is significantly impacting the speed at how specification and customer demands transform. L&D specialists play a fundamental role in becoming the enablers for successful training, development, and deployment of local talent empowered with global competencies. L&D specialists must evolve to become competent at critically assessing the content of learning tools and existing change management structures. They must determine whether business L&D interventions and portfolios are topical, strategic, and accurately align with the organisational goals. As such, L&D specialists are called upon to transform, embrace and co-create learning portfolios that enhance and advance employee and business skills and competencies.

## Facilitating Change and Innovation Culture

L&D practitioners are progressively required to work as change agents; hence they need to understand organisational change processes and patterns of culture formation (Ulrich et al., 2015). It is now incumbent on L&D professionals to manage the culture of the organisation and advocate for change and transformation; thereby creating an organisational learning culture aligned to the current 4IR transformation and business innovation drivers. Modern organisational features combined with the attributes of 4IR impresses on L&D professionals to become advocates, consultants, and agents of radical transformation in their organisation by injecting stimuli for change management in the business structure. A significant benefit of L&D specialist transformation and proactivity is that it fosters agility and innovation in the organisational learning processes. L&D professionals must introduce new forms of work tasks, and methods that support organisations in their drive to become agile and increase their intelligence, knowledge, and development potential. Innovation and technology are the hallmarks of 4IR, hence becoming essential skills required in the modern-day organisation for advancing business competitiveness. 21<sup>st</sup>-century business advancement is attributed to a combination of the business capability to innovate with a culture of learning, as they are closely related (MacGregor, 2018). This is because learning is a prerequisite for business performance and innovation (Deloitte, 2014). In this context, L&D specialists need to step in and generate effective and efficient L&D frameworks or models that are conducive to shaping the innovation culture of both organisation and workforce. As part of the new role of L&D professionals, there is now a need to deconstruct and evaluate what learning means in the current age. In this digital transformation and continual change process, the enablement of innovation culture seems to be critical for stimulating talent engagement and employee creativity; thereby presenting L&D specialists with considerable potential and opportunity for them to advance their own and the careers of others. Establishing innovation cultures allows L&D specialists to become innovative themselves; as it is through the creation of exciting learning spaces that both learning and innovation are promoted and advanced to new heights.

## **Relationship Building and Collaboration**

In the 21<sup>st</sup>-century workplace, L&D specialists are expected to promote, establish and sustain networking contacts with stakeholders within and outside their organisations. It is essential that trainers have strong social and collaborative skills, and that they develop strong trust-focused relationships with senior managers and employees; thus allowing for effective collaborative partnerships across, within, and outside the organisation (ElMaraghy, 2015). Another critical role of L&D professionals in the 4IR age is to identify persistent challenges and offer expert support to avoid critical meltdowns, especially in the area of workforce capability and technology. In light of current global transformations and technological disruptions, it is evident that L&D specialists can no longer maintain the traditional status quo. They must evolve into nurturers, mentors, coaches, consultants, and business partners within and outside the organisation. Focusing on the future, L&D specialists must leverage the existing technologies, designing workplace learning systems that promote self-learning, individual performance and career management, and learning-how-to-learn strategies. Globalized internet connectivity offers advanced information and communication technology that fosters real-time collaborations between L&D providers and users of L&D services in the business, supply, and customer value chains (MacGregor, 2018).

## **Management of Employee Networks and Communities**

The nature of the current workplace and the pace of technological advancement in the 21<sup>st</sup> century suggests that learning will increasingly take place in the form of business collaboration in community engagement projects. The technologically connected, multigenerational workforce of today attracts projects that promote team and group work; allowing talent innovators within organisations to partner with community development initiatives driven by the government. These groups are springing up daily, aiming to meet more than just business needs, they aim to create smarter customers, smarter cities, and smarter communities. Talent project groups have metamorphosed into common interest community networking groups (Communities of Interest) and groups of common practice (Communities of Practice) in countries across the globe. Employees come together for long-term and temporary collaboration to share information, evolve their domain, learn from each other, and add to the business, community, and global knowledge and talent pools. While employees share and learn through these smart communities and groups with or without the intervention of L&D professionals; the smarter community ideology presents innumerable opportunities for the L&D specialist to institutionalize this form of new learning forum, thus making it more efficient, to the benefit of employees, organisation and community. L&D specialists are called upon to enable employee networks and community projects by providing such platforms with the structure, resources, support, and knowledge required for the project's success (MacGregor, 2018).

## **Researcher and Social Scientist**

L&D specialists must become skilled, competent, and qualified researchers and social scientists. The principles of L&D specialists are as follows: embrace lifelong learning; promote outcomes-based educational practices; register all L&D interventions with local and international accreditation bodies; ensure all L&D interventions meet national qualifications framework specifications; establish a fair, valid, and reliable pedagogy and andragogy (Abner et al., 2020);

measure benefits, costs, risks, opportunities of L&D interventions; calculate the ROI of L&D per individual, intervention, and business (Phillips et al., 2020); conduct quantitative, qualitative and mixed-method research to gather big data analytics; and ensure that L&D interventions, tools, systems, and processes positively impact individual and business results. L&D specialists are also expected to report on research studies and improve L&D within and outside the organisation (Groscurth, 2018).

## DISCUSSION

As per the findings extracted from the literature synthesis, five key L&D roles are required to meet 21<sup>st</sup> century 4IR globalized needs. For evolving L&D specialists to operate effectively and efficiently in the 21<sup>st</sup> century 4IR workplace, they must transform to become the following: creators of learning portfolio and strategic knowledge; facilitators of change and innovation culture; builders of relationships and collaboration; managers of employee networks and communities; and researchers and social scientists. This section aims to highlight the practical and application benefits of these L&D roles to the workforce, business, and societal evolution. As such, this paper offers a conceptual contribution by proposing a practical model for transforming L&D practitioners and professionals into competent L&D specialists, ready for the 4IR evolving workplace.

Significant findings reveal that the 21<sup>st</sup>-century workplace is riddled with rapidly advancing changes in the way people, machines, systems, and teams operate. An integrated perspective is required of 21<sup>st</sup>-century L&D specialists to see the 'bigger picture, focus on internal goals while looking externally for resources, support, collaboration, and partnerships. It is not sufficient for traditional and even current L&D specialists to have curriculum design and development, assessment and evaluation, and facilitation and presentation skills. L&D specialists are required to move beyond traditional roles and learn new global competencies that advance not only employees but businesses, communities, and societies. The L&D specialist must advance her or his knowledge, skills, values, and attitudes towards co-creating collaborative partnerships that promote people, business, societies, and the planet.

Significant findings also reveal that interactive networking skills and competencies are required for the evolving role of the L&D specialist. The 4IR workplace has radically transformed the world of work; hence L&D specialists must navigate with agility and flexibility, connecting employees to systems, and systems to networks globally. Advanced measurement, research, and analytical skills are necessary for L&D specialists to monitor and manage the impact of their L&D interventions on people, businesses, and society. Automation and machine learning has become a requirement for all employees, managers, and leaders in the 4IR landscape, including L&D specialists. Co-creation with the support of multiple internal and external stakeholders will enable the L&D specialist to not only evolve but also grow smart cities, smart societies, and smart economies.

Findings also reveal that the way of the future is the integration of people with systems. Workforce connectivity allows L&D specialists to design interventions that promote self, team, group, and collaborative learning, thus enabling individuals and groups to accomplish performance and project tasks. L&D specialists must engage in lifelong learning so that they can effectively and efficiently manage the evolving virtual worlds of work, learning, and living. It is the responsibility of L&D specialists to educate, train and empower others to become not only proficient at working in the 4IR 21<sup>st</sup>-century workplace but to also share their talents, creativity, and innovation with society. Co-creating smart societies, economies, machines, systems, and

humans require smart, creative, and innovative L&D experts, professions, and practitioners. The time has come to not only acknowledge the rapidly advancing and evolving role of the L&D specialist but to empower them to become skilled and competent to manage their role confidently. The implications for application, the ‘how’ aspect of empowering the evolving L&D specialist is complex; yet, this can be accomplished by undertaking a few steps towards self-development. Role knowledge and intrinsic motivation for transforming oneself and others locally and globally with the relevant skills and competencies may provide the answers. This paper proposes a 5-step transformational model for advancing L&D specialists to confidently and successfully manage their evolving role in the 21<sup>st</sup> century 4IR landscape. The five steps are as follows:

- ✓ Step 1: Be creators, designers, and innovators.
- ✓ Step 2: Be change, culture, and strategy agents.
- ✓ Step3: Be agile transformation agents in various socioeconomic contexts.
- ✓ Step 4: Be co-creators of smart people, planet, and systems.
- ✓ Step 5: Be researchers and social scientists in the 4IR era.

Each of the five steps focuses on a specific role with the relevant skills and competencies for L&D specialists to learn, practice and master. Table 1 presents the proposed Transformational Model for L&D Specialists for 21<sup>st</sup> Century 4IR Workplaces.

4IR L&D Roles and Competencies model		
Steps	L&D Roles	Skills & Competencies
STEP 1: Be creators, designers, and innovators.	Co-create learning portfolios and strategic knowledge management systems, processes, and policy.	1. Learn 4IR business management skills.
		2. Develop finance and marketing competencies.
		3. Understand business strategies, systems, and models.
		4. Align employee and business dynamic capabilities to business goals via online L&D portfolios.
		5. Design knowledge management systems for employees and businesses to capture intelligence and capability.
		6. Design 4IR learning platforms and L&D portfolios to promote self and online L&D.
STEP 2: Be change, culture, and strategy agents.	Facilitate change and innovation culture for employees and businesses.	1. Measure and monitor transformation via climate and culture surveys.
		2. Create, engage and advance agility of talent pools.
		3. Innovate, engage and measure talent and workforce improved performance.
		4. Align L&D, organisational development, performance, and business strategy to 4IR systems.
STEP 3: Be agile transformation agents in various socioeconomic contexts.	Build relationships and collaborative partnerships internally and externally.	1. Develop social, collaborative, and partnership skills.
		2. Establish partnership projects with internal and external L&D networks.

		3. Stimulate, motivate and develop managers, employees, and customers using 4IR networks.
		4. Co-create and network L&D within organisation and for contribution to customers and communities.
STEP 4: Be co-creators of smart people, planets, and systems.	Manage employee and business engagement, 4IR networks, and communities.	1. Drive innovation, creativity, and agility via L&D interventions.
		2. Link business strategy to community building thus co-creating smart cities, towns, and villages.
		3. Align talent pools and business strategy to smart community projects.
		4. Monitor, measure, and evaluate the performance of humans, systems, and 4IR integration impact on the employee, business, and society.
STEP 5: Be researchers and social scientists in the 4IR era.	Conduct and report on research that measures and improves L&D for employees, businesses, and communities.	1. Measure benefits, risks, and ROI of L&D interventions.
		2. Conduct quantitative, qualitative, and mixed-method research on L&D impact.
		3. Report on research studies to improve L&D for employees, business, and society.
		4. Integrate 4IR systems to regularly measure L&D impact on employees, business, and society.

In Step 1, L&D specialists transform themselves to become creators, co-creators, creative designers, and influential innovators. Their role is to co-create learning portfolios for employees and business divisions; designing strategic L&D knowledge management systems, processes, and policies. In step 1, L&D specialists need to learn, empower themselves and possess practical knowledge in related areas, skills, and competencies such as the following: finance and marketing; understand business strategy and business model; and dynamic capabilities and business goals (Harrison, 2009).

In Step 2, L&D specialists empower themselves to become change, culture, and strategy agents that uplift their organisational workforce intelligence and knowledge capability. Their role is to facilitate change via establishing an innovation culture for employees and businesses. L&D specialists in step 2 become networkers, collaborators, partners, advocates, consultants, and agents of change in their organisation. They motivate, mentor, coach, and advance transformational 4IR transformation in the organisational structure, systems, and processes. When promoting transformation, L&D specialists align individual talent performance with business strategy; thus, empowering employees, managers, customers, and communities to manage radical changes while fostering creativity and innovation (Adebayo & Kweku, 2020).

In Step 3, L&D specialists transform themselves to become agile transformational agents in various socioeconomic contexts within and outside their organisation. Their role is to build relationships and collaborative partnerships internally and externally, encouraging business talent and innovation to enter the marketplace and communities locally and globally. L&D specialists need to gain social, interpersonal, partnership, and collaborative skills. They must aim to foster strong trust-focused relationships and networks with managers, employees, customers, and stakeholders; thus, promoting effective collaboration within and outside the organisation into global communities (Hord, 2015).

In Step 4, L&D specialists employ smartly designed 4IR systems and processes, as well as smart L&D interventions to create smart people, systems, cities, villages, and the planet. Their role is to co-create innovative employee and business engagement, networks, and communities. Networking and community engagement competencies for L&D specialists are essential if they are to empower business leaders, managers, employees, and customers on how to grow smart organisations, cities, and societies (Scurtu. 2015).

In Step 5, L&D specialists become researchers and social scientists in the 4IR era. Their role is to conduct and report on research that they conducted to measure the impact of L&D interventions on employee and business performance. Furthermore, research and development allow for improved L&D interventions for employees, businesses, and communities. In step 5, L&D specialists must measure the benefits, strengths, opportunities, weaknesses, threats, risks, and challenges of interventions. They must become competent to calculate the ROI of L&D interventions and justify how a high ROI reveals increased performance due to L&D interventions or vice versa. They must conduct quantitative, qualitative, and mixed-method research on the impact of L&D interventions and report how such research studies improve L&D for employees, businesses, and society. L&D specialists must become competent in designing integrated 4IR systems to regularly monitor, measure, assess, and evaluate the level of L&D impact on employees, businesses, and societies globally (Scrutu, 2015).

### Implications for Application

The proposed Transformational Model for L&D Specialists for 21<sup>st</sup> Century 4IR Workplaces has significant practical implications for application by multiple stakeholders. Primarily, the model allows for 21<sup>st</sup>-century L&D specialists to gain global competencies and execute them in the 4IR workplace confidently and successfully. The implication is that if L&D specialists evolve successfully, they will then impact L&D stakeholders positively, effectively, and efficiently. On a secondary level, the model allows for the following stakeholders to directly benefit from the evolving L&D specialist:

- Businesses are impacted when business performance, strategy, and goals are enhanced.
- Employees and learners are impacted when they become empowered to learn how to learn, take responsibility for self-learning and self-assessments, and when they engage in talent pool innovation projects.
- Society is impacted when talented employees, innovative businesses, and smart city projects meet midway, allowing for growth, creativity, and development to flourish.
- The economy is impacted when smart employees, businesses, and cities become engaged in co-creative projects that grow to gain global credibility via smart cities, towns, and villages projects.
- The government is impacted when L&D specialists meet national and international obligations, mandates, and targets via education, training, and skills development projects that improve individuals, society, economy, and public sector systems, processes, and practices.
- The educational sector is impacted when L&D specialists evolve as they force the sector to rise to higher degrees of performance, measurement, and evaluation, ensuring a strong and high ROI for citizens, society, and the economy.
- 4IR integration is impacted when L&D specialists blend humans and technology to encourage lifelong learning, a focus on outcomes, and improved performance to achieve business strategic goals.
- The multigenerational workforce is impacted locally and globally as 21<sup>st</sup>-century skills, competencies, and multiple intelligences are instilled into them by L&D specialists.
- Smart cities, communities, and villages are impacted by the co-creative projects that talented business employees engage in so that they market their skills, competencies, products, and services while contributing to building and growing a smarter, more harmonious planet Earth.

- Planet Earth and other planets are impacted when L&D specialists educate individuals, businesses, and communities to protect, conserve and respect their planetary and cosmic home; empowering them with caring, compassionate, creative, and innovative knowledge, skills, values, and attitudes.

## CONCLUSION

Digital transformation and 4IR transformational processes have created multiple opportunities, benefits, and challenges for organisations. The 21<sup>st</sup> century 4IR globally connected economies and societies face increasingly intense competition arising from the globally connected marketplace and virtual workplace. L&D specialists, functional line managers, and employees are called upon to embrace creativity and innovation, to actively reimagine and reshape themselves, and to advance workforce intelligence and business dynamic capability. Transformative lifelong learning, workplace innovation culture, and co-creative collaboration projects are essential if businesses are to thrive in our globally advancing societies and economies. As such, the role of L&D specialists has evolved from traditional training delivery to the designing of networked systems, becoming change agents, supporting continuous workforce transformation, and facilitating a workplace culture that is conducive to self-learning, self-management, and talent innovation.

Theoretical analysis findings indicate that L&D specialists must evolve to include these five roles into their jobs: creators of learning portfolio and strategic knowledge; facilitators of change and innovation culture; builders of relationships and collaboration; managers of employee networks and communities; and researchers and social scientists. This paper highlighted the practical, application, and implication benefits of the evolved L&D specialist to the workforce, business, and societal evolution. The conceptual contribution of this paper is the Transformational Model for L&D Specialists for 21<sup>st</sup> Century 4IR Workplaces, presenting how the five roles can be adopted in five steps, with skills and competencies for each step.

The paper is limited in that it offers a conceptual model from baseline theoretical analysis instead of empirical data analysis. Further research is recommended to empirically test and validate the proposed conceptual model for L&D specialists, as well as to further investigate and explore the evolving roles of L&D professionals. This paper contributes to theory and practice by adding to the L&D body of knowledge, as well as offering L&D stakeholders a practical model to support and benefit from the evolving L&D specialist operating in the 21<sup>st</sup> century 4IR workplace. The paper has significant and smart implications for L&D specialists, HRM, line managers, businesses, employees, talent pools, economies, governments, societies, and planet Earth.

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