Managing E-Learning Projects for Workplace Learning: An Integrative Review of the Peer Reviewed and Professional Literature

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ABSTRACT

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Research Problem: Workplace learning organizations face challenges in managing e-learning projects effectively as they strive to adapt to the digital age and meet modern learners' needs. This study aims to explore theses management practices, focusing on how organizations handle e-learning projects and the factors that influence their approaches.

Research Question: How do workplace learning organizations manage e-learning projects?

Literature Review: The literature review focuses on two essential bodies of literature that are fundamental to the management of e-learning projects: instructional design models and project management theory. Together, these perspectives offer a comprehensive foundation for understanding how e-learning projects are managed in workplace settings.

Method: The study employs an integrative literature review methodology, with sources selected through replicable search parameters. The final dataset includes 57 sources published between 20023 and 2023. Content analysis was then applied to examine publications, a method well-suited for uncovering patterns and themes within the literature.

Results and Conclusions: The study reveals key insights into managing e-learning projects in workplace learning organizations, offering implications for practice, research and theory. Practitioners should understand the distinct roles of instructional design models and projects

management methodologies, and how to integrate both effectively. Theoretical contributions highlight the need for hybrid frameworks addressing project complexity and emerging technology. Limitations include reliance of English-language sources and a focus on specific industries. Future research should explore diverse contexts, validate findings empirically, and assess the impact of AI and new technologies on e-learning project management.

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CHAPTER 1: INTRODUCTION

Amidst the digital learning revolution, companies worldwide face challenges related to return on investment (ROI) as they strive to incorporate new technologies into their capability-building efforts (KPMG, 2015). E-learning projects, encompassing diverse digital platforms and instructional strategies, represent a dynamic frontier in corporate training. According to the State of the Industry report from the Association for Talent Development (2021), technology-centred instructional approaches accounted for up to 80% of employer-provided learning in 2020, reinforcing McCue's (2018) claim that e-learning is set to become the future of employee training.

1.1 WORKPLACE LEARNING AMID WORKFORCE AND TECHNOLOGICAL CHANGES

Over the past ten years, the global workforce has undergone significant changes due to various factors. The business landscape has become more competitive, complexity has increased, and the digital revolution has transformed the types of employees needed. At the same time, uncertainty persists, different generations coexist in the workplace, and knowledge has a shorter lifespan, highlighting the importance of reskilling and upskilling. This shift towards a digital, knowledge-based economy emphasizes the crucial role of a dynamic workforce, with research indicating that a substantial portion of public companies' market value is attributed to intangible assets like skilled employees, outstanding leaders, and expertise (Van Dam, 2018).

According to the Workplace Learning Report 2024 (LinkedIn Learning, 2024), several key trends and insights into how organizations and individuals are adapting to the demands of modern careers are highlighted:

- Artificial intelligence (AI) skills and career advancement: Four out of five individuals are keen to learn how to integrate AI into their professions, and those with clear career goals engage in learning four times more than those without specific objectives.
- Learning as a top retention strategy: Offering learning opportunities is a primary strategy for employee retention in 90 % of organizations.
- Investment in Learning and Development (L&D): According to the LinkedIn Executive Confidence Index, by the end of 2024, nine out of ten global executives plan to either maintain or increase their investment in L&D, focusing on upskilling and reskilling.
- Enhanced employee commitment through learning: Seven out of ten employees report that learning opportunities strengthen their connection to the company, and eight out of ten believe learning gives purpose to their work.
- Prevalence of online learning programs: Among organizations with established career development initiatives, 68% offer online learning programs.
- Generational focus on growth: Gen Z professionals prioritize growth more than previous generations, with 53 % viewing learning as essential for career progression.
- Adoption of microlearning: Microlearning is a priority for 47% of L&D teams, who plan to implement such programs in 2024.

These trends underscore the critical need for organizations to continually evolve their learning strategies, including the adoption of e-learning solutions, to keep pace with technological advancements and shifting workforce dynamics.

1.2 WHAT IS E-LEARNING?

1.2.1 Preview and Definitions of E-Leaning

The concept of e-learning (electronic learning) has transformed alongside the evolution of the internet, from its early stages known as Web 0 to the current era of Web 4.0. (Choudhury & Pattnaik, 2020). In their research paper reviewing emerging themes in e-learning, Choudhury and Pattnaik (2020) found that while most definitions emphasize the use of technology for learning purposes, a few of them address crucial aspects of e-learning, such as distribution, flexibility, availability at any time, and interactivity. For example, the definition of e-learning as integrating information and communication technology (ICT) into environments to improve learning outcomes (Rosenberg & Foshay, 2002, as cited in Giannakos et al., 2022) aligns with this observation, focusing on technology but not fully addressing these additional aspects.

Another example is the Association for Talent Development (ATD) definition, which describes e-learning as any learning content delivered electronically, often referring specifically to a structured course, or learning experience (ATD, 2021), illustrating a more focused view of the delivery method and course structure. Choudhury and Pattnaik (2020) proposed their definition of e-learning as follows: "E-learning is the transfer of knowledge and skills through well-designed course content, with established accreditations, delivered via electronic media such as the Internet, Web 4.0, intranets, and extranets."

1.2.2 Exploring the Scope and Variants of E-Learning

The term "e-learning" is frequently used as an umbrella term for various digital learning formats, such as online courses, virtual learning environments, and social learning technologies (Giannakos et al., 2022), while also encompassing related concepts like m-learning (mobile learning) and d-learning (digital learning), which are often used interchangeably or

complementarily to refer to different aspects of technological learning (Kumar Basak et al., 2018). E-learning, defined as "learning supported by digital electronic tools and media" (Hoppe et al., 2003, p. 255 as cited in Giannakos et al., 2022), serves as an alternative to and complement traditional learning. M-learning, which is a subset of e-learning, is a delivery strategy that emphasizes the idea of learning on the go (Woods, 2019) and complements both traditional and e-learning methods (Giannakos et al., 2022). In 2018, 52% of organizations surveyed by the Chief Learning Office Business Intelligence Board anticipated investing in mobile learning, reflecting a significant trend in corporate learning (Prokopeak, 2018). Digital learning encompasses “any type of learning facilitated by technology or by instructional practices that make effective use of technology” and occurs across all learning areas and domains (Victoria State Government, 2017, as cited in Giannakos et al., 2022), and it involves using electronic technology for the explicit purpose of training, learning, or development (CIPD, 2021). Among the more recent forms of digital technology are game-based learning, artificial intelligence, and extended reality immersive technologies. (CIPD, 2021). Although e-learning, m-learning, and d-learning have a significant impact on sustainable development (Podlacha et al., 2016 as cited in Giannakos et al., 2022), they are closely related yet distinct. Specifically, m-learning is a subset of e-learning, while d-learning represents a combination of both e-learning and m-learning.

According to ATD (2021), the standard style typically includes a hyphen in its spelling, but variations like elearning or eLearning are also common. E-learning courses are usually overseen and handled using a learning management system (LMS).

1.2.3 E-Learning Types: Asynchronous and Synchronous

Two main types of e-learning are usually compared: asynchronous and synchronous (ATD, 2021; Hrastinski, 2008). However, a hybrid type of e-learning is also an option (Amiti,

2020). Each type—whether asynchronous, synchronous, or hybrid—serves distinct needs, and organizations should carefully consider these to ensure the success of their e-learning initiatives (Hrastinski, 2008).

Asynchronous e-learning allows learners to progress through the course at their own pace, typically using a laptop and involves accessing materials at various times and locations (ATD, 2021; CIPD, 2021). Asynchronous environments offer learners readily accessible materials, such as audio and video lectures, handouts, articles, and PowerPoint presentations, available at any time and from any location (Perveen, 2016), and also encompass tools like email, discussion boards, and blogs (Hrastinski, 2008).

Technological advancements and enhanced bandwidth capabilities have driven the rise in popularity of synchronous e-learning (Hrastinski, 2008). Synchronous e-learning, which includes live online training, synchronous online training, or virtual classroom training, consists of real-time, instructor-led sessions where participants engage simultaneously despite being physically apart (ATD, 2021; CIPD, 2021). This approach often utilizes web-conferencing platforms like Zoom or Teams, featuring tools such as slide or screen sharing, chat, polling, and screen annotation (ATD, 2021). In synchronous classes, the instructor provides initial instructions, but the focus is on creating an interactive, learner-centred environment where learners actively participate and respond to activities (Amiti, 2020).

Finally, the hybrid method integrates both synchronous and asynchronous learning components (Amiti, 2020).

1.2.4 E-Learning Unique Proposition

Learning has always been valuable to organizations, and with technology, it has become a strategic asset. E-learning's accessibility fosters a culture of continuous improvement in the workforce (Choudhury & Pattnaik, 2020).

In their survey with the most responders from various industry sectors, KPMG (2015) found that 32% of organizations use e-learning for its reach, while 23% highlight cost reduction. Indeed, in some organizations, up to 60% of training costs can be attributed to travel expenses. Thus, cost-effectiveness is frequently cited as a major advantage of e-learning (Arkorful & Abaidoo, 2015; Gautam & Tiwari, 2016; Choudhury & Pattnaik, 2020). Additionally, cascading learning, which trains trainers, is emphasized. Other significant factors include the convenience and quality of e-learning, as well as its ability to meet the needs of Generations X, Y, and Z (KPMG, 2015).

A survey conducted by KPMG (2015) highlighted several key benefits of e-learning for learners within organizations. The ability of individuals to control their own learning pace was the most significant advantage, serving as a motivational factor for 95% of respondents. The elimination of travel requirements was also highly valued, cited by 84% of participants. Additionally, the mandatory nature of e-learning was a common motivator for 68% of respondents. Flexibility for learning on the go was appreciated by approximately 20% of participants, who also recognized e-learning’s role in career advancement. Complementing these findings, Gautam and Tiwari (2016) emphasize that e-learning can lead to reduced learning times and ensure consistent delivery of content through asynchronous, self-paced modules. Furthermore, e-learning enhances the efficacy of knowledge and qualifications by providing easy access to extensive information (Arkorful & Abaidoo, 2015), enabling quicker training, and

offering greater control over the learning process (Choudhury & Pattnaik, 2020). E-learning also provides widespread access to expert knowledge, available to students at any time, thereby enhancing the overall learning experience.

1.3 E-LEARNING INDUSTRY EXPANSION AND EMERGING TRENDS

1.3.1 E-Learning is on the Rise

Even before the onset of the pandemic, employees had been actively investing in e-learning development and delivery (CIPD, 2021). According to the Statista Research Department (2022), the global e-learning market is projected to reach nearly 400 billion U.S. dollars by 2026, compared to 200 billion U.S. dollars in 2019. Online learning alone will generate 167.5 billion U.S. dollars, making a 66% growth. Mobile learning is expected to contribute 48.5 billion U.S. dollars (a 152% growth), while virtual classrooms are forecasted to generate 33.5 billion U.S. dollars (a 202% growth). According to a review by the Chartered Institute of Personnel and Development (CIPD, 2021), this growth is attributed to several following factors:

- Technological advancements such as improved access to high-speed broadband and emerging applications like artificial intelligence and virtual reality-based learning
- Increased familiarity among learners with technology that supports learning
- Growing expectations among learners for flexibility in their study options
- Considerations related to cost and resource optimization drive demand for shorter, more cost-effective development programs and courses that seamlessly integrate with employees' daily work routines
- Widespread need for reskilling and upskilling in response to technological and organizational shifts

1.3.2 Embracing Digital Evolution: Artificial Reality (AI), Augmented Reality (AR), and Virtual Reality (VR)

The rise of digitalization is challenging numerous business models and raising critical questions about the role and execution of learning and development (Dignen & Burmeister, 2020), while also facilitating flexible learning opportunities across different departments and employees within an organization.

According to the Workplace Learning Report 2024 (LinkedIn Learning, 2024), we have entered the age of AI, presenting learning and talent development leaders with the new challenge of helping individuals seize opportunities effectively. As AI transforms how people learn, work, and progress in their careers, L&D is at the heart of organizational agility, driving business innovation and essential skills development.

Virtual reality (VR) and augmented reality (AR) are increasingly used in training. Thus, Walmart uses VR to train employees for Black Friday and improve shelf stocking. Coca-Cola and Home Depot use training apps and games. Farmer insurance uses VR to simulate damage scenarios for cost assessment. E-learning communities are also gaining traction, providing beneficial digital interaction experiences (McCue, 2018).

The integration of Artificial Intelligence (AI) into learning and development (L&D) is transforming how organizations approach employee training. AI-driven platforms, including adaptive learning algorithms, real-time feedback systems, and chatbots, are personalizing learning experiences and enhancing engagement and knowledge retention (Gupta et al., 2023; Sucharita, 2024). These tools enable L&D programs to cater to individual learning needs, providing a tailored, on-demand experience that improves efficiency (George & Thomas, 2019).

Additionally, AI's use in simulations, alongside virtual reality (VR), creates immersive, practical learning environments that allow employees to develop skills safely (Sucharita, 2024).

The integration of AI with other emerging technologies like AR and VR is also becoming common practice. In their study, Sucharita (2024) found that AI can enhance AR/VR-based training by offering more responsive, personalized learning experiences, improving outcomes across different sectors. To ensure successful AI implementation, organizations must align leadership, strategy, and infrastructure while addressing ethical concerns and ensuring continuous evaluation of the system's effectiveness.

This synergy between AI, AR, and VR can further drive organizational agility and innovation, placing L&D at the center of employee development and business growth. As the digital landscape evolves, embracing AI as a tool for personalized, adaptive learning is essential for organizations seeking to enhance their workforce's skills and stay competitive in an increasingly technology-driven world (George & Thomas, 2019; Sucharita, 2024).

1.3.3 Barriers to further expansion of digital learning

According to CIPD research (2021), the obstacles hindering the further expansion and effective utilization of digital and online learning fall into three primary categories:

- Technological barriers, such as disparities in access to reliable devices or Wi-Fi, insufficient tech support, or concerns regarding cybersecurity.
- Instructional barriers, including the digital proficiency levels of instructors and inadequate training and support provided to them.
- Learner barriers, such as feelings of isolation and time constraints for learning.

In addition to these, the digital divide presents a significant challenge to digital learning, as advanced learning technologies (ALT) are primarily used in sectors like education and

healthcare, with limited adoption in other industries (Frosch at al., n.d.). Moreover, ethical and legal concerns, such as disregarding behavioral regulations and failing to obtain proper consent for sharing learner information, present significant barriers to the expansion of digital learning. Ignoring these policies within organizations can lead to serious consequences and hinder the effective implementation of online learning initiatives (Toprak et al., 2007).

These barriers could be reduced by improving access to reliable devices, offering comprehensive IT and cybersecurity support, and providing instructors with regular training and resources to boost digital proficiency. Ethical and legal challenges can be managed by establishing clear policies on data privacy and AI usage, alongside ensuring compliance with labor laws and accessibility standards (CIPD, 2021; Toprak et al., 2007).

1.4 RESEARCH QUESTION

As organizations strive to adapt to the demands of the digital age and modern learners, understanding how they manage e-learning projects becomes imperative for optimizing learning outcomes, fostering organizational growth, and harnessing the potential of technology-mediated training. This study aims to delve into these management practices, focusing on how organizations handle e-learning projects and what factors influence their approaches. The research question guiding this study is:

How do workplace learning organizations manage e-learning projects?

1.5 AUTHOR'S PROFESSIONAL POSITIONING

As an instructional designer and e-learning developer working within a leading technology company, I have extensive experience in creating business-related training courses tailored for engineering professionals. My work integrates established project management practices, including Agile methodologies, Kanban, and stakeholder management, to ensure the

efficient delivery of high-quality e-learning solutions. This professional background has allowed me to deeply engage with the intersection of instructional design and project management, providing firsthand insights into the challenges and best practices of managing e-learning projects in complex organizational environments. This experience informs my thesis and lends practical relevance to my study, ensuring its findings and recommendations are grounded in real-world applications.

CHAPTER 2: LITERATURE REVIEW

This chapter will situate this study in the literature. Specifically, the review will examine the study in two bodies of literature linked to the research questions: instructional design models and project management practices.

2.1 INSTRUCTIONAL DESIGN MODELS

2.1.1 Concept of Instructional Design

Design is an iterative process that individuals undertake to enhance the quality of their subsequent creations (Ragan & Smith, 1999) along with their practical utility (Rowland, 1993). In various fields like industrial design and architecture the term "design" is commonly used, and it involves the systematic and rigorous planning and ideation process before the development of a solution or execution of a plan to address a problem (Ragan & Smith, 1999).

Essentially, design is a form of problem-solving and shares similarities with problem-solving in other professions (Smith & Ragan, 2005) when understanding and solving problems may occur simultaneously or in sequence (Rowland, 1993). According to Rowland (1993), a key aspect of instructional design is that it entails both technical skills and creativity, as well as a combination of rational and intuitive thought processes. What sets design apart from other forms of instructional planning is the high level of precision, attention, and expertise applied throughout the planning, development, and evaluation stages (Smith and Ragan, 2005). According to Branch and Stefaniak (2019), instructional design stands as a fundamental component in the domain of educational technology that comprises a set of systematic procedures used to develop educational and training curricula consistently and reliably (Branch & Merrill, 2011 as cited in Branch & Kopcha, 2014). Branch and Kopcha (2014) define instructional design as follows: "Instructional design is intended to be an iterative process of

planning outcomes, selecting effective strategies for teaching and learning, choosing relevant technologies, identifying educational media, and measuring performance" (p. 77). In their review on the research on instructional design, Branch and Kopcha (2014) acknowledge that their definition closely resembles one from the committee on instructional development within the Association for Educational Communications and Technology (1977): "A systematic approach to design production, evaluation, and utilization of complete systems of instruction, including all appropriate components and a management pattern for using them" (p. 172).

2.1.2 Types of Instructional Design Models

Models assist in illustrating relationships and prescribed actions among entities. Instructional design models offer conceptual tools for visualizing, directing, and managing processes aimed at developing high-quality teaching and learning materials (Branch & Kopcha, 2014). They function as frameworks guiding instructional design processes, incorporating principles and prescriptive practices, and adapting to diverse instructional contexts and desired learning objectives (Branch & Stefaniak, 2019).

An instructional design process is most effective when tailored to its specific context. While the number of published models surpasses the unique environments in which they are applied, there exist significant differences among instructional design models. Therefore, there is value in establishing a classification taxonomy dedicated to instructional design models, which helps organize the vast array of literature on this topic and aids instructional designers in selecting the most appropriate model for a given situation. According to Branch and Stefaniak (2019), one such taxonomy, proposed by Gustafson considers factors such as output quantity, resource allocation, collaborative or solitary effort, skill levels, material selection, amount of preliminary analysis, technological complexity, revision and trial extent, and post-development

dissemination and follow-up. This schema suggests that the selection of an appropriate instructional design model depends on whether the focus is on the classroom, a product, or a process (Branch & Stefaniak, 2019).

Another approach, as undertaken by Visscher-Voerman et al. (1999), involved creating a classification framework for instructional design models and processes. Drawing from comprehensive data on actual designer practices, this framework delineates four categories: instrumental, communicative, pragmatic, and artistic, aiming to capture the underlying philosophies and values of each approach rather than their specific contexts.

2.1.2.1 Analysis, Design, Development, Implementation, and Evaluation (ADDIE) Model

Among the plethora of approaches and theories available to instructional designers, one framework stood out for its effectiveness in offering developers a generic and systemic framework applicable across diverse settings (Branch, 2009; Branch & Kopcha, 2014; Peterson 2003). The Analyze, Design, Develop, Implement, and Evaluate (ADDIE) framework outlines a process employed in instructional design to create intentional learning experiences (Branch, 2009). Thus, majority of other models trace their roots back to ADDIE, which emerged from instructional systems research after World War II and initially was introduced in 1975 by the Centre for Educational Technology at Florida State University (Branson, 1975), and serves as the foundational framework for instructional design methodologies.

In his seminal work on the ADDIE approach, Branch (2009) argues that ADDIE should be seen as a fundamental instructional design concept rather than a model. It serves as a generic framework for product development and is applied in constructing performance-based learning. Branch (2009) asserts that the educational philosophy underlying this application of ADDIE is centered on intentional learning, emphasizing student-centeredness, innovation, authenticity, and

inspiration. As ADDIE functions primarily as a foundational process guiding complex situations, it is well-suited for developing educational products and other effective learning resources. Each of the five phases of ADDIE is associated with specific standard procedures and key outcomes:

1. The Analyze phase aims to identify the likely causes of a performance gap. Key tasks in this phase include validating the performance gap, setting instructional goals, confirming the target audience, identifying necessary resources for the ADDIE's processes, determining potential delivery systems, including cost estimates, and creating a project management plan. The main deliverable for this phase is an Analysis Summary (Branch, 2009).
2. The Design phase focuses on confirming the desired performances and appropriate testing methods. Key tasks in this phase include conducting a task inventory, writing performance objectives, developing testing strategies, and calculating return on investment (Branch, 2009). Additionally, Peterson (2003) asserts that objectives and assessments should be aligned and purposeful, and in line with this, the main deliverable for the Design phase is a Design Brief.
3. The Develop phase aims to create and validate the necessary learning resources for the instructional modules. This transitional stage shifts the designer's role from research and planning to active production (Peterson, 2003). Key tasks include generating content, selecting or developing supporting media, creating guidance for teachers and students, conducting formative revisions, and performing a pilot test. The main deliverable for this phase is all the learning resources needed for the entire ADDIE processes (Branch, 2009).

4. The Implement phase focuses on preparing the learning environment and engaging students. Key tasks include preparing both teachers and students. The main deliverable for this phase is an Implementation Strategy ((Branch, 2009). Designers must actively engage in analyzing, redesigning, and enhancing the product, as effective delivery requires continuous improvement (Peterson, 2003).
5. The Evaluate phase assesses the quality of instructional products and processes before and after implementation in the forms of formative and summative evaluations ((Branch, 2009). According to Peterson (2003), this phase also incorporates feedback from both students and instructors throughout its duration. Key tasks include setting evaluation criteria, selecting or creating evaluation tools, and conducting evaluations. The main deliverable for this phase is an Evaluation Plan.

2.1.2.2 Dick and Carey Model

Dick and Carey model is a widely used introductory resource in instructional design, and its popularity can be attributed partly to its accessible language and the authors' ongoing efforts to update it in line with evolving instructional design philosophies (Dick, 1996). They enhance their model with straightforward examples of each step and excerpts from real cases, providing readers with practical insights. Additionally, Dick and Carey have made minor adjustments to their model to accommodate emerging trends such as performance technology, context analysis, multi-level evaluation models, and total quality management (Dick, 1996; Gustafson & Branch, 1997).

According to Gustafson and Branch (1997), the model's notable feature lies in its flexibility, allowing designers to initiate from any main step, provided preceding steps are fulfilled—a characteristic shared with Morrison, Ross, and Kemp’s model. However, a notable

constraint surfaces in the requirement to conduct analysis and needs assessment before writing instructional objectives. Furthermore, except for the analysis and needs assessment steps, each main step is connected to formative evaluation, enabling iterative refinement throughout development. The Dick and Carey model consists of the following steps:

1. Establishing instructional goals: Identifying desired learner outcomes.
2. Analyzing instructional goals: Detailing tasks associated with goals and required entry behaviors.
3. Analyzing learners and context: Understanding learners and learning environments.
4. Writing performance objectives: Specifying desired behaviors, conditions, and criteria for success.
5. Developing assessment instruments: Creating tools aligned with objectives.
6. Developing instructional strategy: Planning information presentation, practice, and feedback.
7. Developing and selecting instruction: Producing instructional materials based on chosen strategy.
8. Designing and conducting formative evaluation: Testing materials for feedback and refinement.
9. Revising instruction: Addressing learner difficulties identified through evaluation.
10. Summative evaluation: Independent assessment of instruction effectiveness (Dick, 1996).

This model leans towards product orientation, making it particularly beneficial for novice designers and product development contexts.

2.1.2.3 Smith and Ragan Model

Smith and Ragan instructional design model embodies principles such as systematic processes, problem-solving orientation, learner-centeredness, goal orientation, instructional alignment, and theoretical and empirical foundations. Smith and Ragan (2005) highlight three main parts:

1. Instructional analysis:
    - Examination of the learning context, learners, and learning tasks
    - Development of test items
2. Strategy selection:
    - Determination of organizational, delivery, and management strategies
    - Writing and production of instruction
3. Evaluation development:
    - Implementation of formative and summative evaluations
    - Revision of instruction based on evaluation outcomes

Throughout the design process, designers follow three foundational steps:

- Analysis: Determining objectives and directions.
- Strategy development: Planning methods to achieve objectives.
- Evaluation: Assessing achievement and refining as necessary (Smith & Ragan, 2005).

The model's steps typically follow a linear progression, although designers may adjust the order as needed for specific contexts, emphasizing the importance of consistency among objectives, strategies, and evaluations. Specifically, the inclusion of writing test items after setting objectives ensures alignment and facilitates effective assessment of student performance.

2.2 PROJECT MANAGEMENT THEORY

2.2.1 Dynamic Progress of Project Management

Project management stands as a focal point globally, as the challenges of efficient management surface in both small and large enterprises (Amaro & Domingues, 2023; Lyandau, 2022). Silently but significantly, projects have overtaken operations as the primary economic powerhouse of our time. While operations in the 20th century created immense value through advancements in efficiency and productivity, the productivity growth in Western economies has remained stagnant for much of the current century, despite the advent of the internet, shorter product lifecycles, and exponential progress in AI and robotics. In contrast, projects are now driving both short-term performance and long-term value creation more vigorously (Lyandau, 2022; Nieto-Rodriguez, 2021). This is evident in the increasing frequency of organizational transformations, the rapid development of new products, and the swift adoption of emerging technologies. This trend is observed globally. According to estimates by the Project Management Institute, Inc., (PMI) in 2017, the leading global organization in project management dedicated to advancing the field and enhancing the profession, the value of project-oriented economic activity worldwide was expected to soar from $12 trillion in 2017 to $20 trillion in 2027 (Nieto-Rodriguez, 2021; PMI, n.d.). Consequently, this surge is anticipated to create job opportunities for approximately 88 million individuals in project management-oriented roles (Nieto-Rodriguez, 2021).

2.2.2 Key Terms and Concepts

The following terms are defined:

Project: According to the PMI (2021), a project is defined as “a temporary endeavor undertaken to create a unique product, service, or result”. More specifically, a project is a series of structured

tasks, activities, and deliverables that are carefully executed to achieve a desired outcome (PMI, n.d.).

A project involves coordinating individuals and resources toward a specific goal and purpose (Salameh, 2014). Additionally, a project is distinguished by its predetermined timeframe, constrained budget, clearly outlined objectives, and a sequence of tasks designed to accomplish those objectives (Gareis, 2004 as cited in Salameh, 2014). The temporary aspect of projects suggests a defined commencement and conclusion to the project tasks or phases. Projects may function independently or as components of a program or portfolio (PMI, 2021).

Project Management: According to the PMI (2021), project management entails the utilization of knowledge, skills, tools, and techniques to carry out project tasks, ensuring that the needs and expectations of stakeholders are met or surpassed. Project management involves guiding the project work to deliver intended outcomes, with project teams utilizing a broad range of approaches to achieve these goals (PMI, 2021). With the rapid advancement of new technologies, the field of project management is undergoing unprecedented evolution and transformation, emphasizing the delivery of value for both the organization and stakeholders through project work and outcomes (Amaro & Domingues, 2023; Nieto-Rodriguez, 2021).

This understanding underscores the need for project managers to adapt and innovate their approaches to their project and product delivery, reflecting the evolving demands and expectations of stakeholders and the diverse challenges of today's project delivery landscape (Amaro & Domingues, 2023; Nieto-Rodriguez, 2021).

Project Manager: PMI (2021) defines a project manager as the individual appointed by the performing organization to lead the project team and achieve project objectives. They facilitate team collaboration and oversee processes for delivering intended outcomes. Furthermore,

McKinsey & Company (2017) emphasizes that while project managers are trained in project management science and proficient in managing processes and methodologies, other crucial skills such as project leadership and entrepreneurial mindset, for instance, treating a project as a business, should not be overlooked.

2.2.3 Project Management Approaches and Methodologies

It is essential to clearly define "project management approach" and "project management methodology," as these terms are often conflated. Clarifying these definitions will facilitate a deeper analysis of their interrelations (Špundak, 2014).

The term "project management approach" typically refers to the guiding principles, fundamental concepts, and guidelines for managing a specific project (Iivari et al., 2000; Introna & Whitley, 1997). While the PMI (n.d.) uses slightly different terminology—predictive, adaptive, and hybrid—to describe these approaches, the literature often categorizes them as traditional (heavyweight), agile (lightweight), and hybrid (Gemino et al., 2021; Reiff & Schlegel, 2022; Salameh, 2014; Špundak, 2014). The primary distinction between project management approaches lies in the contrast between traditional and agile management, which vary fundamentally in their structures and processes (Reiff & Schlegel, 2022). The hybrid approach combines predictive and adaptive methodologies, balancing stability with flexibility for varying project needs (PMI, n.d.)

While the term “project management approach” refers to the broadest level of abstraction used to describe the overall design of a project (Gemino et al., 2021), the term “project management methodology” is more detailed and provides specific guidance on how to manage the project (Gemino et al., 2021; Špundak, 2014). A project management methodology, as defined by the Project Management Institute, encompasses a set of methods, techniques,

procedures, rules, templates, and best practices utilized within a project (PMI, 2008 as cited in Špundak, 2014). In his literature review, Spundak (2014) noted that project management methodologies are often described as adaptable guidelines that provide knowledge about tasks, techniques, and tools, which can be tailored to meet specific project requirements. Each of these methodologies varies in its core concepts and approach, prioritizing distinct aspects of project implementation (Amaro & Domingues, 2023; Tarver 2024).

An alternate viewpoint in defining project management is to consider its methodology based on its objectives and scope. Ultimately, the primary aim of the methodology is to enhance the probability of successful project delivery (Kerzner, 2001 as cited in Špundak, 2014). In a more detailed examination, the goals of the project management methodology encompass achieving high-quality project outcomes, streamlining processes, ensuring control, and facilitating process improvement (Nelson, Ghods & Nelson, 1998 as cited in Špundak, 2014).

Project management methodologies are often supported by frameworks that offer project managers a practical set of rules, processes, procedures, and tools based on the underlying principles. For example, the Scrum framework is based on the Agile methodology (Introna & Whitley, 1997; Tarver, 2024).

2.2.4 Traditional Project Management

The traditional project management approach aims for optimization and efficiency by strictly adhering to the initial detailed project plan, ultimately aiming to complete the project within the planned time, budget, and scope (DeCarlo, 2004; PMI, n.d.; Salameh 2014; Wysocki, 2007 as cited in Spundak 2014). It relies on disciplined and thorough planning and control methods, assuming that project requirements and activities are well-defined and stable at the outset, as well as events and risks, are predictable and controllable (PMI, 2021; Salameh, 2014).

It enables the project manager and team to comprehensively define and complete the project through detailed upfront planning (Spundak, 2014). Additionally, this approach is suitable for projects that require formal documentation at any stage of the project (Spundak, 2014).

One of the main strengths of traditional project management, as highlighted by Salameh (2014), is its structured approach, which involves defining all project steps and requirements before execution. According to PMI (n.d.), it focuses on thorough planning and adherence to initial specifications, following a sequential phase model where each stage must be completed before progressing to the next.

Spundak (2014) argues that this approach dominates the bodies of knowledge produced by project management organizations, largely due to its establishment during a time when it was the prevailing practice in the 1980s. Although subsequent updates to these bodies of knowledge have been made to reflect evolving practices, the pace of change has not always met practitioners' expectations. Despite highlighting robustness as one of its advantages, the traditional project management approach is increasingly recognized for its significant drawbacks for its inability to adapt (Salameh 2014; Spundak 2014). According to Williams (2005; as cited in Spundak, 2014), the main reasons why the traditional approach is inadequate for the majority of contemporary projects include structural complexity, uncertainty in goal definition, and project time constraints.

2.2.4.1 Project Management Body of Knowledge Guide (PMBOK)

The PMI has greatly advanced the standardization of project management practices, with its Project Management Body of Knowledge (PMBOK) Guide being widely accepted in the field (Amaro & Domingues, 2023; PMI, 2021.) PMBOK Guide originated in 1987 to systematically capture project management knowledge. Since then, project management has evolved diversely,

with the exponential growth of technology transforming the team structures and modern projects that vary in levels of uncertainty, complexity, and risk (Amaro & Domingues, 2023; PMI, 2021; Seymour & Hussein,2014). As a result, in 2021, PMI marked a significant shift towards change-oriented project management with the introduction of the PMBOK 7th edition, which moves from a process-centric approach to a paradigm based on principles and performance domains, aligning with contemporary trends such as tailoring to enhance value delivery through project outcomes (Amaro & Domingues, 2023; PMI, 2021). According to PMI (2021), the new "Standard for Project Management provides a basis for understanding project management and how it enables intended outcomes. This standard applies regardless of industry, location, size, and delivery approach, for example, predictive, hybrid, or adaptive." Therefore, an integrated value delivery system was created, consisting of eight performance domains ― stakeholders, team, development approach and life cycle, tailoring, models, methods, and artifacts, planning, project work, delivery, measurement, and uncertainty ― which in synergy to achieve the project objectives (Amaro & Domingues, 2023; PMI, 2021).

The project life cycle, with its distinct phases, provides a framework for organizing and ensuring project success. These phases commonly include:

1. Feasibility. This phase assesses the validity of the business case and determines if the organization possesses the necessary capabilities to achieve the desired outcome.
2. Design. Planning and analysis activities culminate in the development of the project's deliverables.
3. Build. This phase involves constructing the deliverables while integrating quality assurance measures.

4. Test. Final quality assessments and inspections are conducted on the deliverables before transition, go-live, or customer acceptance.
5. Deploy. Project deliverables are put into operation, and transitional activities necessary for benefits realization, organizational change management, and sustainability are completed.
6. Close. This final phase involves the formal closure of the project, archiving project knowledge and artifacts, releasing project team members, and closing contracts (PMI, 2021).

Furthermore, PMI (2021) highlights the PMBOK 7th edition places a strong emphasis on project tailoring, advocating for the deliberate adaptation of project management methodologies, governance, and processes to project environments and requirements. Techniques and guidelines are provided to aid decision-making regarding project lifecycle and development approaches. Additionally, a section is dedicated to Models, Methods, and Artifacts (Items) to assist teams in structuring their efforts toward delivering project outcomes (Amaro & Domingues, 2023; PMI, 2021).

2.2.4.2 Projects in Controlled Environments (PRINCE2)

Project in Controlled Environments (PRINCE2) is a project management methodology that incorporates principles, themes, processes, and the project environment (AXELOS, 2017). It is based on the collective experience of thousands of projects and insights from various stakeholders including sponsors, managers, project teams, academics, trainers, and consultants (Matos & Lopes, 2013). Originally developed in 1989 by The Central Computer and Telecommunications Agency (CCTA), the PRINCE2 methodology later transitioned to The Office of Government Commerce (OCGC). In 2013, AXELOS took ownership, initiating major

updates for both PRINCE2 and PRINCE2 Agile (Marnada et al, 2022). PRINCE2 provides guidelines and a framework crucial for achieving project success, categorizing them into three main areas: seven principles, seven themes, and seven processes (AXELOS, 2017). This project management methodology emphasizes principles such as continuous business justification, learning from experience, clearly defined roles and responsibilities, stage-based management, management by exception, product-focused delivery, and project customization (AXELOS, 2017; Takagi et al, 2024).

Project scope, defined as the deliverable, requires clear agreement between the project manager and customer before starting to avoid delays, overspending, and uncontrolled changes. Adhering to these processes is crucial as the contract is based on agreed scope, ensuring mutual understanding, and preventing mid-project disruptions. (AXELOS, 2017).

2.2.5 Agile Project Management

Agile project management has gained widespread attention over the past several decades and is widely recognized as the leading approach for today's projects, especially alongside the increasing demand for continuous innovations across all industries and the prevailing trend of cost reduction (PMI, 2017; Spundak, 2014). According to DeCarlo (2004), adaptability is its defining characteristic, more important than predictability, which is central to traditional approaches.

PMI (n.d.) claims that agile project management thrives in environments characterized by high levels of uncertainty, unclear project goals, and unpredictable requirements that frequently evolve. By utilizing iterative and incremental processes, this approach is particularly suited for fostering creativity and innovation in projects such as research, new product development, and process improvement initiatives beyond the software industry such as education, manufacturing,

and healthcare (PMI, n.d.; PMI, 2017; Spundak, 2014). It allows for greater flexibility and continuous adaptation throughout the project lifecycle, promoting ongoing collaboration and viewing change as a natural part of the project process. Additionally, agile project management focuses on communication and collaboration among team members. Team members are actively involved in decision-making processes through both formal and informal channels (PMI, 2017; Spundak, 2014).

Unlike PMBOK, which is owned and developed by the Project Management Institute (PMI), agile methodologies do not have a single governing body or owner (PMI, 2017; Spundak, 2014). These methodologies are typically developed and maintained by their respective communities, organizations, or individuals. In this context, the Agile Practice Guide, developed in 2017 through collaboration between PMI and the Agile Alliance, serves as a key resource by offering practical guidance for successful projects that deliver business value and address the challenges of rapid innovation and complexity. On the other hand, the Agile Manifesto outlines the fundamental values and principles of Agile, illustrating how Agile practices have gained traction over time (PMI, 2017).

A diverse range of agile methodologies exists, each presenting its unique variations and characteristics, totaling over 20 different types (Rasnacis & Berzisa, 2017). Among the most prominent and frequently analyzed in literature are Scrum, Extreme Programming (XP), Kanban, Lean software development, feature-driven development, agile unified process, dynamic systems development method (DSDM), and others (Rasnacis & Berzisa, 2017). These agile methodologies aim to define various disciplines, including project management (PM), project life cycle, team management, engineering, and delivery (Rasnacis & Berzisa, 2017). However, it's essential to acknowledge that not all methodologies address every discipline

comprehensively. For instance, while DSDM encompasses all disciplines, Scrum primarily focuses on team management and project life cycle. Across all agile methodologies, there's a consistent emphasis on the importance of effective team management. (Rasnacis & Berzisa, 2017).

2.2.5.1 Agile Manifesto

The Agile Manifesto, written in 2001, synthesizes the extensive experience and thought leadership of its creators, reflecting their collective insights gained from years of work in the technology industry.

The following four values were formalized: “Individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation responding to change over following a plan” (Agile Alliance, n.d.; Fowler & Highsmith, 2001; PMI, 2017).

The Agile Manifesto outlines twelve fundamental principles that guide Agile development practices. These principles emphasize customer satisfaction, adaptability, frequent delivery, collaboration, and continuous improvement. They provide a framework for managing projects efficiently and responsively. The twelve principles of the Agile Manifesto are: “prioritize customer satisfaction through early and continuous delivery of valuable software, welcome changing requirements even late in development, deliver working software frequently with a preference for shorter timescales, ensure daily collaboration between business people and developers, build projects around motivated individuals and trust them, use face-to-face conversation as the most effective method of communication, measure progress primarily through working software, promote sustainable development with a constant pace, focus on technical excellence and good design, embrace simplicity by maximizing work not done, rely on

self-organizing teams to create the best architectures and designs, and regularly reflect and adjust to become more effective ” (PMI, 2017).

2.2.5.2 Scrum Methodology

Scrum, one of the most popular agile software development methods, has greatly influenced APM (Larman & Basili, 2003 as cited in Salameh, 2014) and has been a topic of much discussion in the software community over the last few years (Sadcheva, 2016; Salameh, 2014). Scrum serves as both a tool and a framework for constructing complex products, characterized as a flexible strategy for product development (Sadcheva, 2016).

According to Scrum.org (n.d), Scrum operates as an empirical process driven by observation, experience, and experimentation. It is underpinned by three pillars: transparency, inspection, and adaptation, which reinforce the iterative working concept.

The Scrum process revolves around managing iterative sprints. It involves a self-directed and self-organizing team (Boehm, 2002 as cited in Salameh, 2014) empowered with the authority and responsibility to determine the best approach to achieve the sprint goals. Each sprint in Scrum is meticulously planned by the team, which creates a prioritized list of tasks or features, backlog items, for development and testing (Boehm, 2002 as cited in Salameh, 2014). The Scrum Master and Product Owner play pivotal roles in team success and development progress during iterations (Scrum.org, n.d). The Scrum Master oversees the Scrum project, ensuring alignment with sprint goals and agile principles. This role, often filled by a senior team member or project manager, emphasizes leadership rather than management. Meanwhile, the Product Owner focuses on maximizing project value by managing, prioritizing, and refining the product backlog—a dynamic list of tasks undergoing continuous refinement under agile principles.

CHAPTER 3: METHODOLOGY

This chapter will provide details regarding the methodology employed to answer the main research question: How do workplace learning organizations manage e-learning projects?

This chapter begins by explaining the choice of research methodology that was used. Following that, it provides explanations on how the included literature was selected, how the data was collected and analyzed, and finally, it explains how the study assured credibility and trustworthiness.

3.1 CHOICE OF A RESEARCH METHODOLOGY

The research questions necessitate a systematic search of existing literature to formulate a synthesized conclusion. The integrative literature review is the most suitable approach for this topic, as opposed to meta-analysis or meta-synthesis. A preliminary review of the literature showed a scarcity of earlier research on e-learning project management in workplace settings, primarily comprising surveys and literature reviews. Consequently, the lack of experimental studies precluded the use of meta-analysis, which combines effect sizes from multiple experimental studies (Creswell, 2012). Similarly, meta-synthesis, which "attempts to integrate results from a number of different but inter-related qualitative studies" (Walsh & Downe, 2005, p. 204), was also excluded due to the lack of empirical research on this topic.

An integrative literature review involves conducting research that comprehensively examines and analyzes existing literature related to a particular subject employing an integrative approach through searching, criticizing, and synthesizing relevant literature to address inconsistencies in the literature and offer innovative viewpoints on the subject (Toracco, 2005, p. 236). Following that, the synthesized literature reveals emerging themes, thereby presenting a novel addition to the existing body of literature. Hence, the research objective of this study is in

line with the integrative literature review approach, which aims to investigate an emerging topic and offer an overview of the current state of the literature on the subject.

3.2. HOW THE SAMPLE WAS SELECTED AND DATA COLLECTED FROM IT

This section details the process of sample selection. Specifically, it covers the following: the rationale behind the literature chosen for inclusion in the sample, the approach and the methodology used to access the relevant literature via keywords, the selection of databases and the reasons for their choice, additional strategies for identifying pertinent literature, and the criteria used to include or exclude literature following the search.

Drawing on initial familiarity with the topic, two critical factors guided the sample selection process. Firstly, existing peer-reviewed sources have identified a gap in empirical studies on the management of e-learning projects. Secondly, preliminary searches in professional sources such as practitioner magazines related to education, business, and human resources development suggest that the topic receives greater attention compared to its coverage in peer-reviewed literature. Additionally, as part of the secondary sources, books authored by professionals in the field and competency models from leading professional associations in talent development, training, and performance improvement were carefully explored. The reason for including the competency models is that they provide recommended practices for training and certifying individuals in the field of training and development. These models provide insights into the skills and qualifications professionals should possess to effectively manage e-learning projects. By decoding them, we can better understand the tasks involved in administering e-learning.

A three-step approach was used to search for literature sources. In the first step, the focus was on locating relevant articles published in peer-reviewed journals and chapters from peer-

reviewed books, followed by a search for professional literature. In the second step, a branch-search strategy was employed, involving a manual review of peer-reviewed journals and professional magazines to identify additional studies of interest, which helped expand the number of relevant articles. In the third step, the search included a thorough exploration of competency models from leading professional associations in talent development, training, and performance improvement. To ensure the review's feasibility, the language of the articles was limited to English, and the search period was set from 2003 to 2023. This timeframe was chosen due to the significant growth of e-learning during these years, although a few notable classic books in the field were also included. The systematic literature search was conducted online between October 2022 and November 2023, followed by a manual search from February 2024 to April 2024. This structured approach helped to create a comprehensive and relevant body of literature for analysis.

The detailed procedure for sample collection included:

1. Search terms: The first step involved conducting database searches using specific keywords and advanced search filters. In the primary search filter, the keyword string *e-learning AND management AND organizations* was employed. To further identify literature discussing how workplace learning organizations manage e-learning projects and what factors influence the management approach for workplace e-learning projects, the following variations for each keyword were used:
    - For "e-learning": online learning, online courses, online training, digital learning, distance learning, web-based learning, mobile learning, blended learning.
    - For "management": administration, project management, coordination, planning, strategy, and development.

- For "organizations": corporates, corporations, companies, workplace.

Therefore, keywords included *("online learning' OR "online courses" OR "online training" OR "digital learning" OR "distance learning" OR "web-based learning" OR "mobile learning" OR "blended learning") AND ("administration" OR "project management" OR "coordination" OR "planning" OR "strategy" OR "development") AND ("corporates" OR "corporations" OR "companies" OR "workplace")*.

2. Additionally, related concepts including organizational learning, corporate learning, e-learning training management, microlearning, and digital learning ecosystem, will be searched. Thus, a tertiary search filter incorporated the following search criteria: *("organizational learning" OR "corporate learning" OR "e-learning training management" OR "microlearning" OR "digital learning ecosystem")*. The search of the following databases:

    - ScienceDirect: https://www.sciencedirect.com/
    - Educational Resources Information Center (ERIC)/Education Source Complete (EBSCO)
    - Business Source Complete/EBSCO
    - Applied Business Information (ABI)/INFORM Global/ProQuest
    - Spectrum (Concordia University)
    - Google Scholar: https://scholar.google.com/

These databases were selected based on their comprehensive coverage of scholarly articles, reports, and publications across disciplines relevant to the study. ScienceDirect provides access to a wide range of peer-reviewed journals and research articles. ERIC, available through EBSCO, specializes in education-related literature, while Business Source Complete

covers business and management literature. ABI/INFORM Global from ProQuest offers extensive resources on business, economics, and management topics. Spectrum, the Concordia University database, offers access to a variety of academic resources and materials specific to the institution's research needs. Google Scholar supplements these databases by providing a broad search of scholarly literature from various disciplines and sources. The initial search produced 260 results after removing duplicates.

3. Conducting a staged review by initially screening the author-provided abstracts to filter out irrelevant studies (Toracco, 2005) using the following criteria to identify relevant studies:
    - The article addresses both e-learning and any associated management concepts.
    - The focus is on workplace learning within organizations or more broadly, without specific ties to other educational contexts, such as higher education.

Articles and book chapters that did not meet these criteria were excluded to ensure that only relevant studies were selected. After reviewing the author-provided abstracts, 548 articles and books were identified as meeting the initial criteria. The next stage involved further assessing the texts for quality and relevance, which revealed the need for additional exclusion criteria. Consequently, articles such as opinion pieces, editorials, content lacking substantial discussion, and press releases were excluded. Additionally, sponsored content from professional publications was omitted to maintain integrity and minimize bias in the literature review. As a result of these additional criteria, a number of sources were excluded, leaving a final dataset of 52 sources.

4. Manual search. The second phase of the research process entailed manually searching for pertinent literature that databases may have overlooked. For this study, electronic versions of key journals and magazines in disciplines relevant to education, business, and

human resources that could potentially discuss e-learning project management in workplace settings were carefully reviewed. Publications reviewed included: *Human Resource Development Review, Human Resource Development Quarterly, Chief Learning Officer, E-Learning and Digital Media, eLearn Magazine, International Journal of E-Learning & Distance Education, International Journal of Training and Development, Training Journal, Training Magazine, TD: Talent Development, TD Magazine, and Training magazine.* A preliminary search of these journals and magazines using the Sofia discovery tool at Concordia University Library revealed a total of 293 issues, which were subsequently screened for relevance to form the literature sample. After applying the same search strategy used for the peer-reviewed articles to chapters and books with the same inclusion and exclusion criteria, no relevant materials were identified.

5. The final, third step of the search approach involved carefully exploring competency models for training and development professionals from five organizations: the Association for Talent Development (ATD), the Institute for Performance and Learning (I4PL), the International Board of Standards for Training, Performance, and Instruction (IBSTPI), the Chartered Institute of Personnel and Development (CIPD), and the International Society for Professional Improvement (ISPI). These competencies reflect best practices and standards in the training and development field, providing insights into the skills and qualifications professionals should possess to effectively manage e-learning. By decoding these models, we can better understand the tasks involved in administering e-learning. As a result of this exploration, five additional sources were identified and added to the literature sample, bringing the total to 57 sources.

After reviewing author-provided abstracts, articles and book chapters meeting the study criteria were identified. The data collection process involved the following steps:

1. Reviewing the full text of each selected article and book chapter and creating structured abstracts based on guidelines proposed by Hartley (2004). These structured abstracts helped in later analysis of the research problem, research questions, methodology, key findings, recommendations, limitations, implications, and suggestions for future research.
2. Using Microsoft Excel to create a review matrix for organizing the dataset. The data elements included the citation of the source, the abstract provided by the author, research methodology for the empirical literature, sample (number of people or items included in the study) and instrument details (other characteristics of the learning situation), key findings, as well as recommendations and suggestions for future research, type of research site (a country), year of publication and reporting structure.

   This systematic approach enhanced efficiency, improved synthesis quality, and ensured the inclusion of the most influential literature in the field.

3.3. HOW DATA WAS ANALYZED

This section explains the methodology for analyzing the data to address the research question. Content analysis was employed for data analysis with the goal to interpret the data deeply, focusing on themes, patterns, and contexts (Stemler, 2002). Given the research question focuses on specific factors that influence e-learning project management, content analysis was employed to uncover themes in the literature, extract meaning from text, and identify patterns or themes. These patterns or themes captures the "core consistencies and meanings" (Patton, 2002, p. 453). Furthermore, themes are determined based on the strength of observed patterns and ranked according to the quantity of sources:

- Themes that occur in 50% or more of the readings constitute a strong pattern
- Themes that occur in 33% to 49% of the readings constitute a weak pattern
- Themes that occur in 15% to 32% of the readings constitute an interesting pattern
- Themes that occur in 5% to 14% of the readings constitute a notable pattern

The strategies employed in this study aligned with the integrative literature methodology, which synthesizes the literature on a specific topic to create new knowledge (Torraco, 2016).

3.4 ASSURING CREDIBILITY AND TRUSTWORTHINESS

This study was approached with a personal interest in the subject, while also considering potential bias stemming from my role as an instructional designer managing e-learning projects in global engineering within a tech company. To minimize these effects, the methodology for this study was fully documented including details of search terms, databases, and inclusion and exclusion criteria. This transparency allows readers to critically assess the process and drawn conclusions.

CHAPTER 4: RESULTS

This section presents the study's results, beginning with a description of the sample of literature included in the study, followed by an answer arising from the analysis of that literature to the research question.

4.1 ABOUT THE SAMPLE

Based on the search criteria, a total of 57 publications were included in this study: 30 articles from peer-reviewed journals; 5 gray market publications; 17 books or book chapters; and 5 articles from professional publications (websites and professional magazines that have an editor but not a peer-review process).

Most of the publications, 30, were articles from peer-reviewed journals, representing a strong pattern within the total body of 57 publications. The 30 articles were published between 2003 and 2023 in 21 journals. Table 1 shows the journals that published the articles. Table 7 shows the number of peer-reviewed and other publications by year.

Table 1

Peer-Reviewed Journals Publishing the Articles Included in this Study

Name of Journal	Number of Articles Published
Journal of Workplace Learning	4
International Journal on E-learning	3
Computers & Education	2
Educational Technology Research and Development	2

International Journal of E-learning & Distance Education	2
Performance Improvement Quarterly	2
European Journal of Training and Development	1
British Journal of Educational Technology	1
Cyberpsychology, Behavior, and Social Networking	1
European Business Journal	1
Information Technology & People	1
International Journal of Advanced Corporate Learning	1
International Journal of Project Management	1
International Journal of Training and Development	1
Journal of e-Learning and Knowledge Society	1
Journal of Management	1
Performance Improvement	1
Psicologia (Sao Paulo, Brazil)	1
Technology, Knowledge, and Learning	1
Turkish Online Journal of Distance Education	1
Turkish Online Journal of Educational Technology	1
Total	**30**

The majority of articles in the peer-reviewed publications (24 of 30; a strong pattern) were based on empirical research. These studies employed a variety of research methods,

including integrative literature review, survey, mixed methods, case study, interviews, and multiple methods. The most common methods were integrative literature review and survey, each used in 9 of 28 articles (a weak pattern within the group of empirical articles). However, 2 of the 30 articles did not use empirical methods, an interesting pattern: critical research and experience report, each used in one article. Table 2 shows the research methods used in the articles.

Table 2

Research Methods Used in Peer-Reviewed Publications

General Methodology	Specific Methodology	Number of Articles
Quantitative	Survey	9
Qualitative	Integrative Literature Review	9
	Case Study	2
	Interview	2
Mixed Method	Survey and Integrative Literature Review	1
	Interview and Content Analysis	1
Multimethod	Interview, Survey, and Observation	1
	Repeated Measures and Quasi-Experimental Design	1
Other	Critical	1
	Experience report	1

Five gray market publications were included in this review, all of which focused on the competencies needed for by training and development professionals representing a notable

pattern within the total body of 57 publications. They were obtained in 2023 from the websites of the professional organizations that developed these competency models. The models were first published between 2012 and 2020. Table 3 shows the gray market reports included in the review. Table 7 shows the number of peer-reviewed and other publications by year.

Table 3

Gray Market Reports Included in this Review

Name of Gray Market Report	Name of Organization
1. Capability model	Association for Talent Development (ATD)
2. Competencies for performance and learning professionals	Institute for Performance and Learning (I4PL)
3. Instructional design standards	International Boards of Standards for Trainings, Performance, and Instruction (IBSTPI)
4. Profession Map	Chartered Institute of Personnel and Development (CIPD)
5. Performance Standards	International Society for Professional Improvement (ISPI)

A total of 17 of books and book chapters were included in the study, featuring material such as practical advice for managing e-learning projects, strategies for instructional design, and the application of technology in workplace learning. Table 4 lists the books, their authors, and their years of publication. Table 7 shows the number of peer-reviewed and other publications by year.

Table 4

Books Included in the Study

Author	Book	Year of Publication
Akker et al.	*Design approaches and tools in education and training.*	2012
Allen and Sites	*Leaving ADDIE for SAM: An agile model for developing the best learning experiences.*	2012
Robson	*The changing nature of e-learning content.*	2013
Branch and Kopcha	*Instructional design models.*	2014
Carliner	*Training design basics, 2nd edition.*	2015
Carliner and Driscoll	*An overview of training and development: Why training matters.*	2019
Dick et al.	*The systematic design of instruction, 9th edition.*	2022
Hubbard	*The really useful e-learning instruction manual.*	2013
Johnson and Randall	*A review of design considerations in e-learning.*	2018
Lynch and Roecker	*Project managing e-learning: A handbook for successful design, delivery and management.*	2007
Shackelford	*Project managing e-learning.*	2002
Slaughter and Murtaugh	*Leading and managing e-learning: What the e-learning leader needs to know.*	2018
Smith and Ragan	*Instructional design, 3rd edition.*	2004
Torrance	*Agile for instructional designers.*	2019
Tvenge and Martinsen	*Integration of digital learning in industry 4.0.*	2018
Veletsianos	*Digital learning environments.*	2016
Wang	*E-Learning in the workplace.*	2018

The 5 professional articles in the study represent an interesting pattern within the total body of 57 publications. The articles were published on different websites or professional magazines between 2009 and 2020. Table 5 shows the professional articles included in the review. Table 7 shows the number of peer-reviewed and other publications by year.

Table 5

Professional Publications Publishing the Articles Included in this Study

Name of Publication	**Number of Articles Published**
Association for Talent Development (website)	1
Chapman Alliance (website)	2
Talent Development	1
Training & Development	1
Total	**5**

Some of the professional articles reported the results of research studies. Although these were not peer-reviewed studies, their research methods were noted. They included 3 surveys, a strong pattern within this sample of 5 publications. In addition, 2 articles from professional publications did not report research, a weak pattern within this sample of 5 publications. Table 6 shows the research methods used in the professional articles.

Table 6

Professional Publications Publishing the Articles Included in this Study

General Methodology	Specific Methodology	Number of Articles
Quantitative	Survey	3

Table 7 shows the publication trends for project management in e-learning from 2002 to 2023. The number of peer-reviewed publications on management for e-learning projects was limited in the early years, with a notable increase in 2010 (four articles). There was a slight rise in 2011 and 2012, followed by a peak in 2020 when another four peer-reviewed articles were published. However, the number of peer-reviewed publications decreased to one article in 2023, signalling a decline after the peak. Non-peer-reviewed publications, including gray-market publications, books, and professional articles, remained steady but minimal over the years. Gray-market publications were most frequent in 2020, while books and professional articles appeared sporadically, particularly in 2018, 2019, and 2022. What is notable about this body of literature is the relatively small number of publications in any publication category in a given year (usually 1 or 2 in a category, at most 4) and the number of years in which no publication on the subject occurs in two or more categories of publication.

Table 7

Number of Publications by Year

Year	Number of Peer-Reviewed Publications	Number of Gray Market Reports	Book or book chapters	Number of Professional Articles

1997	1	0	0	0
2002	1	0	1	0
2003	1	0	0	0
2004	0	0	1	0
2005	2	0	0	0
2007	0	0	1	0
2008	1	0	0	0
2009	0	0	0	1
2010	4	0	0	1
2011	3	0	0	0
2012	3	1	2	0
2013	2	0	2	1
2014	0	0	1	0
2015	1	0	1	0
2016	0	1	1	0
2018	2	1	3	1
2019	1	1	2	0
2020	4	1	0	1
2021	2	0	0	0
2022	1	0	2	0
2023	1	0	0	0
Total	**30**	**5**	**17**	**5**

4.2 ANSWER TO RESEARCH QUESTION: HOW DO WORKPLACE LEARNING ORGANIZATIONS MANAGE E-LEARNING PROJECTS?

This section presents the results for the research question: How do workplace learning organizations manage e-learning projects? It begins by outlining the approach used to analyze the data and concludes with the presentation of the results and the answer to the question.

4.2.1 About This Analysis

In analyzing the literature, articles, books, and book chapters were grouped according to three main themes. These themes were then categorized by the frequency and significance of the sources, following these criteria: Strong patterns (50% or more of the readings), weak patterns (33% to 49%), interesting patterns (15% to 32%), and notable patterns (5% to 14%). Based on this classification, the three main themes were identified as follows:

- Theme 1: Managing the Processes and Integration of Instructional Design Models for Effective E-Learning Projects in Organizations (a weak pattern, mentioned in 28 of 57 sources). Specifically, data came from 15 peer-reviewed articles out of a total of 28 sources (a strong pattern within theme 1); 8 books or book chapters out of 28 sources (a weak pattern within theme 1); and 5 non-peer-reviewed articles out of 28 sources (an interesting pattern within theme 1).
- Theme 2: Adapting to technological advances and optimizing organizational environments for effective e-learning management (a weak pattern, mentioned in 21 of 57 sources). Specifically, data came from 11 peer-reviewed articles out of 21 sources (a strong pattern within theme 2); 6 non-peer-reviewed articles out of 21 sources (a weak pattern within theme 2); and 4 books or book chapters out of 21 sources (an interesting pattern within theme 2).

- Theme 3: Implementing project management practices for e-learning within organizations (an interesting pattern, mentioned in 8 of 57 sources), an interesting pattern within the total number of sources, meaning that this theme emerges from the smallest number of sources. Specifically, data comes from 4 peer-reviewed articles out of 8 sources (a strong pattern within theme 3) and 4 books or book chapters (another strong pattern within theme 3).

What is noteworthy is that the largest source of material was peer-reviewed sources, despite the inclusion of other types of materials.

See Table 9 for the overall distribution of sources across topics.

Table 9

Distribution of Source Types Across Themes

Theme	**Peer-Reviewed Articles**	**Non-Peer Reviewed Articles**	**Books and Book Chapters**	**Total Sources**
Theme 1: Managing the processes and integration of instructional design models for effective e-learning projects in organizations	15 (53.6% of the total covering this theme, strong pattern)	5 (17.9% of the total covering this theme, interesting pattern)	8 (28.6% of the total covering this theme, weak pattern)	28 (49.1%, weak pattern)
Theme 2: Adapting to technological advances and optimizing organizational	11 (52.4% of the total covering	6 (28.6% of the total covering	4 (19% of the total covering	21 (36.8%, weak pattern)

environments for effective e-learning management	this theme, strong pattern)	this theme, weak pattern)	this theme, interesting pattern)	
Theme 3: Implementing project management practices for e-learning within organizations	4 (50% of the total covering this theme, strong pattern)	0 (0% of the total covering this theme)	4 (50% of the total covering this theme, strong pattern)	8 (14.0%, interesting pattern)
Total	30 (52.6%)	11 (19.3%)	16 (28.1%)	57 (100%)

To ensure a comprehensive analysis, all sources within each theme were ranked based on two criteria: Relevance (R) and Citations and References (C&R). The detailed ranking system and criteria for each theme can be found in the Appendices (Appendix A, B, and C).

Within each theme, several issues arose. The following sections report what the literature says about each theme and the issues within them.

4.2.2 Theme 1: Managing the Processes and Integration of Instructional Design Models for Effective E-Learning Projects in Organizations

Two specific issues emerged within this theme: managing the design, development, and post-development processes for e-learning, and incorporating instructional design models into e-learning creation. The first issue involves key factors contributing to effective e-learning project management, such as conducting a comprehensive analysis of organizational needs, learner characteristics, and technological infrastructure. It also includes designing and

developing engaging and interactive learning content that aligns with both organizational goals and learner needs, as well as implementing post-development processes like ongoing evaluation, feedback loops, and revisions to ensure the continued relevance of the e-learning initiative. The second issue addresses the integration of instructional design models, ensuring that frameworks like ADDIE, SAM, and others guide the development of effective and efficient e-learning solutions. Together, these issues provide a comprehensive view of the entire e-learning project management lifecycle. Following a review of the body of literature addressing these topics, this section highlights the challenges discussed and the strengths of these insights throughout the literature.

4.2.2.1 About the Literature That Covered this Theme

This theme is informed by 28 of the total 57 sources reviewed for this literature, making it a weak pattern within the study. The theme is supported by a diverse body of literature, including 47.6% peer-reviewed articles, 30.2% books by field experts, and 22.2% professional literature, offering valuable insights into best practices for managing and designing e-learning projects. The theme is most extensively addressed in the peer-reviewed articles, which constitute 15 sources, making it a strong pattern (50% or more of the sources) within this part of the literature.

4.2.2.2 Issue 1. Managing the Design, Development, and Post-Development Processes for E-Learning

The successful management of e-learning projects in organizations requires careful attention to the entire lifecycle—from design and development to post-development. Each phase involves different considerations, challenges, and strategies that contribute to the overall effectiveness of the e-learning program.

The design phase sets the foundation for the success of the e-learning initiative. According to Hutchins and Hutchison (2008), the design process should integrate multiple learning theories, including cognitive, behavioral, constructivist, and social learning perspectives. By applying these theories, instructional designers can create highly interactive, engaging, and meaningful learning experiences. The design should include active learning strategies such as simulations, virtual learning teams, case studies, and reflective opportunities that allow learners to engage deeply with the content.

Kaizer et al. (2020) further stress that effective e-learning design must consider key components such as training objectives, available resources, and the characteristics of the learners. Aligning these components with instructional design theories tailored to the specific context is crucial to improving learning outcomes.

Additionally, the importance of stakeholder involvement in the early stages is emphasized by Dubois & Long (2012), who note that stakeholders should be continuously involved to ensure alignment between training content and organizational needs. Early engagement also helps in identifying potential challenges, ensuring that the design is both relevant and effective.
The design process should also account for the specific needs of personalized learning environments. Fake & Dabbagh (2020) highlight the importance of fostering peer and expert interactions in personalized e-learning, providing opportunities for learners to engage in collaborative and interactive learning experiences.

The development phase involves the creation of the actual e-learning content and the setup of the necessary technological infrastructure to support it. Robson (2013) notes that e-learning development requires significant planning, especially for complex, immersive learning experiences. The time and cost involved in developing e-learning materials, particularly at higher

levels (e.g., Level 3: Advanced, simulation-based content), can be substantial. Chapman (2010) reports that creating advanced e-learning content may require up to 490 hours of development per hour of content, with costs reaching $50,371 per finished hour.

Effective communication and coordination during development are critical. Kapp and Defelice (2017) recommend conducting orientations for SMEs and stakeholders to clarify roles and responsibilities, ensuring that everyone understands their contributions and time commitments. These orientations help prioritize tasks, reduce misunderstandings, and maintain a clear project timeline.

Additionally, the choice of the Learning Management System (LMS) and its setup is vital. As Slaughter and Murtaugh (2018) highlight, early decisions on LMS design, including navigation and layout, are crucial to avoid future delays and redundancies in content creation. Ensuring that the LMS is well integrated with the course design can enhance the learner experience and streamline course delivery.

Technology plays a significant role in the development phase, and investing in the right tools and platforms can significantly improve the efficiency of the development process. Akker et al. (2012) recommend investing in technology that supports collaborative learning, which is essential for fostering interactive and social learning experiences in online environments.

The post-development phase is focused on evaluating the effectiveness of the e-learning program, measuring its impact on learners, and making improvements based on feedback and data. Carliner (2015) stresses the importance of strong administrative processes during this phase, including robust evaluation, feedback mechanisms, and ongoing support. Evaluation should address learner reactions, training transfer, and the effectiveness of the program in achieving its objectives. Dixit and Sinha (2022) further emphasize that follow-up training,

coaching, and the use of multimedia tools (such as video clips) are essential for reinforcing learning and promoting transfer to the workplace.

The evaluation of learning transfer is crucial for understanding how well learners apply the skills and knowledge gained in the e-learning program to their jobs. Martins et al. (2018) in their study on course reaction scales in e-learning, suggest that learner reactions and perceived usefulness play a significant role in determining how well the training translates into improved performance and behavioral change.

Post-development also involves continuous improvement of the e-learning program. Feedback from learners, instructors, and stakeholders should be collected and used to refine the content and delivery methods. Chapman (2013) advises that organizations use data on time and cost to optimize development workflows and reduce future costs. This ongoing evaluation process ensures that the e-learning program remains effective, relevant, and aligned with organizational goals.

Change management also plays a key role in post-development, especially when e-learning programs are being integrated into larger organizational shifts. Kapp and Defelice (2017) emphasize the need for clear change management processes to address organizational restructuring and ensure smooth transitions when new team members or technologies are introduced.

In conclusion, effective management of e-learning projects requires a balanced focus on all stages—design, development, and post-development. By adopting a strategic, systematic approach to these phases, organizations can ensure the creation of e-learning programs that are not only cost-effective and efficient but also impactful for learners and aligned with organizational goals. Each phase builds on the previous one, creating a feedback loop of

continuous improvement and adaptation. Design should be grounded in strong learning theories and involve stakeholders early on. Development should prioritize collaboration, communication, and the use of appropriate technologies, while post-development should focus on evaluating the program's impact and refining it based on real-world feedback. Together, these processes create a sustainable framework for managing e-learning projects effectively in organizations.

4.2.2.3 Issue 2. Incorporating Instructional Design Models into the Creation of E-Learning

When managing e-learning projects, incorporating established instructional design (ID) models is essential to ensure the creation of effective, engaging, and efficient digital learning experiences. These models provide structured frameworks for designing and developing training programs, helping instructional designers address the unique needs of the organization and its learners. Among the most widely adopted models are the ADDIE model, the Dick and Carey System Approach Model, and the Successive Approximation Model (SAM), each contributing to the systematic development of e-learning courses in organizational contexts.

The ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) remains one of the most widely recognized and used frameworks for designing training programs. As Molenda (2003) and Gustafson & Branch (1997) explain, ADDIE provides a systematic approach to e-learning project management, ensuring that training programs are structured to meet specific needs, are delivered on time and within budget, and maintain high-quality standards through regular reviews. The model also helps build sponsor confidence throughout the development process, addressing issues such as content delivery, learner comprehension, and the overall success of the training initiative (Carliner & Driscoll, 2019). Incorporating ADDIE into e-learning projects requires careful alignment with organizational goals and constraints. According to Salas (2018), integrating ADDIE into digital learning

environments may require adapting the traditional linear process to a more iterative approach, reflecting the dynamic nature of digital learning. The digital ADDIE process emphasizes the importance of continuous iteration, collaboration with IT teams, and flexibility in evaluation methods, ensuring that digital solutions remain responsive to learner needs and technological advancements.

Despite its effectiveness, the ADDIE model is not without its limitations. Spatioti (2023) suggests that while ADDIE provides a solid foundation for designing e-learning courses, it lacks certain elements that address the specific challenges of digital learning environments, such as web analytics, accessibility considerations, and user behavior. This gap has led to the development of Digital ADDIE, which adapts the traditional model to meet the needs of e-learning by incorporating these additional factors.

Another influential instructional design framework is the Dick and Carey model, which is considered a systems approach to instructional design. This model integrates a wide range of design principles and focuses on ten key components, including identifying instructional goals, analyzing learners and context, writing performance objectives, and developing assessment instruments (Dick et al., 2022). The Dick and Carey model emphasizes the importance of formative and summative evaluation throughout the design process, ensuring that instructional content and strategies are effective and align with learning outcomes.

This model also integrates performance analysis, which is essential for identifying gaps in learners' existing skills and knowledge and developing instructional content that bridges these gaps. As Giacumo and Breman (2021) note, the Dick and Carey model is often used alongside other performance-based models, such as the Human Performance Improvement (HPI) model, to

ensure that training programs are not only educational but also relevant to the organization's broader performance goals.

The Successive Approximation Model (SAM), developed by Allen & Sites (2012), offers an alternative to the linear, step-by-step approach of ADDIE. SAM focuses on iterative design, rapid prototyping, and feedback loops to continuously improve the e-learning product. This approach is particularly well-suited for projects with evolving or unclear requirements, as it allows instructional designers to refine the product in multiple stages, rather than committing to a fixed design upfront.

SAM is praised for its flexibility and adaptability, enabling teams to respond to changes in learner needs, technological advancements, or organizational priorities throughout the development process. However, as Branch and Kopcha (2014) point out, the challenge with SAM lies in balancing the model's flexibility with the need for structure and accountability. Tailoring the model to fit the specific context of the organization is key to making it work effectively in dynamic e-learning environments.

In addition to ADDIE, Dick and Carey, and SAM, other instructional design models have been proposed to address various challenges in e-learning project management. Giacumo and Breman (2021) highlight the growing use of models like the Agile Development Model, and Merrill's First Principles (Learning is promoted when learners are engaged in solving real-world problems; Learning is promoted when existing knowledge is activated as a foundation for new knowledge; Learning is promoted when new knowledge is demonstrated to the learner; Learning is promoted when new knowledge is applied by the learner; Learning is promoted when new knowledge is integrated into the learner's world), which emphasize rapid development and

continuous feedback. The Agile Model, for instance, promotes an iterative process of design and development, focusing on delivering content quickly and refining it based on user feedback.

4.2.3 Theme 2: Adapting to Technological Advances and Optimizing Organizational Environments for Effective E-Learning Project Management

The second theme of this research, adapting to technological advances and optimizing organizational environments for effective e-learning project management, explores three critical issues that shape management approaches to e-learning project success in organizations:

- A proactive approach to the rapid evolution of e-learning technologies and trends, ensuring that learning solutions remain adaptable and relevant.
- The cultivation of a corporate culture that supports continuous learning, ensures digital learning initiatives are seamlessly integrated with the organization's broader mission and long-term goals.
- The development of clear criteria, requirements, and performance standards to guide the qualifications and skills needed by employees responsible for designing and delivering online training courses.

After discussing the aspects of the literature that address this theme, this section highlights the key issues identified and evaluates the strengths of the insights presented across the body of research.

4.2.3.1 About the Literature that Covered this Theme

This theme is represented by 21 of the total 57 sources, categorizing it as a weak pattern within the overall body of literature. The theme is most extensively covered in the peer-reviewed

articles, which account for 11 sources, making it a strong pattern (50% or more of the sources) within this part of the literature.

4.2.3.2 Issue 1. Optimizing Organizational Environment for Effective E-Learning Projects Management

The influence of organizational environments on e-learning management has been addressed in both peer-reviewed articles and professional literature. While the number of sources is limited, each one provides valuable insights. The key findings emphasize that creating a universally applicable design approach for e-learning is challenging, as it must align with both organizational structures (Cheng et al., 2012; Kapo et al., 2010; Veletsianos, 2016) and the organizational learning culture to achieve optimal impact (Garavan et al., 2010; Kapo et al., 2020; Servage, 2005).

A consistent theme across the literature is the importance of environmental factors in sustaining e-learning initiatives. Kapo et al. (2020) highlight the significance of organizational and managerial support, noting that a lack of such support can negatively affect professional factors. Cheng et al. (2012) further argue that employees' perceptions of managerial and job support significantly influence the perceived usefulness of e-learning for both individual and social learning. This suggests that a key first step for organizations managing e-learning initiatives is to assess and, if necessary, redesign work environment elements—such as the social atmosphere, workflow design, and skill-based reward systems. Addressing potential organizational constraints before making significant investments in e-learning design and development is crucial. In a well-structured work environment, the full potential of e-learning as a tool for both formal and informal employee learning can be realized.

At the macro level, organizations undergoing strategic change through e-learning should prioritize leadership commitment, job system design, and human resource development (HRD) policies and strategies. Each of these elements is essential for creating a conducive organizational environment for successful e-learning implementation.

Schreurs and Al-Huneidi (2012) contribute further to this understanding through their survey, identifying factors that organizations must consider when managing e-learning projects. They developed an improved e-learning readiness measurement model for organizations, highlighting key indicators such as facilities and infrastructure for e-learning, management structures, the organization of the e-learning department, learner characteristics, and the design of e-learning courses and processes.

Beamish et al. (2002) also note that managers overseeing e-learning often face technological and attitudinal barriers. These challenges require practical strategies for overcoming obstacles to successful deployment. Similarly, Servage (2005) adds that much of the practitioner literature on e-learning focuses primarily on cost and technology, often neglecting the needs of learners in the strategic planning and implementation stages. Servage argues that to apply e-learning effectively toward creating creative, productive, and sustainable learning organizations, decision-makers must involve multiple stakeholders to ensure that e-learning strategies align with organizational needs.

In addition, Garavan et al. (2010) conducted a study with a large sample of employees, emphasizing that organizations must effectively manage motivation to learn, as this factor significantly impacts actual participation in e-learning programs. They suggest that e-learning management should integrate motivation and support into the organizational culture, ensuring that a supportive environment for learning is created. This supportive environment is critical for

fostering engagement and maximizing the effectiveness of e-learning initiatives within organizations.

4.2.3.3. Issue 2. Adapting to Technological Advances and Industry Trends

The topic of adapting to technological advances and industry trends is a central theme in the literature on e-learning project management. As organizations aim to stay competitive in a rapidly evolving landscape, embracing technological advancements in educational technology (EdTech) is essential. Experts discuss emerging technologies such as Web 2.0, cloud computing, and virtual simulations, emphasizing the importance of incorporating these innovations to create diverse and dynamic learning environments. For example, Wang (2018) highlights the significance of advanced technologies like augmented reality, encouraging organizations to leverage such tools to offer new and engaging ways of learning. Similarly, Choudhury and Pattnaik (2020) argue that keeping pace with tech and learning trends is crucial for organizations to remain relevant and competitive in the ever-changing e-learning sector.

Banderas (2020) emphasizes the role of digital platforms in disseminating educational content, especially in extreme situations like crises, where online learning becomes a vital resource for continuous education and training. This further underscores the importance of tailoring training content to different devices and formats to ensure optimal engagement. Banderas also points out that the ability to record sessions for on-demand viewing and create a video-on-demand library is a key strategy for providing accessible and flexible learning options. E-learning platforms, particularly Learning Management Systems (LMS), are central to aligning digital learning with the evolving needs of today's workforce, as Hubbard (2013) suggests. In line with this, Bianchino (2011) highlights how adapting to technological advancements enables the development of flexible, scalable, and engaging training programs, especially in financial

organizations. His research found that using modern LMS platforms enhances both course management and learner engagement, with multimedia content and interactive activities significantly improving the learning experience. Furthermore, a blended learning approach, combining online courses and virtual classroom sessions, offers greater flexibility, catering to different learner preferences and needs.

Tvenge (2018) adds that the trend known as Industry 4.0, which is driven by smart technologies, requires businesses to invest in continuous learning. As technology evolves, organizations must blend innovative tools and platforms effectively with their training programs. In this context, Kaminskiene et al. (2015) stress the importance of digital platforms that can scale to meet the needs of large, diverse learner populations. These technological solutions must support not only the content delivery but also the tracking and management of learning progress.

In summary, successfully managing e-learning projects in today's fast-paced technological environment requires organizations to stay ahead of trends, invest in the right platforms, and continually adapt their training strategies to leverage new technologies. Smart integration of digital tools, such as LMS, multimedia content, and blended learning approaches, is essential for creating engaging and effective learning experiences. As the field of EdTech continues to evolve, project managers must remain agile, ensuring that their training programs align with both current and future technological trends.

4.2.3.4 Issue 3. Building Competencies to Manage E-Learning Projects

The theme is reinforced by seven sources: five are the competency models for Learning and Development professionals or particular roles within the field published by professional associations who have incorporated competencies related to e-learning into their models. Although not directly focused on e-learning management, these sources investigate the

skills of training professionals, providing valuable insights into the qualifications needed for effective e-learning project administration. Palacios-Marques et al. (2013) emphasize the significance of integrating management skills, and technological, and social competencies for e-learning project management. Complementing this, Klein and Kelly (2018) underscore the importance of communication and interpersonal skills as vital competencies in employees, reflecting their impact on the effective management of training initiatives.

Effective management of e-learning projects is influenced by a variety of competencies outlined in professional development models. These models emphasize essential skills such as business acumen, technology literacy, and interpersonal abilities, which help guide organizational approaches to e-learning. For instance, the ATD Talent Development Capability Model highlights the importance of knowledge in instructional design models and processes, as well as the skills required for coordinating tasks associated with the planning and implementation of e-learning projects (Association for Talend Development, 2020).

In addition to foundational skills, e-learning success also relies on competencies related to performance assessment, instructional design, and evaluation. The Competencies for Performance and Learning Professionals stress the need for effective curriculum design, learning facilitation, and the evaluation of learning outcomes, ensuring that e-learning programs meet both learner needs and organizational objectives (Institute for Performance and Learning, 2016). Similarly, the IBSTPI Competency Model identifies the roles of instructional designers, emphasizing project management competencies such as planning and managing projects, overseeing collaborative relationships, and applying business acumen to the management of instructional design initiatives (International Board of Standards for Training, Performance, and Instruction, 2012). Furthermore, frameworks like the CIPD Profession Map (Chartered Institute

of Personnel and Development, 2018) and ISPI Performance Standards (International Society for Performance Improvement, 2019) highlight the importance of evidence-based practice and a results-oriented, systematic approach. These models advocate for continuous improvement, with a focus on partnership with clients and stakeholders, designing effective learning solutions, and evaluating their impact.

Overall, these competency frameworks offer a comprehensive approach to managing e-learning projects, guiding organizations to build the necessary capabilities in their teams to successfully design, implement, and assess e-learning initiatives. By focusing on both technical and strategic competencies, organizations can ensure that their e-learning projects deliver meaningful outcomes and contribute to overall organizational success.

4.2.4 Theme 3: Implementing Project Management Practices for E-Learning within Organizations

The third theme of this research, implementing project management practices for e-learning within organizations, examines the importance of effective project management of successful e-learning initiatives. Project management practices refer to the process of planning and organizing the essential components of a goal, including its start and end dates, the tasks to be completed, deadlines for each task, and resources (such as people or equipment) required to ensure successful completion within the defined timeframe. (Lynch & Roecker, 2007).

Three specific issues arose in this theme, including distinguishing project management from instructional design, waterfall management approaches versus the agile methodology, integrating project management and instructional design approaches, and challenges in e-learning project management that affect its successful implementation. Following a discussion of

the parts of the body of literature that addressed this theme, this section reports issues arising in the literature and the strengths of those insights across the body of literature.

4.2.4.1 About the Literature that Covered this Theme

This theme is addressed in 8 of the total 57 sources reviewed for this literature, making it an interesting pattern within the study. Project management is equally addressed in professional books and peer-reviewed articles, with 4 sources in each category, totaling 8 sources, each making a strong pattern within this part of the literature.

4.2.4.2 Issue 1. Distinguishing Between Instructional Design and Project Management

Before organizations can implement project management for e-learning in their organizations, they must first distinguish between it from instructional design, because some of the literature equates instructional design processes with project management processes. The literature makes clear that the two are distinct. This discussion builds on an earlier discussion of the distinction.

Within the context of this body of literature, instructional design refers to the act of creating learning materials that meet educational objectives (Shackelford, 2002). It specifically encompasses these activities: Analysis, which involves determining learner needs, understanding the learning environment, and identifying instructional goals (Doherty, 2010; Lynch & Roecker, 2007; Shackelford, 2002); Design, which includes establishing clear learning objectives, selecting appropriate instructional strategies, and planning assessments (Lynch & Roecker, 2007; Shackelford, 2002); Development, which refers to creating and assembling content and learning materials based on the design specifications (Bartz, 2010; Doherty, 2010); Implementation, which is the process of delivering the learning experience to learners and ensuring it is effectively introduced into the learning environment (Doherty, 2010; Lynch & Roecker, 2007);

and Evaluation, which involves assessing the effectiveness of the instructional design and making revisions as needed to improve the learning experience (Shackelford, 2002). Although instructional design is characterized by a process, the primary purpose of that process is to define the flow of activities involved in creating learning materials that meet educational objectives.

By contrast, project management is an effort that ensures that the project stays on track (Doherty, 2010; Lynch & Roecker, 2007; Shackelford, 2002). Specifically, it involves activities such as defining the project with a project charter, which is a formal document that outlines the objectives, scope, and participants of the initiative (Doherty, 2010; Shackelford, 2002), plan, which is a detailed outline of the steps and timeline required to achieve the goals set out in the charter (Bartz, 2010), gaining approval for these documents before proceeding, where approval ensures that the defined scope and plan align with organizational goals and resources (Torrance, 2019), formally launching the project, which involves initiating the work by securing necessary resources and aligning team efforts with the defined scope and goals (Shackelford, 2002), and, after the launch, managing budgets, resources, and schedules to make sure they align with the plans, which involves ensuring that allocated resources and timelines are adhered to, with regular adjustments as needed (Lynch & Roecker, 2007; Shackelford, 2002), maintaining ongoing communication with stakeholders, which means keeping all involved parties informed about progress, risks, and changes (Torrance, 2019; Shackelford, 2002), and managing stakeholder expectations throughout, which ensures that the needs and goals of all parties involved are understood and met (Torrance, 2019; Shackelford, 2002). Lynch and Roecker (2007) argue that the up-front planning required by establishing a project charter and plan and ensuring approval of them before proceeding with a project ensure a structured approach to e-learning development. A structured approach to e-learning is a methodical process that ensures that all elements of the

learning system are aligned with the desired outcomes and the goals of the organization (Doherty, 2010; Lynch & Roecker, 2007). Such a structure permits smoother transitions between project phases and ensures that both design and development are aligned with organizational goals.

Project management differs from instructional design in several ways. Instructional design focuses on creating educational content to meet learning objectives, while project management ensures the process stays on track, meeting constraints like budget and timeline (Lynch & Roecker, 2007; Williams Van Rooij, 2010). Additionally, instructional design is flexible and iterative, whereas project management follows a more structured approach with fixed deadlines and resource management (Bartz, 2010; Lynch & Roecker, 2007). Finally, instructional design prioritizes learning outcomes, while project management emphasizes coordination and risk management (Lynch & Roecker, 2007).

Instructional design and project management have a relationship in that both require clear objectives and careful planning to ensure that the final outcome meets expectations (Williams Van Rooij, 2011; Lynch & Roecker, 2007), both benefit from detailed documentation and coordination to ensure alignment with organizational goals (Shackelford, 2002), and both involve evaluation, but in instructional design, it focuses on assessing learner outcomes, while in project management, it ensures that the project meets scope, time, and budget requirements (Lynch & Roecker, 2007).

The distinction between instructional design and project management is mentioned in 3 of 8 sources in this category, which implies that it is a weak pattern.

4.2.4.3. Issue 2. Waterfall Project Management vs. Agile Methodology in E-Learning

The second challenge that the literature notes in implementing project management for e-learning projects is the methodology used. The methodology is important for several reasons. One is the ability to scale their training programs and develop large-scale digital learning initiatives. In the context of managing a project, scaling refers to expanding the scope of the project to accommodate a greater number of participants or content, ensuring that the system can handle the increased demand without compromising quality (Shackelford, 2002). Scaling is important to larger projects, which are initiatives that involve a higher level of complexity, greater numbers of learners, or require a broader geographic or organizational reach (Van Rooij, 2011), because it allows for the efficient delivery of learning experiences to more people, reduces costs per learner as the project grows, and ensures that systems can handle larger volumes of users and content (Torrance, 2019; Lynch & Roecker, 2007). The importance of scaling is mentioned in 3 of 8 sources in this category, which implies that it is a weak pattern.

Another general reason that the methodology used to manage e-learning projects plays an important role in their effectiveness is that it provides a structured approach that guides the development and delivery of learning content, ensuring that objectives are met and resources are efficiently allocated (Doherty, 2010; Torrance, 2019); it improves the likelihood of project success by ensuring consistent quality and stakeholder alignment (Bartz, 2010); and it helps manage the complexity of large-scale initiatives by organizing tasks and setting clear milestones (Villiams Van Rooij, 2011; Smith & Ragan, 2004). This point is important because clear methodologies reduce confusion, ensure accountability, and improve communication among project teams, thereby contributing to more successful outcomes (Torrance, 2019); they provide a framework for continuous improvement and adaptation, which is crucial for the dynamic nature

of e-learning projects (Shackelford, 2002); and they ensure that learning initiatives align with organizational goals and are tailored to meet the needs of the learners (Lynch & Roecker, 2007). The importance of methodology in managing e-learning projects is mentioned in mentioned in 3 of the 8 sources in this category, which implies that it is a weak pattern.

Another third reason that the methodology used to manage e-learning projects plays an important role in their effectiveness is that it ensures risks are identified and managed proactively, which is crucial for large, complex projects (Bartz, 2010; Lynch & Roecker, 2007); it helps maintain focus on the project's goals while adapting to changes in scope or environment (Lynch & Roecker, 2007); and it encourages a systematic evaluation process to assess the effectiveness of the learning initiatives (Doherty, 2010; Torrance, 2019). This point is important because it enables project managers to anticipate challenges and make informed decisions, reducing the likelihood of project failure (Shackelford, 2002); it helps create an environment of continuous learning and improvement, which enhances project outcomes (Lynch & Roecker, 2007); and it provides a clear framework for assessing progress and performance, which aids in stakeholder communication and satisfaction (Torrance, 2019, 2011). The importance of risk management and evaluation in project methodology is mentioned in interesting (20 to 32% of the total number of sources in the topic review.

The literature suggests that two major classes of methodologies for project management for e-learning exist. One is the waterfall approach, which is a linear, step-by-step process where each phase is completed before moving to the next. This term is used because, like a cascading flow, the process moves in stages, with each step being dependent on the completion of the previous one (Shackelford, 2002). The waterfall approach is the more established of the two approaches. According to the literature, the waterfall approach owes its popularity to its

simplicity, predictability, and ease of use for projects where requirements are clear and unlikely to change (Shackelford, 2002); it provides a structured approach that allows for easier tracking and progress reporting (Shackelford, 2002). The waterfall approach is mentioned in 1 of 8 sources in this category, which implies that it is a notable pattern.

The second common approach to managing e-learning projects is the agile approach, which is a flexible, iterative methodology that focuses on short development cycles, quick feedback, and continuous improvement. The agile approach is newer of the two approaches. Key features of the agile methodology include short, repeated development cycles called "sprints," typically lasting 1 to 4 weeks, during which regular testing and adaptation of the product occur (Torrance, 2019); the use of daily meetings or "scrums" to review progress and align on next steps (Shackelford, 2002); collaboration among cross-functional teams, promoting flexibility and quick problem-solving (Lynch & Roecker, 2007). In 2012, Michael Allen and Richard Sites popularized a version of the agile methodology specifically adapted to e-learning projects. Highlights of their approach include rapid prototyping, allowing for early user feedback on learning content; focus on delivering smaller, modular learning components that can be quickly tested and refined; emphasis on stakeholder involvement throughout the development process to ensure content aligns with learner needs. The importance of agile approach in managing e-learning projects is mentioned in 2 of the 8 sources in this category, which implies that it is an interesting pattern.

The literature seems to suggest that agile methodologies are preferred to waterfall methodologies. One reason is that e-learning projects, which often have different requirements compared to in-person training projects, and the waterfall methodologies were designed for in-person training, not e-learning (Smith & Ragan, 2004; Torrance, 2019). That is because

traditional project management methodologies emphasize a linear progression of tasks—initiation, planning, execution, and closure (Lynch & Roecker, 2007; Shackelford, 2002). These steps do not account for the dynamic, evolving nature of e-learning, where changes in technology, content, or learner needs may occur throughout the process (Torrance, 2019). Such a linear progression poses problems to e-learning projects because e-learning projects often involve ongoing feedback from learners, content revisions, and technology changes, requiring more flexibility than the waterfall model allows (Torrance, 2019); the iterative nature of e-learning development, where content is continuously tested and improved, conflicts with the sequential nature of waterfall (Shackelford, 2002).

These limitations explain why the literature increasingly recommends agile methodologies to guide e-learning projects. One reason provided is the flexibility of agile approaches. The flexibility is demonstrated by iterative cycles development, in which the development of a project occurs in small phases (such as one lesson at a time) so that the material can be piloted and feedback received before proceeding to the next lesson, and so forth, and developers can continuously receive feedback on a large e-learning project, integrate it into the section reviewed, and incorporate that into parts developed later (Torrance 2019). By contrast, in a waterfall project, an entire project is developed before feedback is received and often too late to learn from it (Shackelford, 2002). In addition, the agile approach reflects the changing nature of e-learning projects, which often focus on processes and products that are under development at the same time as the instructional program, resulting in numerous changes that might be avoided if the project were developed in parts in tandem with the technical subject matter covered in the program (Doherty, 2010; Torrance, 2019). As the technical content for an e-learning project often gets refined during a project, so the details of the intended learners, too,

are often clarified during the process. Agile technologies provide e-learning developers with the flexibility to adjust their programs to evolving definitions of learners (Torrance, 2019). Despite the advantages of agile methodologies, Doherty (2010) notes that their successful implementation in organizations requires careful consideration because some instructional designers and organizational cultures resist the change to a new project management methodology and can derail the effort. Of all the sources covering methodology, 2 of 8 sources on methodology issues advocate for the agile methodology, which is an interesting pattern.

4.2.4.4 Issue 3. Challenges in E-Learning Project Management

After distinguishing between instructional design and project management and choosing between waterfall and agile methodologies for managing e-learning projects, the literature identifies several challenges that professionals in the field are likely to encounter when managing an e-learning project.

One challenge is that organizations must make trade-offs when approaching their projects: that is, balance the need for quality with the demands for cost (budget) and speed (schedule) (Bartz, 2010; Doherty, 2010; Smith and Ragan, 2004). E-learning projects are often under pressure to meet tight deadlines and budgets, yet stakeholders still expect high-quality learning experiences (Doherty, 2010). Bartz (2010) notes that e-learning projects often operate with limited budgets, which complicates the ability to deliver projects within the desired timeframe without compromising quality. For example, Smith and Ragan (2004) observe that organizations frequently expect instructional design teams to rapidly develop and launch e-learning programs, which can shortchange certain aspects of the effort, such as reducing the extent of—or nearly eliminating—detailed needs assessments due to the need for quick turnaround times on projects. Another example provided by Doherty (2010) is that, although the

eLearning product may meet the agreed-upon acceptance criteria and be completed on time and within budget, it can still fail due to inadequate learning analysis and design. Trade-offs were mentioned in 5 of the total 8 instances covering this theme, indicating a strong pattern, with 62.5% representation.

A second challenge in implementing project management is managing the risks management that arise on e-learning projects (Shackelford, 2002). In the context of an e-learning project, a risk refers to both anticipated and unanticipated issues that may arise during the project's lifecycle (Smith & Ragan, 2004; Shackelford, 2002). One such risk is tight budgets and timelines, which leave little room for error. If an error arises and needs to be fixed, it can lead to delays and increased costs as resources are diverted to correct the problem, potentially causing the project to exceed both its budget and timeline (Lynch and Roecker, 2007; Shackelford, 2002). One way project managers can reduce the likelihood of such risks affecting projects is to identify potential risks early in the project, and then plan for contingencies (Lynch and Roecker, 2007). Contingency within the context of an e-learning project refers to a predefined strategy or set of resources that are allocated to address potential issues or unexpected events that may arise during the project (Lynch & Roecker, 2007). By planning for contingencies, managers of e-learning projects are prepared for the risk of unexpected changes and have plans to adapt to them. Two common risks on projects are unplanned changes and scope creep. Within the context of e-learning projects, unplanned changes are modifications or additions to the project that arise unexpectedly and were not included in the original project scope. These can create problems because they often require additional resources, time, or adjustments to the existing structure, which can lead to delays, budget overruns, or confusion among stakeholders (Shackelford, 2002). Within e-learning projects, scope creep is the uncontrolled increase in a project's goals or

tasks, often through added features not originally planned. It can cause problems by increasing workload, straining resources, and delaying the project (Lynch & Roecker, 2007). To anticipate risks and minimize the likelihood of them affecting projects, Lynch and Roecker, (2007) suggest that project managers use risk management models like Initiation, Planning, Execution, Control, and Closure (IPEEC) to address risks systematically throughout the project lifecycle. IPEEC helps project managers ensure that all phases—such as developing course content, testing platforms, and managing timelines—are organized and tracked carefully. This structured approach minimizes the risk of missing key elements, ensures resources are allocated efficiently, and provides a clear framework for managing challenges, such as technical issues or content changes, throughout the project lifecycle (Lynch & Roecker, 2007). Incorporating risk management into the overall project plan allows e-learning managers to mitigate the impact of unforeseen issues. Risk management was mentioned in 3 out of 8 sources covering this theme, indicating a weak pattern.

A third challenge in implementing project management for e-learning projects is stakeholder management. E-learning projects often involve multiple stakeholders, including subject matter experts, instructional designers, IT staff, and learners themselves. Aligning the expectations of such a diverse group of stakeholders with project goals can be difficult, particularly in large-scale e-learning initiatives. Two of the ways to address this issue are clearly defining roles for essential stakeholders and regular communication with them (Smith & Ragan, 2005). Clearly defining roles involves identifying and outlining the specific responsibilities, expectations, and contributions of each stakeholder within the project. This typically includes providing detailed descriptions of their tasks, objectives, and authority levels, which are often documented in project plans, project charters, or role descriptions. Defining roles clearly helps

ensure everyone understands their involvement and how they contribute to the overall success of the project (Lynch & Roecker, 2007; Regular communication with stakeholders involves establishing and maintaining consistent communication channels, which can include in-person meetings, emails, project management software, and written status reports. Communication should be scheduled at regular intervals (e.g., weekly, bi-weekly) to keep stakeholders informed, manage expectations, and address any concerns. The purpose of this communication is to provide project updates, resolve issues, and ensure alignment between the stakeholders and project objectives (Lynch & Roecker, 2007; Shackelford, 2002). Written status reports are particularly important as they provide a formal, documented summary of project progress, key milestones, upcoming tasks, and any risks or issues that need attention (Torrance, 2019). These reports help maintain transparency and provide stakeholders with a reference point for ongoing discussions. Stakeholder management was mentioned in 3 out of 8 sources covering this theme, indicating a weak pattern.

But perhaps the most basic challenge in implementing project management for e-learning projects is doing it. Several sources commented on the limited integration of formal project management practices in e-learning initiatives. Although project management methodologies are well-established in other sectors, it is not often consistently applied to e-learning projects (Lynch & Roecker, 2007; Williams Van Rooij, 2010; Williams Van Rooij, 2011). As Bartz (2010) points out, many instructional designers are tasked with managing projects but lack formal project management training, which can lead to gaps in documentation, resource allocation, and risk management. The absence of structured project management oversight can result in poor alignment between the e-learning project and the organization's strategic objectives. The extent of the use of project management was mentioned in 6 out of 8

sources covering this theme, indicating a strong pattern (50% or more of the total number of sources in the review).

In conclusion, the successful implementation of project management practices in e-learning projects requires a combination of traditional project management techniques and Agile methodologies. While traditional models offer structure and clarity, the dynamic nature of e-learning projects demands a more flexible, iterative approach. Overcoming the challenges of quality vs. speed, limited project management integration, risk management, and stakeholder alignment is essential for organizations to deliver effective and successful e-learning programs. As the research suggests, project managers must balance planning with adaptability, ensuring that e-learning projects not only meet organizational objectives but also provide meaningful and effective learning experiences for all stakeholders involved.

CHAPTER 5: CONCLUSIONS

This chapter presents the conclusions of the study. It specifically explores the implications of the study to practice and to research and theory. Then it identifies the limitations of this study and closes by proposing directions for future research on the topic.

5.1 IMPLICATIONS TO PRACTICE

The results of this study highlight several key implications for practitioners involved in managing e-learning projects within workplace learning organizations. First, organizations should adopt a structured and systematic approach to managing e-learning projects and addressing their associated challenges. A critical aspect of this is understanding the distinct roles of instructional design models and project management methodologies, and how to integrate both effectively (Doherty, 2010; Lynch & Roecker, 2007). This dual understanding enables organizations to manage e-learning projects with greater efficiency and alignment to organizational goals, ensuring successful outcomes (Shackerford, 2002; Williams van Rooij, 2011).

Moreover, the study emphasizes the importance of optimizing organizational environments for e-learning project management (Garavan et al., 2010; Kapo et al., 2020; Servage, 2005). Specifically, organizations should foster a culture of managerial support, which is crucial in workflow design and in ensuring that e-learning initiatives are adequately resourced and aligned with broader business objectives (Kapo et al., 2020). Organizational leaders should prioritize providing necessary support for project managers and instructional designers to navigate challenges effectively.

Additionally, adapting to technological advancements and industry trends is vital for staying competitive in the evolving landscape of e-learning. As technologies like Learning

Management Systems (LMS), cloud computing, and augmented reality (AR) become increasingly integrated into workplace learning, organizations must remain agile in their approach to incorporating these tools (Hubbard, 2013; Wang, 2018). E-learning managers should stay informed about emerging technologies and proactively assess how they can be leveraged to improve training outcomes.

The study further underscores the necessity for learning and professional development professionals to possess a diverse set of competencies related to e-learning project management. Specifically, management skills, technological proficiency, and strong communication abilities are essential for the successful execution of e-learning projects (Association for Talent Development, 2020; Institute for Performance and Learning, 2016). Ensuring that these competencies are present at both the managerial and practitioner levels will help mitigate common challenges in project delivery.

Another significant implication for practitioners is the apparent gap in how project management methodologies are applied to e-learning projects of varying scopes and complexities. While the literature discusses the scope of e-learning projects in terms of program complexity (e.g., Level 1, 2, or 3) and project size (e.g., minor revisions, major revisions, or new courses), there is a lack of clear guidance on how different methodologies can be tailored to these varying needs (Chapman, 2010; Chapman, 2013). Many methodologies appear to adopt a "one-size-fits-all" approach, even when they advocate for more flexibility, which could lead to inefficiencies and misalignments in project execution. This finding suggests the need for more nuanced project management frameworks that account for the unique demands of different e-learning projects.

Furthermore, the study highlights the limited insights in the literature regarding the preparedness of e-learning project managers to handle the risks and challenges that arise during project execution. Practitioners should focus on developing specific risk management competencies to navigate unforeseen issues effectively and prevent project delays or failures (Williams van Rooij, 2011). Ensuring that project managers are equipped to anticipate and address challenges as they arise will contribute to the smoother execution and successful delivery of e-learning initiatives.

Finally, a key takeaway for practitioners is the need to clearly differentiate between various project management methodologies, such as Agile and Waterfall models, and understand how they apply to e-learning projects (Torrance, 2019; Lynch & Roecker, 2007). Understanding the strengths and limitations of each methodology helps reduce confusion and misalignment in project execution, leading to more effective project outcomes and smoother workflows. Clarity in methodology can also facilitate better collaboration among cross-functional teams involved in e-learning initiatives.

In conclusion, e-learning project managers should be prepared to navigate a complex landscape where technology, methodology, and organizational support intersect. By refining their approach to project management and developing the competencies to handle risks, managers can better ensure the success of e-learning initiatives.

5.2 IMPLICATIONS TO RESEARCH AND THEORY

The findings of this study offer significant theoretical and conceptual contributions to the understanding of e-learning project management in workplace learning environments. First, the study highlights the importance of integrating both instructional design models and project management methodologies to effectively manage e-learning initiatives (Lynch & Roecker,

2007; Williams van Rooij, 2010; Williams van Rooij, 2011). While existing research has largely focused on these domains separately, this study demonstrates the need for a more integrated approach, suggesting that combining aspects of instructional design and project management may lead to more successful e-learning outcomes. This contribution refines current theories in both fields, proposing that future research should consider hybrid models that bridge the gap between instructional design and project management.

Additionally, the study brings attention to the gap in the literature regarding the application of project management methodologies in e-learning projects of varying scopes and complexities. While project management literature often discusses a "one-size-fits-all" approach, this study's findings suggest that project management frameworks should be adapted to account for the varying levels of complexity in e-learning projects (Shackelfold, 2002). This insight challenges existing frameworks that fail to consider the nuances of e-learning projects and calls for future theoretical development in this area.

Furthermore, the study underscores the critical role of technological advances, such as LMS, cloud computing, and augmented reality, in shaping the way e-learning projects are managed (Hubbard, 2013). This finding extends existing research on e-learning technologies by emphasizing the need for workplace learning organizations to adapt to these technologies to stay competitive and enhance their training programs. Theoretical frameworks that examine e-learning project management must, therefore, consider the evolving technological landscape as a key factor influencing project outcomes.

Finally, the study reveals that project managers often lack the preparation necessary to handle the risks and challenges that arise during e-learning project implementation (Doherty, 2010; Torrance, 2019). This gap in research suggests the need for further theoretical work on the

competencies required for managing risks in e-learning projects. Current theories on project management do not fully address the unique challenges faced in the e-learning context, pointing to a need for future research to develop more tailored risk management strategies for e-learning environments.

In conclusion, this study contributes to the growing body of literature on e-learning project management by refining existing theoretical models, highlighting gaps, and offering new insights into how methodologies, technologies, and competencies should be integrated to enhance the effectiveness of e-learning initiatives. Future research should build upon these findings to further develop conceptual frameworks and theoretical approaches that can better support the management of e-learning projects.

5.3 LIMITATIONS

The following limitations affected this study. First, the findings were primarily drawn from a specific set of literature, including peer-reviewed articles, books, and professional literature found using particular keywords and searching particular databases. Although these sources provide valuable insights, they may not fully capture the diversity of practices for managing e-learning that are represented in the literature: just those found in the articles identified by the search.

Furthermore, the findings were primarily limited to the finance, banking, insurance, and technology industries. This may have resulted from a search that only looked for literature in English. Had this search included other databases (such as one for healthcare) and languages other than English, the literature found might have focused on other industries and provided insights relevant to those contexts.

Similarly, the search for literature was limited by the years in which it was conducted. Because the search for literature stopped in 2023, few articles addressed the impact of Artificial Intelligence (AI) on the field: both the management of e-learning projects and the impact on e-learning programs which, in turn, will affect the management of their development. If the marketing hype is to be even partially believed, AI could have a considerable impact on the development of e-learning programs and, as a result, the management of e-learning projects.

5.4 SUGGESTIONS FOR FUTURE RESEARCH

To build on the findings of this study, future research could explore several key areas. First, the primary suggestion is it address the main limitation of the search strategy by including languages other than English, considering the study's context of the study, to ensure a broader and more inclusive review of the literature.

A second area that might be explored is empirically validating the findings of this literature review. That is, determining the extent to which the project management practices identified in this study are used by workplace learning organizations that produce e-learning programs organizations, as well as additional project management practices that organizations use but were not captured by the literature.

A third area that might be explored in future research is the impact of new technologies on the management of e-learning projects. Specifically, research could focus on how project management tools and software can optimize the planning, implementation, and evaluation of e-learning projects within organizations. This would involve identifying best practices for improving workflow efficiency, stakeholder communication, and data-driven decision-making, while also addressing challenges and opportunities these technologies present in managing e-learning projects effectively.

A fourth area for future research is developing empirical case studies from a diverse range of organizations to first, individually offer practical insights into the application of the project management strategies named in this study in real-world settings and second, collectively demonstrate similarities and differences between the management of e-learning projects in different contexts, an issue that might be formally explored in a meta-synthesis of these case studies.

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APPENDIX A

Table 1

Ranking of Sources for Theme 1 Based on Relevance and Citations & References

Source Cited	Source Type	Relevance	Citations & References	Combined Score	Priority
1. Carliner (2015)	Book by field expert	3	2 (98)	5	High
2. Chapman (2010)	Professional article	3	2 (67)	5	High
3. Derouin et al. (2005)	Peer-reviewed article	2	3 (553)	5	High
4. Allen and Sites (2012)	Book by field expert	2	3 (421)	5	High
5. Akker et al. (2012)	Book by field expert	2	3 (311)	5	High
6. Branch and Kopcha (2014)	Book by field expert	2	3 (305)	5	High
7. Gustafson and Branch (1997)	Peer-reviewed article	2	3 (266)	5	High
8. Dick et al. (2022)	Book by field expert	2	3 (231)	5	High
9. Slaughter and Murtaugh (2018)	Book by field expert	3	1 (9)	4	Medium
10. Salas (2018)	Professional article	3	1 (47)	4	Medium
11. Jung et al. (2019)	Peer-reviewed article	3	1 (37)	4	Medium
12. Chapman (2013)	Professional article	3	1 (3)	4	Medium
13. Kapp and Defelice (2009)	Professional article	3	1 (25)	4	Medium
14. Kaizer et al.(2020)	Peer-reviewed article	3	1 (23)	4	Medium
15. Adams (2013)	Peer-reviewed article	3	1 (23)	4	Medium
16. Giacumo and Breman (2021)	Peer-reviewed article	3	1 (21)	4	Medium
17. Byun and Mills (2011)	Peer-reviewed article	3	1 (16)	4	Medium
18. Spatioti et al. (2023)	Peer-reviewed article	3	1 (13)	4	Medium
19. Molenda (2003)	Peer-reviewed article	2	3 (1440)	5	Medium
20. Dubois and Long (2012)	Peer-reviewed article	2	1(8)	3	Medium
21. Hutchins and Hutchison (2008)	Peer-reviewed article	2	1 (34)	3	Medium
22. Robson (2013)	Book by field expert	2	1 (28)	3	Medium
23. Johnson and Randall (2018)	Book by field expert	2	1 (10)	3	Medium
24. Carliner and Driscoll (2019)	Book by field expert	2	1 (1)	3	Medium
25. Dixit and Sinha (2022)	Peer-reviewed article	1	1 (5)	2	Low
26. Fake and Dabbagh (2020)	Peer-reviewed article	1	1 (28)	2	Low
27. Martins (2018)	Peer-reviewed article	1	1 (2)	2	Low
28. Haj-Bolouri (2021)	Peer-reviewed article	1	1 (1)	2	Low

Note. This table demonstrates Ranking of Sources for Topic 1 Based on Relevance and Citations & References (Relevance: 3 = Extremely Relevant, 2 = Highly Relevant, 1 = Less Relevant; Citations & References: 3 = More than 100 citations, 2 = 50-100 citations, 1 = Fewer than 50 citations)

APPENDIX B

Table 2

Ranking of Sources for Theme 2 Based on Relevance and Citations & References

Source Cited	**Source Type**	**Relevance**	**Citations & References**	**Combined Score**	**Priority**
1. Velestianos (2016)	Book by field expert	3	3 (944)	6	High
2. Cheng et al. (2012)	Peer-reviewed article	3	3 (232)	6	High
3. Servage (2005)	Peer-reviewed article	3	3 (173)	6	High
4. Garavan et al. (2010)	Peer-reviewed article	3	3 (172)	6	High
5. Tvenge (2018)	Book by field expert	3	3 (155)	6	High
6. Beamish et al (2002)	Peer-reviewed article	3	3 (111)	6	High
7. Palacios-Marques (2013)	Peer-reviewed article	3	2 (85)	5	High
8. Wang (2018)	Book by field expert	3	2 (56)	5	High
9. Klein and Kelly (2018)	Peer-reviewed article	3	2 (51)	5	High
10. Choudry and Pattnaik (2020)	Peer-reviewed article	2	3 (211)	5	High
11. Hubbard (2015)	Book by field expert	3	1 (46)	4	Medium
12. Schreurs and Al-Hyneidi (2012)	Peer-reviewed article	3	1 (41)	4	Medium
13. Bianchino et al. (2011)	Peer-reviewed article	3	0	3	Medium
14. Banderas (2020)	Professional article	3	0	3	Medium
15. ATD	Grey market report	3	N/A	3	Medium
16. I4PL	Grey market report	3	N/A	3	Medium
17. IBSTPI	Grey market report	3	N/A	3	Medium
18. CIPD	Grey market report	3	N/A	3	Medium
19. ISPI	Grey market report	3	N/A	3	Medium
20. Kapo et al. (2020)	Peer-reviewed article	2	1 (25)	3	Medium
21. Kaminskiene et al. (2015)	Peer-reviewed article	1	1 (6)	2	Low

Note. This table demonstrates Ranking of Sources for Topic 1 Based on Relevance and Citations & References (Relevance: 3 = Extremely Relevant, 2 = Highly Relevant, 1 = Less Relevant; Citations & References: 3 = More than 100 citations, 2 = 50-100 citations, 1 = Fewer than 50 citations)

APPENDIX C

Table 3

Ranking of Sources for Theme 2 Based on Relevance and Citations & References

Source Cited	**Source Type**	**Relevance**	**Citations & References**	**Combined Score**	**Priority**
1. Smith and Ragan (2004)	Book by field expert	3	3 (4621)	6	High
2. Williams van Rooij (2010)	Peer-reviewed article	3	3 (143)	6	High
3. Lynch and Roecker (2007)	Book by field expert	3	3 (110)	6	High
4. Williams van Rooij (2011)	Peer-reviewed article	3	2 (87)	5	High
5. Doherty (2010)	Peer-reviewed article	3	1 (37)	4	Medium
6. Shackelford (2002)	Book by field expert	3	1 (31)	4	Medium
7. Torrance (2019)	Book by field expert	3	1 (19)	4	Medium
8. Bartz (2010)	Peer-reviewed article	2	1 (7)	3	Medium

Note. This table demonstrates Ranking of Sources for Topic 1 Based on Relevance and Citations & References (Relevance: 3 = Extremely Relevant, 2 = Highly Relevant, 1 = Less Relevant; Citations & References: 3 = More than 100 citations, 2 = 50-100 citations, 1 = Fewer than 50 citations)