Development and human Resources Management Review – Researches and StudiesVolume: 13 issue: 01 . 2026 p.p:57-77

Strategic Training of Human Resources in the Context of Digital Transformation and Intelligent Systems: A Sociological Approach to the Reshaping of Human Capital within Economic Organizations

التدريب الاستراتيجي للموارد البشرية في ظل التحول الرقمي و الأنظمة الذكية:

مقاربة سوسيولوجية في إعادة تشكيل رأس المال البشري داخل المؤسسات الاقتصادية

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Received date: 01 / 05 2026 Acceptance date: 04 / 07 / 2026 Published date: 31 / 17 2026

ملخص:

يشهد حقل إدارة الموارد البشرية تحولات عميقة في ظل التسارع المتزايد للثورة الرقمية ، حيث لم يعد التدريب مجرد نشاط لتحسين الأداء البشري بل أصبح أداة استراتيجية لإعادة تشكيل رأس المال البشري داخل المؤسسات. يهدف هذا المقال إلى تحليل التحول الذي طرأ على وظيفة التدريب في المؤسسات الاقتصادية من منظور سوسيولوجي، مع التركيز على أبعاده المفاهيمية والتاريخية. كما يستعرض تمظهرات التدريب الجديدة في ظل الرقمنة واستخدام التقنيات الحديثة والذكاء الاصطناعي. تفترض الدراسة أن التحول الرقمي لا يقتصر على تحديث أدوات وأساليب التدريب فقط، بل يعيد تعريف وظائفه ومحتواه، كما أن إدماج الأنظمة الذكية في تصميم وتنفيذ البرامج التدريبية أدى إلى إعادة توزيع الأدوار والسلطة داخل المؤسسات الاقتصادية من خلال استخدام مؤشرات أداء رقمية وآليات تقييم خوارزمية. و يعتمد المقال على مقاربة تحليلية تستند إلى أدبيات إدارة الموارد البشرية، مع تضمين مفاهيم سوسيولوجية مرتبطة برأس المال البشري والتدريب الاستراتيجي في سياق الرقمنة.

الكلمات المفتاحية: التدريب الاستراتيجي، التحول الرقمي، رأس المال البشري، الذكاء الاصطناعي.

Abstract:

The field of human resource management is undergoing profound transformations due to the accelerating pace of the digital revolution. Training has become a strategic tool for reshaping human capital within institutions, rather than just improving human performance. This article analyzes the transformation of the training function within economic institutions from a sociological perspective, focusing on its conceptual and historical dimensions, and examining the new manifestations of training in light of digitalization and the use of modern technologies. The study suggests that digital transformation goes beyond updating training tools and methods; it redefines their functions and content. The integration of intelligent systems in designing and implementing training programs has led

to the redistribution of roles and authority within organizations, through the use of digital performance indicators and algorithmic evaluation mechanisms. The article adopts an analytical approach based on human resource management literature, linking sociological concepts related to human capital theory and strategic training in the context of digital transformation.

Key words: Strategic Training; Digital Transformation; Human Capital; Artificial Intelligence.

Introduction:

The accelerated transformations witnessed by the world in recent years, particularly in light of digital transformation and the artificial intelligence revolution, have produced a new organizational reality that has reshaped the operational logic of economic institutions and their strategic priorities. These institutions are no longer assessed solely by their ability to possess material and technological resources, but rather by the extent of their capacity to mobilize and develop their human capital, as the central actor in value creation and the achievement of competitiveness. Within this framework, the training function constitutes one of the most important strategic mechanisms upon which organizations rely to ensure adaptation to successive transformations and to keep pace with the requirements of the new economic environment.

The concept of training has undergone significant development across different historical stages, shifting from a mere traditional process of transferring skills and knowledge to an organized and planned process aimed at producing behavioral and cognitive change among employees. This evolution has been associated with transformations in production and organizational patterns, particularly since the emergence of the Industrial Revolution, which imposed new forms of division of labor and necessitated the preparation of qualified human resources capable of dealing with modern technologies (Yaghi, 1993, p. 22).

With the development of administrative thought, training is no longer viewed as a complementary function to recruitment and selection processes, but rather as an integral part of administrative development and a fundamental tool for enhancing individual and collective performance efficiency within the institution. Training programs seek to equip individuals with the necessary knowledge and skills and to guide their behavior in alignment with organizational objectives, which directly contributes to improving productivity and strengthening organizational stability (Abdel-Baqi, 2000, p. 207).

The digital revolution which economic institutions have experienced throughout recent decades has expanded beyond its initial impact on production systems and management approaches. The influence of this development has transformed how people work while it demands new abilities and changes the way employees connect with each other in organizational settings. The digital revolution has established knowledge-based work environments which depend on continuous information exchange and smart system operations. So organizations need to reevaluate their training approaches together with their training goals and training resources.

The need for training in this situation extends past the traditional goal of helping employees perform their work duties better. The organization now views this as a strategic move to establish digital competencies which will help their workforce handle ever-changing, complex work settings. Organizations use this approach to transform their workforce through cognitive, and technical skill development which supports ongoing learning abilities that match modern views about human resources being the main source of competitive advantage (Al-Morsi, 2003, pp. 334-335).

Accordingly, studying training in the context of digital transformation cannot remain confined to functional administrative approaches. It requires broadening the scope of analysis to include its sociological dimensions, through understanding how it contributes to the reproduction of new digital competencies, the restructuring of professional relationships, and even the redistribution of opportunities within the institution. Hence emerges the importance of this article, which seeks to provide an in-depth sociological reading of the strategic training function in the context of digital transformation, and to reveal its stakes and challenges in light of current transformations.

First: Study Problem

The transformations associated with digitalization and the growing reliance on intelligent systems within economic institutions have generated a new context that has reshaped the position of the training function within the organizational structure of modern institutions. Training has thus moved beyond its traditional role aimed at improving performance or remedying employees' competency deficiencies, becoming instead a tool for reorganizing the relationship between human competencies and work requirements in an environment characterized by dynamism and instability. Training is no longer merely an administrative function but has evolved into a dynamic domain for redefining the relationship between human resources and work demands in the context of digital transformation.

Digitalization has led to a profound restructuring of the content and mechanisms of the training process, whether in terms of its content, methods, or implementation mechanisms. New patterns have emerged based on e learning, interactive training, and the use of data to diagnose needs and guide training pathways. This reflects a shift from a unified training logic to a logic of customization, from periodic learning to continuous learning, and from closed programs to flexible and adaptable pathways (Durra & Al-Sabagh, 2008, p. 317).

With the development of administrative thought, especially during the second half of the twentieth century, training was integrated into the strategic policies of human resource management as a fundamental means for developing competencies and improving performance, and as an effective tool for achieving organizational adaptation to economic and technological changes. This orientation was reinforced by

perspectives that view human resources as developmental investment capital rather than merely a consumable production factor (Abdel-Wahab, 1981, p. 19).

However, despite the potential of this transformation to enhance competence and improve performance, it simultaneously raises a set of issues that extend beyond technical efficiency to affect the very nature of relationships within economic organizations. The adoption of digital systems in determining training needs, evaluating performance, and directing career paths can reshape patterns of organization and work within the institution by highlighting new roles for digital knowledge and the associated capacity to control information and data.

Current transformations associated with the rise of the digital economy, accompanied by the widespread diffusion of information and communication technologies and the increasing reliance on intelligent systems, have repositioned the training function within a new context. The issue is no longer limited to developing specific professional skills but rather involves preparing human resources capable of interacting with digital work environments that impose new patterns of learning and adaptation.

On the other hand, the generalization of digital training raises the issue of the digital divide within institutions, as not all individuals possess the same ability to access digital resources or interact with them with equal efficiency. This may lead to the reproduction of new forms of professional inequality based on disparities in digital competencies rather than solely on experience or traditional qualifications.

In this context, new forms of training have emerged, such as e-training, distance learning, and artificial intelligence-based training, which rely on data analysis and the customization of training pathways according to individual characteristics. This represents a qualitative shift from the logic of standardized collective training to that of individualized, personalized learning based on algorithms and intelligent systems (Durra & Al-Sabagh, 2008, p. 317).

In this context as well, the transformation affecting the training function can no longer be reduced to its technical or administrative dimension. Rather, it requires a deeper analytical reading that views it as an effective mechanism in the reshaping of human capital, not only in terms of developing competencies, but also in terms of redistributing opportunities within the organization and redefining the conditions of integration and professional advancement within a changing digital environment.

Accordingly, the issue is not limited to the effectiveness of digital training in improving performance, but extends to examining the transformations it produces in the structure of competencies, learning patterns, and mechanisms of professional integration within contemporary economic organizations. On this basis, the central research problem of the study can be formulated in the following question:

To what extent has digital transformation, including the deployment of artificial intelligence technologies, contributed to redefining the training function within economic institutions, transforming it from a mechanism for skill development into a tool for reshaping human capital and reproducing organizational relations?

This central question gives rise to a set of subsidiary questions:

- What is the nature of the transformations affecting training content and methods under digitalization?
- How have artificial intelligence applications redirected the training process within the institution?
- To what extent does strategic training contribute to building competencies capable of adapting to new work environments?
- What are the limits of these transformations in light of the digital divide within the institution?

Second: The Conceptual Framework of the Study

Addressing the topic of strategic training for human resources in the context of digital transformation requires defining the central concepts on which it is based, given the decisive role these concepts play in guiding analysis and constructing a scientific understanding of the phenomenon under study. Accordingly, four fundamental concepts will be examined: strategic training, digital transformation, human capital, and artificial intelligence.

1. Strategic Training:

The focus of human resource management has increasingly shifted toward investment expenditure in human resources. Most scholars in management and economics agree that one of the most important areas of investment in human resources is training, as it generates returns and outcomes in both the short and long term for individuals and institutions alike, and enhances individual productivity and efficiency. Training is considered one of the most significant domains of investment in human resources, as it represents a strategic dimension through which institutions can invest in their human capital. For this reason, training is regarded as a strategic foundation for institutional development and has become an inevitable necessity and a continuous administrative function representing a fundamental responsibility of modern management across various organizations, due to its direct link to improving human performance levels. The training function is also complementary to the selection and recruitment function. It is not sufficient for human resource management merely to attract, select, and appoint employees. It is essential that this be followed by training programs that help develop employees' skills and enhance their ability to perform assigned tasks. Caring for the human resource entails assisting individuals in acquiring knowledge, providing them with new methods for performing tasks, and refining their skills in executing entrusted duties and responsibilities. Accordingly, strategic training constitutes an integral component of administrative development and one of its key approaches. Such development cannot be achieved

without a unified and coherent framework encompassing other administrative development approaches, including organizational structuring, system reform and modernization, and the simplification and development of procedures and methods in use (Abdel-Baqi, 2000, p. 207).

However, in contemporary administrative thought, training is no longer merely a technical activity aimed at addressing performance gaps. It has become part of the strategic orientation of the institution, linked to achieving long term objectives and enhancing competitive capacity.

Strategic training is defined as a planned and continuous process aimed at developing human competencies in alignment with the strategic objectives of the institution, by linking training programs to organizational and technological transformations and the requirements of the future environment (Dessler, 2012, p. 268).

It also emphasizes that strategic training focuses on building long term capabilities that enable institutions to adapt to change, rather than limiting efforts to improving current performance only (Noe R. , 2010, p. 294).

2. Digital Transformation:

Digital transformation exists in modern literature as a concept which extends beyond its original meaning of organizational technology system deployment. The process has evolved into a comprehensive organizational change which impacts multiple aspects of how organizations operate through their economic systems.

The framework defines digital transformation as a complete business model and operational system transformation which uses advanced digital technologies to create new value generation methods for the organization (Westerman, Bonnet, & McAfee, 2014, p. 15).

The definition needs to include additional elements because it only describes the technological aspects which are essential for its definition. The current academic research shows that digital transformation requires organizations to change their cultural framework which supports innovative thinking and adaptable approaches, and data-based decision processes (Kaplan & Haenlein, 2019, p. 02).

Digital transformation functions as a complex system which operates across three linked operational domains (Anandhi Bharadwaj, 2013, p. 471).

- The technological level focuses on digital tool integration which includes artificial intelligence, big data, and cloud computing.
- The organizational level requires businesses to change their operational procedures and employee work methods.
- Organizations need to train their staff members on digital competencies and skills at the human level.

Human resources form an essential element which determines the success or failure of digital transformation according to this view. All technology systems need

people who understand how to use them correctly because this understanding enables them to operate the systems effectively. This makes training essential for technology change.

The digital economy emerged through this process which depends on fast information exchange and knowledge-based operations while requiring workers to develop adaptable skills for handling unpredictable job conditions. The changing work environment has made institutions need to define their employee skill requirements in new ways (Organisation for Economic Co-operation and Development (OECD), 2016, p. 10).

The framework shows digital transformation as an institutional element which goes past its traditional role as an external factor which affects organization operations. The institution now bases its internal structure and operations on this factor which has become its main determinant for change. The training function has transformed from a knowledge distribution system into a modern platform which develops digital skills through continuous learning processes.

The learning environment has developed new educational approaches which include e-learning, blended learning, and platform-based learning systems. The training methods use interaction and flexibility and personalization to show how learning has evolved from classroom teaching to self-directed learning (Noe R. , 2010, p. 58).

Accordingly, the concept of digital transformation cannot be regarded as a neutral technical variable, but rather as a transformative framework that reshapes the relationship between human resources, work, and technology, and compels institutions to rethink their training strategies in line with the requirements of the new digital environment.

3. Human Capital:

The concept of human capital constitutes a central notion in analyzing the role of human resources within economic organizations, particularly in light of the transformations experienced by the contemporary economy based on knowledge and digital transformation. However, this concept did not emerge instantaneously, but rather resulted from a long intellectual evolution in which attention to the human element shifted from being merely a productive factor to being considered a decisive strategic resource for increasing production and achieving efficiency.

Oliver Sheldon emphasized that the human element cannot be treated like other material resources, but rather represents the central variable that gives value to all other resources, which necessitates subjecting it to planning, organization, and development processes in a manner that serves the objectives of the institution (Hassan, 1995, p. 10).

In this context, human resources are understood as the totality of human capacities capable of work, including skills, knowledge, and experience, in addition to individuals' readiness to effectively engage in productive activity. This makes them

intellectual capital capable of growth and development through learning and training processes (Sultan, 2009, p. 19).

The theoretical foundation of the concept of human capital is associated with the work of several economists, foremost among them Theodore Schultz and Gary Becker, who, since the 1960s, emphasized that investment in human beings through education and training represents one of the most important sources of economic growth and productivity improvement (Al-Daami & al., 2010, p. 116).

Gary Becker also argues that human capital resembles physical capital in terms of its investability, yet differs in that it is embodied in individuals. It can be developed through education, training, and healthcare, which leads to increased labor productivity and the achievement of additional economic returns (Smith, 2007, pp. 22-28).

Human capital can also be defined as the totality of knowledge, skills, and abilities possessed by individuals that can be productively employed in economic activity, whether these abilities are innate or acquired through learning and professional experience (Mohamed Ramadan, 2001, p. 305).

It is also viewed as an intangible stock accumulated as a result of investment in education, training, and research, primarily aimed at enhancing individuals' efficiency and improving their future performance, which reflects its dynamic nature and its capacity for growth and development. (Al-Anzi, 2006, p. 01).

On the other hand, human capital is characterized by a set of features that distinguish it from other forms of capital. It is intangible and difficult to measure precisely. It is also inherent to the individual and cannot be separated from or transferred independently. Moreover, it is influenced by psychological, cognitive, and social factors, which increases the complexity of investing in it (Simonnet, 2003, pp. 03-04).

This type of capital is also characterized by its ability to create added value through the interaction of knowledge and experience, its relative scarcity, and the difficulty of imitation, which gives it a strategic character in achieving competitive advantage for institutions (Vante-Ville, 1985, p. 247).

Within this framework, human capital consists of a set of interrelated elements, including professional competencies, accumulated experience, and acquired knowledge, which are primarily formed through learning and training processes, whether within the institution or outside it.

Training functions as the main operational mechanism which produces human capital growth for organizations beyond its basic function of teaching skills and competencies. Every investment in training directly contributes to strengthening this stock by developing competencies, updating knowledge, and expanding individuals' capacity to adapt to work requirements.

4. Artificial Intelligence:

The fundamental concept of artificial intelligence serves as a core element which explains how digital technology has transformed human resource management activities and their training operations in the current digital era. Artificial intelligence has evolved from a theoretical research field into an effective applied tool. Economic organizations employ it for data analysis and decision making, operational control, and training program development and execution.

Artificial intelligence refers to a collection of systems which enable machines to perform human-like mental operations through their ability to process extensive data sets and extract meaningful patterns from them (Russell & Norvig, 2021, p. 04).

The definition of artificial intelligence shows that computer systems perform tasks which would otherwise need human intelligence to recognize patterns, understand language, and make decisions in intricate situations (Davenport & Ronanki, 2018, p. 02).

In the context of human resource management, artificial intelligence is viewed as a tool for improving the efficiency of organizational processes by supporting data-driven decision making, developing management methods, and enhancing the ability to anticipate future needs (Cascio & Montealegre, 2016, p. 356).

Based on the foregoing, it can be argued that the integration of artificial intelligence into the field of training is no longer merely a technical option, but has become a necessity imposed by the nature of the digital transformations experienced by economic institutions. These technologies have contributed to reshaping the training process in terms of its design, implementation, and evaluation. On the one hand, artificial intelligence has made it possible to analyze training needs with greater accuracy and objectivity through reliance on the analysis of individual and collective performance data, the identification of skill gaps in real time, and the orientation of training programs toward actual needs rather than general estimations (Bersin, 2018, p. 05).

The development of training pathways has received two contradictory contributions from artificial intelligence because intelligent systems now create personalized training programs which match individual requirements based on their current abilities, their learning speed, and their career targets. The learning approach has moved away from its standardized group-based model to a system which provides students with customized learning experiences (Clark, 2020, p. 41).

The development of interactive training methods has advanced through artificial intelligence because simulation technologies, together with augmented learning, and virtual reality enable users to experience authentic workplace settings for skill development in professional work simulations (Kaplan & Haenlein, 2019, p. 17).

The training evaluation system now functions through digital indicators which track performance growth and productivity results from training by monitoring trainee actions continuously in real-time while also assessing their output (Parise & Whelan, 2018, p. 03).

The training process experienced a complete transformation through artificial intelligence because it now functions as an intelligent system which moves beyond traditional teaching methods to deliver analytical personalized interactive learning experiences. The approach enables training to function as a strategic instrument. It helps organizations develop their human resources for modern business operations.

Digital transformation creates a deeper connection between human capital development because organizations need to develop their workforce through digital skill acquisition which enables them to handle contemporary technological systems and fast-paced workplace alterations. The strategic training system allows businesses to transform their human resources through changes which affect both the number of employees and their professional abilities, and their individual characteristics.

Accordingly, the relationship between strategic training and human capital is structural in nature, as the former represents the primary means for developing the latter, while the latter constitutes the ultimate objective of any training investment through which the institution seeks to achieve sustainability and competitiveness within a changing digital environment.

Third: Transformations of the Training Process in the Context of Digitalization within Economic Institutions:

The transformations produced by the digital environment have not been limited to introducing new technological tools in the field of training. Rather, they have affected the overall structure of the training process in terms of its foundations, objectives, and operating mechanisms. This necessitates viewing these transformations as representing a qualitative shift in the training model itself, rather than merely a gradual development of its methods.

The spread of information and communication technologies, along with the increasing reliance on digital systems within economic institutions, has led to a reformulation of the logic governing the training process. Training is no longer associated with a fixed time or a closed spatial setting. Instead, it has become a continuous activity integrated into the daily workflow, based on the principle of lifelong learning and supported by the constant flow of knowledge (Castells, 2010, p. 407).

In this context, a number of fundamental transformations affecting the training process can be identified, the most prominent of which are:

1. The Shift from Traditional Training to Interactive Digital Training:

Traditional models of the training process were characterized by a transmissive approach, whereby the trainer transferred knowledge to a group of trainees within a specific temporal and spatial framework. This limited the effectiveness of the training process, particularly in light of diverse needs and varying individual levels. Digitalization, however, has produced new interactive models such as e-learning and

blended learning, which grant trainees a more active role in constructing their knowledge. This transformation has made it possible to overcome constraints related to time and place and to provide learning opportunities to a larger number of individuals within the institution, with access to training content at any time (Clark, 2020, p. 28).

2. The Transition from Standardization to Personalization:

One of the most prominent features of digital transformation in training is the shift from standardized training programs delivered to all individuals in the same format and content to customized programs that respond to the specific characteristics of each trainee in terms of level, needs, and learning pace.

This orientation has become possible through data analysis and the use of algorithms that enable accurate diagnosis of training needs and the construction of individualized learning paths, thereby enhancing training effectiveness and improving its outcomes (Davenport & Ronanki, 2018, p. 04).

3. The Shift from Periodic Learning to Continuous Learning:

Training used to be seen as a rare occurrence which organizations would arrange only when necessary through occasional training sessions in conventional models. Digital transformation requires organizations to maintain ongoing learning activities which they use to advance their professional careers and complete their daily work responsibilities.

The transformation shows that people have become more aware about how fast knowledge and abilities become outdated because technology advances at a rapid pace. This makes organizations need to establish training programs through ongoing competency development (World Economic Forum, 2023, p. 39).

4. Reshaping the Role of Actors in the Training Process:

The digital environment allows trainers to share knowledge with other users who can now create value through their own independent knowledge generation. The trainer now serves as a learning process facilitator who directs the trainee employee through their learning journey while the trainee actively builds their knowledge through digital content and peer interactions.

The system effectiveness of intelligent platforms which include educational platforms, virtual assistants, and multimedia digital tools serves as a connection between training materials and learners. The training process underwent a fundamental redesign which moved from its previous hierarchical structure to a network-based organizational system (Kaplan & Haenlein, 2016, p. 445).

5. Digitization of Training Evaluation and Measurement of Its Effectiveness:

Modern organizations experience a major shift in their training operations because their evaluation methods now use digital data analysis instead of traditional

approaches which depended on personal impressions and short assessments. The system now enables continuous monitoring of trainee performance while it tracks their development and connects learning results to workplace performance metrics. This helps organizations evaluate their training program success more effectively (Parise & Whelan, 2018, p. 04).

6. Integrating Training into the Institution's Overall Strategy:

The current organizational changes have made training functions to become a separate entity which operates independently from other institutional operations. The organization has integrated this practice into its strategic framework which supports its future plans while developing its market position. Organizations which provide digital training to their employees aim to enhance staff productivity while they build organizational abilities which enable them to handle economic changes that boost their market competitiveness (Bersin, 2017, p. 06).

In light of the foregoing, it can be stated that digitalization has led to a comprehensive reshaping of the training process, moving it from a traditional model based on instruction and standardization to a dynamic model grounded in interaction, personalization, and continuous learning. However, despite their importance, these transformations remain contingent upon institutions' ability to absorb and adapt them to their organizational specificities, and upon the availability of competencies capable of employing them effectively.

Fourth: The Role of Artificial Intelligence in Reshaping Strategic Training within Economic Institutions:

The training patterns of institutions have undergone structural changes because of digitalization, which started with basic changes, and now artificial intelligence technology has reached an advanced stage of development. The problem has evolved from content and media digitization into a complete redesign of training methods which use intelligent data analysis together with adaptive learning systems and algorithm-based decision support.

Artificial intelligence brings a new strategic dimension to training operations because it enables organizations to develop predictive models which help them forecast their future competency requirements. They can use these predictions to generate training programs which help them develop their future workforce.

1. Artificial Intelligence as a Mechanism for Highly Accurate Identification of Training Needs:

The process of determining training needs has evolved from relying on administrative estimates and general observations to using specific data which reveals how people perform their jobs within the organization. Artificial intelligence systems enable organizations to gather extensive data about employee actions and work output

and their individual capabilities. This helps them identify their skill deficits through objective assessment methods.

The transformation achieves its purpose by eliminating the random elements which used to exist in particular training programs, while it drives these programs toward higher effectiveness through their response to institutional requirements (Bersin, 2018, p. 05).

2. Building Intelligent and Personalized Training Pathways:

Artificial intelligence provides its most valuable training impact through personalized learning path generation which adapts to each trainee's individual traits, including their existing knowledge base, their pace of learning, and their professional objectives. Machine learning-based intelligent systems generate training content recommendations which they customize to match each individual user's needs. These systems change their suggested content based on how users perform and what they do with the system to boost both their learning success and their involvement in training programs (Clark, 2020, p. 41).

3. Enhancing the Interactive and Applied Nature of the Training Process:

The development of artificial intelligence has allowed people to build training spaces which combine simulation with virtual reality systems to create safe digital replicas of workplace settings. The training approach allows students to gain operational skills through hands-on learning because it removes their exposure to actual workplace risks which exist in exacting work environments and hazardous professional settings (Kaplan & Haenlein, 2019, p. 17).

4. Redefining the Role of the Trainer within the Training Process::

The trainer now shares knowledge with others while performing duties which extend beyond basic content delivery. The trainer now serves as a supervisor who directs students through their educational path by teaching them new skills and analyzing data from intelligent systems. The trainer needs to develop fresh digital abilities together with teaching skills which let them work with smart tools to achieve training goals successfully (Cascio & Montealegre, 2016, p. 357).

5. The Shift toward Intelligent Evaluation of Performance and Training::

One of the most significant transformations characterizing modern economic institutions lies in the adoption of digital evaluation mechanisms based on data analysis. Institutions have become capable of tracking trainee performance in real time and measuring the extent to which training influences their actual job performance. These systems allow the linkage of training outcomes with key performance indicators (KPIs), thereby providing an objective basis for making

decisions related to promotion or professional redeployment (Parise & Whelan, 2018, p. 04).

6. The Logic of Anticipation Rather than Response: Toward Predictive Training:

Among the most prominent transformations generated by artificial intelligence is the shift of the training function from a reactive logic to an anticipatory one. Training no longer relies solely on addressing current deficiencies and meeting existing training needs, but is increasingly used to predict the skills that the institution will require in the future, through a proactive strategic vision aimed at enhancing the institution's capacity to achieve efficiency and effectiveness under current digital conditions and transformations.

By analyzing technological trends and developments in market economics in alignment with institutional objectives, intelligent systems can propose proactive training programs that enable institutions to prepare optimally for forthcoming transformations and strengthen their competitive capacity (World Economic Forum, 2023, p. 41).

However, despite the significant potential and numerous advantages associated with this profound transformation, it also raises a set of challenges and obstacles that hinder the effective implementation of such strategies. Among these challenges are excessive reliance on algorithms, potential biases in data analysis, and the digital divide that may limit certain groups' access to these systems, among others.

Accordingly, artificial intelligence not only reshapes training tools, but also redefines its logic and functions, granting it a new strategic dimension that places it at the core of the transformations experienced by contemporary economic institutions, as a fundamental mechanism in building and directing human capital.

Fifth: Stakes and Challenges of Digital Training in the Context of Reshaping Human Capital within Economic Institutions:

The transformations affecting the training function in light of the digital revolution and technological development cannot be viewed solely from a positive perspective or from the angle of the technical possibilities they have provided for improving performance and enhancing efficiency. Rather, they require consideration of the new stakes and actual challenges they have produced, along with the organizational tensions that accompany them, which in essence reflect the reshaping of new patterns of investment in human capital within economic institutions.

Training, which was traditionally viewed as a means of acquiring skills and improving job performance, has clearly moved beyond this framework to become one of the fundamental determinants in rebuilding competencies and directing career paths. The issue is no longer limited to providing human resources with ready-made knowledge, but rather to preparing them for integration into work environments characterized by instability, where knowledge changes rapidly and new forms of continuous learning are imposed.

In this context, the first stake that constitutes a clear challenge in reshaping human capital lies in the ability of modern institutions to transform training into a genuine investment in human capital, rather than merely a functional activity with limited impact. Institutions that employ digital capabilities in designing their training programs are effectively investing in building competencies capable of producing value and developing their human resources in line with the requirements of the knowledge-based economy. However, achieving this objective remains conditional upon the alignment of training policies with the institution's overall strategy and their capacity to connect training with the reality of professional practice.

In this regard, Gary Becker pointed out that investment in human capital, through education and training, constitutes one of the most important sources of productivity growth and economic development, which reinforces the position of training as a strategic mechanism rather than an additional cost borne by institutions (Becker, 1993, p. 17).

This transformation, however, simultaneously raises an equally significant challenge, namely the reproduction of professional disparities in light of differences in digital competencies. The integration of digital media in training implicitly presupposes the possession of a minimum level of technical skills, which is not equally available among all individuals within the institution. This may indirectly lead to the consolidation of a form of differentiation between a group capable of interacting with the digital environment and benefiting from its opportunities and another that finds itself marginalized in the face of these transformations.

In this context, Manuel Castells emphasizes that the digital economy not only produces wealth but also reproduces new patterns of inequality based on the capacity to access knowledge and control its tools (Castells, 2010, p. 497).

From another perspective, the generalization of digital training raises an issue related to the nature of professional integration within the institution. Such integration is no longer based solely on experience or seniority, but has become linked to the individual's capacity for continuous learning and adaptation to technological transformations. This imposes a form of "permanent readiness" on human resources, which may at times become a source of professional and psychological pressure.

The adoption of intelligent systems in guiding training pathways and evaluating performance also raises questions regarding the limits of objectivity in decision-making, particularly in light of the potential biases embedded in algorithms as a result of the nature of the data on which they are built. Instead of constituting a tool for enhancing organizational fairness, artificial intelligence may, if not properly employed, contribute to reinforcing invisible patterns of discrimination.

Davenport and Ronanki noted that the success of artificial intelligence applications within institutions is not linked solely to their technical capability, but also to the extent of control over data quality and the understanding of the organizational context in which they are used (Davenport & Ronanki, 2018, p. 06).

In addition, another challenge emerges in redefining the relationship between human resources and the institution. In its digital form, training is based on a logic of

self-directed learning and individual initiative, which may weaken traditional frameworks of organizational socialization and reshape professional ties within the institution. Learning no longer occurs exclusively within the professional group, but also through digital platforms that may extend beyond the boundaries of the institution itself.

Within this framework, Wayne Cascio argues that digital transformations in the field of work not only reshape tasks, but also affect the nature of organizational relationships and patterns of belonging within institutions (Cascio & Montealegre, 2016, p. 52).

Accordingly, the stakes associated with digital training cannot be separated from the challenges posed by the process of reshaping human capital, where the technical dimension intersects with the organizational dimension, and the economic dimension also intersects with the social dimension, within a context that compels institutions to rethink their training policies not only in terms of their effectiveness, but also in terms of their impact on internal balances.

The new training approach functions as a tool which moves beyond its traditional role of knowledge delivery. The training function operates as a strategic approach which combines various elements that affect both organizational efficiency, market competitiveness, and professional fairness. The study of training serves as the essential starting point for understanding how economic institutions have evolved since the digital transformation began.

Conclusion:

The training function within economic institutions has experienced major changes because of digital transformation and artificial intelligence application growth. This shows how the training function has gained new status in organizational structure. Training has evolved from being a supplementary activity to serve as one of the main foundations which support human resource development programs and competency management systems. Training exists as a standalone system which operates through its connection to production system changes and the development of knowledge-based economy and institutional decision-making processes. These now depend on digital data.

The study shows that training process changes went beyond surface-level alterations because they brought about a complete transformation of training content and its operational roles for all involved personnel. The traditional training system used to teach people within fixed time and space limits, but now it has evolved into a flexible system which supports ongoing learning through personalized approaches that follow each person's career path instead of existing as a separate learning experience. The core of this transformation brings a revolution in professional knowledge because it now exists as a changing entity which needs professionals to stay ready for continuous learning and process modification.

The training process found its crucial turning point through artificial intelligence technology implementation which enabled organizations to analyze training requirements and create tailored learning paths, assessment systems, and predict future institutional skill demands. The training system now operates with a proactive approach which prepares staff members to handle upcoming organizational changes that have not yet occurred. The training function operates at a strategic level because it drives organizational policies instead of working as their additional component.

This transformation has not been limited to reshaping tools and methods, but has also extended to the nature of the competencies that institutions seek to develop. Training has become oriented toward fostering complex capabilities that go beyond technical skills to include continuous learning, adaptability to change, and the ability to interact with complex digital work environments. Consequently, strategic training is no longer merely a means of improving performance in its procedural dimension, but has become a mechanism for reshaping human capital in its cognitive and behavioral dimensions in alignment with the requirements of the digital economy.

Nevertheless, the opportunities offered by these transformations do not obscure the challenges they simultaneously pose. The study has shown that the generalization of digital training may, in certain cases, lead to the deepening of disparities within the institution, particularly in light of differences in individuals' digital competencies. Not all employees possess the same capacity to interact with digital tools or to utilize them with equal efficiency, which may result in the reproduction of new forms of professional inequality, based not only on experience or qualifications, but also on the ability to integrate into the digital environment.

Furthermore, the increasing reliance on intelligent systems in directing training pathways and evaluating performance raises questions regarding the limits of objectivity and the nature of the criteria upon which these systems are built. While such technologies are assumed to enhance rational decision making, they may, in the absence of regulation and oversight, involve forms of bias related to the nature of the data or the methods of its processing, which calls for a degree of organizational vigilance in their deployment.

On this basis, it can be argued that digital transformation, including the growing use of artificial intelligence, has clearly contributed to redefining the training function within economic institutions, shifting it from a mere mechanism for skill development to a strategic tool for reshaping human capital, reorganizing the conditions of professional integration, and directing career pathways. However, this transformation does not proceed in a simple linear direction, but rather displays a complex character that combines opportunities for development with the risks of reproducing inequalities, thereby requiring institutions to adopt more balanced approaches in managing training.

Accordingly, the real challenge does not lie in adopting digital tools per se, but in the ability to integrate them within a conscious strategic vision that takes into account the organizational and social dimensions of digital transformation and seeks to employ it toward achieving efficiency without compromising the principle of equal opportunity within the institution. In this way, training becomes a central field for understanding the transformations experienced by contemporary economic organizations and a fundamental entry point for anticipating the future of work in the context of ongoing changes. It thereby acquires a new strategic dimension that places digital training at the core of the mechanisms for reproducing human capital, directing competencies, and ensuring institutional readiness to adapt to current technological and social transformations.

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