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Article

From Training to Performance: Evaluating Digital Skill Transfer in Commercial Banks of Uzbekistan

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Abstract: Digital banking creates value only when employees can convert newly acquired knowledge into reliable work behavior and measurable operational outcomes. This study develops a reproducible framework for evaluating the transfer of digital skills training to job performance in commercial banks. The research combines human capital theory, training-transfer theory, task-functional analysis, and a review of official banking and regulatory documents in Uzbekistan. The proposed architecture separates five levels of evidence: investment inputs, competence acquisition, workplace transfer, labor outcomes, and economic outcomes. It introduces a transfer-adjusted competence effect, a difference-in-differences estimator for labor indicators, and a conservative procedure for calculating full training investment and monetizable benefits. The framework also specifies measurement timing, comparison-group selection, data sources, and attribution-confidence grades. A pilot protocol is designed for two organizationally different banks, with employee-level results to be collected only through anonymized baseline and follow-up assessments. The methodological results show that course completion and test scores are insufficient evidence of productive human capital. The decisive link is workplace transfer, which requires a preassigned work task, access to the relevant digital system, managerial support, and traceable performance data. The framework enables banks to distinguish successful learning from successful application and to renew training budgets on the basis of verified labor effects rather than participation counts.

Keywords: human capital investment; workplace learning; labor productivity; training evaluation; financial services

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1. Introduction

The economic value of professional development is not created at the moment a course is purchased or completed. It emerges only when knowledge and skills become productive capabilities that change how an employee performs a specific task. Human capital theory established the investment nature of education and training, because current expenditures may increase future productivity and income.[1], [2] In a commercial bank, however, the conversion of training into value is especially demanding: the result depends simultaneously on the employee, the digital system, the organization of work, the quality of data, managerial support, and the risk limits of the process.

Digitalization changes the composition of tasks rather than simply eliminating occupations. Automation can displace routine actions while creating complementary tasks involving exception handling, interpretation, communication, and control.[3] Digital transformation therefore requires organizational redesign and new capabilities, not merely the installation of software.[4] This principle is highly relevant to banking

because remote identification, mobile finance, automated credit scoring, data analytics, open banking, and artificial intelligence redistribute responsibility between human workers and information systems.

The scale of change in Uzbekistan makes the evaluation problem practical rather than theoretical. In 2025, online transactions conducted by individuals through bank mobile applications reached UZS 645.6 trillion, 1.6 times the previous-year level. Online deposits accounted for UZS 99.3 trillion, currency conversion for UZS 55.8 trillion, online microloans for UZS 38.6 trillion, and loan repayments for UZS 46.7 trillion.[5] These volumes show that digital channels have become core production infrastructure. A training error is therefore not confined to an examination score; it may affect service continuity, data quality, credit decisions, consumer protection, and operational risk.

The institutional environment is also increasing demand for verifiable digital capability. National policy promotes the wider use of artificial intelligence and the development of corresponding education and skills.[6] The introduction of open banking requires standardized and secure data exchange among banks, payment organizations, and financial technology participants.[7] A digital financial platform and alternative credit-scoring mechanisms expand the use of automated and data-based decisions in lending.[8] These reforms make it necessary to determine not only what employees learned, but whether they can apply the new capability responsibly in actual banking operations.

Many corporate training systems still rely on activity indicators: number of participants, hours of instruction, completion rates, satisfaction scores, and certificates. Such indicators are administratively convenient, but they do not establish that an employee applies the skill, that the quality of work has improved, or that the effect is attributable to training rather than to software upgrades, changes in workload, new regulations, or managerial intervention. The central methodological problem is therefore one of transfer and attribution.

The objective of this study is to develop a function-based and economically interpretable framework for evaluating the transfer of digital skills training into labor and organizational outcomes in commercial banks of Uzbekistan. Unlike the author's previous studies on transformation of banking work and the organizational mechanism of investment in digital competencies, the present article concentrates on the evidence chain after training: acquisition, workplace application, labor effect, attribution, and economic interpretation.

2. Materials and Methods

The study is methodological and design-oriented. It does not report invented employee survey results or simulated bank effects. Its purpose is to specify a protocol that can be replicated when anonymized baseline and follow-up data become available. The framework draws on four bodies of evidence: human capital theory; training-transfer research; task-functional analysis of banking work; and official data and regulatory documents describing the digital transformation of Uzbekistan's banking sector.

Training transfer is defined as the sustained application of acquired knowledge and skills to the job. The classic transfer model emphasizes trainee characteristics, training design, and the work environment.[9] Meta-analytic evidence confirms that transfer depends on cognitive ability, motivation, perceived utility, support, and opportunity to perform, while the relationship between learning and job behavior is not automatic.[10] Later research identifies managerial support, peer support, realistic practice, feedback, and a transfer climate as particularly consequential.[11] For this reason, the unit of analysis in the proposed framework is not the course but the employee–function–competence–result combination.

The framework also incorporates the distinction between learning and development activities and the organizational conditions under which they become effective. Training needs analysis, readiness, practice, feedback, and follow-up are treated as components of one investment cycle rather than separate administrative procedures.[12] Research on the benefits of training supports a multilevel view that includes individual performance,

organizational outcomes, and societal effects, but also warns that evidence quality varies across levels.[13]

Evaluation models based on reaction, learning, behavior, and results provide a useful sequence,[14] yet a simple hierarchy can encourage the assumption that success at one level automatically produces success at the next. Critiques of linear evaluation emphasize that organizational performance is influenced by many variables and that a causal model is required.[15] Return-on-investment methods add economic discipline, but monetization is credible only when benefits can be isolated and measured conservatively.[16] The present study therefore combines a staged evaluation chain with explicit attribution rules.

The proposed empirical design has three levels. At the sector level, official statistics and regulatory documents establish the scale and direction of digital change. At the comparative level, public information from banks can be used to classify training and digitalization practices. At the in-depth level, two organizationally different banks—Asia Alliance Bank and Octobank—are proposed as pilot sites. The pilot is intended to test whether the evaluation protocol works in both a more network-oriented bank and a more product- and technology-intensive bank. The names identify the intended research base; no confidential employee results are asserted in this article.

For each pilot program, the evaluation passport is prepared before training begins. It specifies the professional group, changed work function, target competence, baseline evidence, expected work behavior, one or two labor indicators, data source, observation period, comparison strategy, responsible manager, and rules for data protection. This ex ante specification reduces retrospective selection of convenient indicators.

The full investment in program p is calculated as follows:

$$I_p = D_p + T_p + M_p + O_p \quad (1)$$

where I_p is the full investment; D_p represents direct payments for instruction, platforms, certification, and materials; T_p is the cost of participants' work time; M_p is the cost of mentoring and expert support; and O_p captures organizational costs such as assessment, administration, test environments, and data preparation. Including time and support prevents a low course fee from being mistaken for a low-cost development program.

Competence acquisition for employee i is measured by the change between comparable pre- and post-training assessments:

$$\Delta C_i = C_{i,post} - C_{i,pre} \quad (2)$$

The assessment should combine a practical task with at least one additional source, such as a structured supervisor rating, portfolio evidence, or a knowledge test. A certificate alone is not accepted as evidence. Scores are standardized to a common 0–1 scale when different instruments are combined.

Workplace transfer is measured after the employee has had a genuine opportunity to perform. The transfer coefficient is the arithmetic mean of four standardized components: frequency of use, autonomy, quality of execution, and traceability of the decision or work product:

$$T_i = (F_i + A_i + Q_i + R_i) / 4 \quad (3)$$

The transfer-adjusted competence effect is then calculated as:

$$TAE_i = \Delta C_i \times T_i \quad (4)$$

A high learning gain with a low transfer coefficient signals an organizational barrier rather than a purely educational failure. Conversely, frequent use with no competence gain may indicate that employees were already capable before training or that the instrument lacks sensitivity.

Where a comparable nontrained group is available, the labor effect is estimated through a difference-in-differences design:

$$DID = (Y_{T,post} - Y_{T,pre}) - (Y^{c}_{,post} - Y^{c}_{,pre}) \quad (5)$$

where Y_T is the labor indicator for the trained group and Y^c is the same indicator for a matched comparison group. For indicators where a reduction is desirable—processing time, errors, rework, complaints, or overdue cases—the sign is reversed for interpretation so that a positive value always denotes improvement. Matching should use function,

experience, branch or unit type, baseline workload, and initial performance. If a comparison group is impossible, an interrupted time series or repeated pretraining observations should be preferred to a single before–after comparison.

Economic benefit is calculated only for outcomes that can be monetized with defensible assumptions. Net benefit and return on investment are defined as:

$NB_p = B_p - I_p$; $ROI_p = [(B_p - I_p) / I_p] \times 100\%$ (6)

B_p includes documented labor savings, reduced rework, avoided losses, or accelerated project benefits that have been verified by the relevant financial or risk function. Professional mobility, employee resilience, succession readiness, and improved cooperation are reported separately rather than converted into speculative monetary values.

No inferential significance levels are reported because the article presents a protocol rather than completed employee-level estimation. In the future pilot, statistical tests will be selected according to sample size, distribution, and data structure. Confidence intervals and effect sizes should accompany P values, and clustered standard errors should be considered when employees are nested within branches or teams. Individual data must be anonymized, access-controlled, and used for development rather than automatic sanctions.

3. Results

3.1. A five-level evidence architecture

The first methodological result is a five-level architecture that separates administrative activity from productive effect. Each level answers a different question and requires independent evidence. The sequence is not treated as an automatic ladder: success at an earlier level is necessary but not sufficient for success at a later one.

Table 1. Five levels of evidence for digital skills training

Level	Evaluation question	Core indicators	Preferred evidence
1. Investment inputs	What resources were committed?	Direct expenditure; employee time; mentoring; organizational support	Financial records; time records; contracts; program passport
2. Competence acquisition	Did the employee acquire the target capability?	Pre/post practical score; knowledge gain; quality of work product	Simulation; case; test; expert rubric; portfolio
3. Workplace transfer	Is the capability used in the real function?	Frequency; autonomy; execution quality; traceability	System logs; observation; supervisor evidence; completed cases
4. Labor outcomes	Did work performance change?	Processing time; errors; rework; service quality; decision quality; compliance	Operational systems; quality control; complaints; matched comparison

Level	Evaluation question	Core indicators	Preferred evidence
5. Economic and professional outcomes	What value was created and sustained?	Verified savings; avoided losses; mobility; retention; succession readiness	Finance/risk validation; HR analytics; career records; sensitivity analysis

Note. The levels should be documented separately. Evidence from a higher level must not be inferred from a lower-level indicator.

The architecture makes three distinctions. First, acquisition is separated from transfer. An employee may perform well in a simulation but fail to use the skill because the digital tool is unavailable, access rights are missing, the manager continues to assign the old process, or workload leaves no time for practice. Second, transfer is separated from labor outcomes. A skill may be used correctly without changing a selected indicator because the indicator is dominated by system latency, demand shocks, or policy changes. Third, labor outcomes are separated from monetization. An improvement may be operationally significant even when its financial value cannot be estimated reliably.

This separation is consistent with the idea that intangible investments complement digital technologies and may generate a delayed productivity response.[17] Banks should therefore avoid immediate financial judgments after a short course. The evaluation horizon must correspond to the function: one to two months may be sufficient for a standard digital operation, whereas analytic, managerial, or model-governance capabilities may require six months or a completed project.

3.2. Measurement timing and the transfer window

The second result is a measurement calendar aligned with the work process. A single post-course test cannot capture retention or use. The proposed protocol defines a baseline period, an immediate learning check, an early transfer check, and a later outcome review. The calendar is shown in Table 2.

Table 2. Recommended measurement calendar

Stage	Timing	What is measured	Decision enabled
Baseline	2–4 weeks before training	Initial competence; workload; labor indicators; organizational conditions	Confirm need; select comparison group; set target
Immediate post-training	Within 1 week	Practical competence gain; learning quality; readiness to apply	Decide whether supervised practice is required
Early transfer	1–2 months	Use frequency; autonomy; work samples; barriers	Correct access, task design, mentoring, or program content
Outcome review	3–6 months	Labor indicators; comparison-group difference; mobility evidence	Continue, redesign, or stop the program

Stage	Timing	What is measured	Decision enabled
Sustainability review	6–12 months	Retention of skill; process improvement; mentoring; economic benefit	Scale the program and renew budget

Note. The timing is adjusted to task frequency. A rare but critical function may require case-based evidence rather than waiting for many real events.

The transfer window begins only when the employee has access to the tool and a real work task. This rule is important because calendar time after training is not equivalent to opportunity to perform. A credit specialist trained in interpreting a new scoring model cannot be evaluated before the model is deployed in the employee's segment. Similarly, a manager trained in digital project governance should be evaluated through a project milestone rather than through routine monthly output.

Digital traces improve evidence quality but should not become surveillance substitutes for professional judgment. System logs can verify whether an employee used a function, processed exceptions, or documented decisions. They cannot alone determine whether the reasoning was appropriate. For high-risk functions, log data should be combined with expert review of a sample of cases. This is particularly relevant to automated scoring and advanced analytics, where data quality, model limitations, governance, and human oversight remain central.[18]

3.3. Pilot design for commercial banks

The third result is a pilot design that can be applied without requiring identical internal data from the entire banking sector. A small number of well-defined programs should be evaluated deeply before the framework is scaled. The proposed pilot contains three professional groups because they represent different mechanisms of digital skill transfer: customer-facing use, analytic decision support, and risk-control application.

Table 3. Proposed pilot design for two base banks

Professional group	Target capability	Primary labor indicators	Comparison strategy	Transfer evidence
Front-office and contact-center employees	Support of the customer's digital journey and resolution of nonstandard cases	Resolution time; repeat contacts; escalation quality; complaints	Matched branches/teams with similar workload and customer mix	Case logs; observation; quality review; customer-contact records
Retail credit specialists	Interpretation of automated scoring and responsible exception handling	Decision time; rework; documentation quality; early error signals	Phased rollout or matched product teams	Reviewed credit cases; override records; supervisor rubric

Professional group	Target capability	Primary labor indicators	Comparison strategy	Transfer evidence
Risk, compliance, and internal-control staff	Analysis of automated alerts and digitally traceable professional judgment	False-positive handling; case closure time; documentation completeness	Staggered training by unit or repeated pretraining observations	Alert logs; sampled case files; expert panel assessment

Note. Asia Alliance Bank and Octobank are proposed as in-depth sites because organizational differences can test the portability of the protocol. No confidential results are claimed in the present article.

A network-oriented bank may require standardized instruments across branches and a distributed mentoring system. A more digitally concentrated bank may favor short cycles linking assessment, training, project application, and rapid review. The evaluation core remains the same, while indicators and comparison units are adapted to the business model. This modularity follows the principle that digital competence must be linked to observable workplace tasks rather than a universal literacy score.[19], [20]

The pilot should begin with programs that satisfy four conditions: the work function has changed; a target competence is clearly defined; employees have an immediate opportunity to apply it; and at least one reliable labor indicator is available. Programs should not be selected merely because they are large or expensive. A small program with a clear causal chain can provide more useful evidence than a mass course with no operational endpoint.

3.4. Attribution-confidence grades and decision rules

The fourth result is an attribution-confidence system designed to prevent overstatement. Training is rarely the only intervention occurring in a bank. Software releases, process redesign, new incentives, staffing changes, customer demand, and regulation can all affect performance. Each program is therefore assigned an attribution grade based on design quality and data completeness.

Table 4. Attribution-confidence grades for investment decisions

Grade	Minimum evidence	Permitted conclusion	Budget decision
A — strong	Baseline; matched comparison or credible phased rollout; transfer evidence; stable indicator definition	Training made a credible contribution to the observed labor effect	Scale with monitoring; economic calculation permitted
B — moderate	Baseline; repeated follow-up; transfer evidence; documented confounders; no strong comparison	Training is associated with improvement, but causal attribution is limited	Continue selectively; improve design before scaling

Grade	Minimum evidence	Permitted conclusion	Budget decision
C — preliminary	Post-training learning and some application evidence; incomplete baseline or labor data	The capability may have improved; performance effect is unproven	Do not claim return; run a better pilot
D — administrative only	Attendance, satisfaction, or certificate only	Participation is confirmed; development and performance are unknown	No automatic renewal on this evidence

Note. Economic return should be reported only for Grade A evidence or, with explicit sensitivity limits, a strong Grade B design.

The grading system changes the logic of budget renewal. A program with high satisfaction but Grade D evidence should not be described as effective. A program with moderate financial return but Grade A evidence may deserve scaling because the result is credible and repeatable. A program with positive before–after change but Grade B or C evidence should be treated as a learning experiment rather than proof of return.

The system also protects managers and employees from unrealistic expectations. Not every capability should produce an immediate monetary gain. Security awareness may create value by preventing low-frequency, high-impact losses; managerial capability may improve project quality over a longer horizon; data-quality skills may reduce downstream errors that are difficult to allocate to one employee. The appropriate result is determined by the function and risk, not by a universal financial metric.

3.5. Governance requirements

The fifth result is a governance allocation for the evaluation process. The business owner defines the changed function and labor indicator. The human-resource or learning function designs the assessment and development intervention. The line manager guarantees opportunity to perform and provides evidence of application. The employee participates in assessment and may challenge inaccurate interpretations. Information-security and data-governance specialists define access and anonymization rules. Finance or risk specialists validate monetary benefits and avoided-loss estimates.

This distribution of responsibility prevents the training department from being held accountable for variables it cannot control. Research on transfer has repeatedly shown that the work environment and managerial support influence whether training is used.[9], [10], [11], [21] A manager who requests training but does not assign a relevant work task breaks the investment chain. Accordingly, the program passport should include a managerial commitment to provide access, practice, feedback, and an evaluation window.

The framework is compatible with ISO 30422, which links learning and development to organizational and workforce needs, planning, delivery, and evaluation.[22] It can also be aligned with digital-competence frameworks and banking governance standards without copying them mechanically. Universal frameworks define broad domains; the bank must translate them into function-specific behavior, evidence, and risk limits.

4. Discussion

The proposed framework addresses a central weakness in corporate learning: the substitution of measurable activity for verified productivity. Completion rates are easy to collect because the learning management system generates them automatically. Labor effects are harder because they require cooperation across human resources, business

units, technology, finance, and risk. Yet the difficult measurement is the economically relevant one.

The transfer-adjusted competence effect is the key analytical innovation. It prevents a high post-training score from being treated as productive human capital when the skill is not used. The coefficient is deliberately transparent and can be audited by the employee and manager. Equal weights are recommended at the pilot stage because unvalidated expert weights can create false precision. Banks may later estimate weights empirically if sufficient observations link transfer components to labor outcomes.

The difference-in-differences component improves attribution but does not eliminate all bias. Training groups may be selected because they are more motivated or because their units are already involved in a digital project. Parallel-trend checks, phased rollout, baseline matching, and sensitivity analysis should therefore be used when data permit. Randomized assignment may be feasible for low-risk training formats but is often impractical or ethically questionable for mandatory security or compliance capabilities.

The framework also clarifies the role of digital data. Banks possess extensive operational traces, but data abundance does not guarantee valid evaluation. Indicator definitions may change after a software release; employees may process different case mixes; quality may deteriorate while speed improves; and an apparent productivity gain may result from transferring work to customers or other units. A balanced passport should therefore include speed, quality, and risk rather than one output count.

For Uzbekistan, the practical importance of the approach follows from rapid expansion of mobile banking and the regulatory movement toward open banking, artificial intelligence, and alternative scoring.[5], [6], [7], [8] These changes increase the cost of skill mismatch. At the same time, they create better possibilities for measurement because digital processes produce timestamps, decision records, and quality signals. The policy implication is that investment in digital infrastructure should be complemented by investment in human capability and by a mechanism that verifies whether the two assets work together. [23], [24]

The approach is consistent with the productivity J-curve: organizational and human-capital investments may precede measurable performance gains.[17] Banks should therefore avoid terminating a strategically necessary program merely because immediate return is low. However, delayed effects should not become an excuse for indefinite evaluation. The program passport must state the expected transfer window and the date at which evidence will be reviewed.

The main limitation is that the article presents a methodology rather than completed employee-level results. This is intentional. The dissertation base explicitly avoids conditional pilot figures and requires quantitative fields to be populated with actual anonymized data after primary and repeated assessment. A second limitation is organizational heterogeneity: indicators suitable for a branch-based universal bank may differ from those of a digitally focused bank. The modular design reduces this problem by standardizing the evidence logic rather than imposing identical performance metrics.

Future research should test the reliability of transfer components, compare equal and empirically estimated weights, examine heterogeneous effects by experience and professional group, and analyze whether verified transfer improves internal mobility and employee retention. A longer panel could also estimate the lag between competence acquisition and productivity, allowing banks to plan evaluation horizons more accurately.

5. Conclusion

This study developed a function-based framework for evaluating whether digital skills training becomes productive human capital in commercial banks. The framework separates five levels of evidence: full investment, competence acquisition, workplace transfer, labor outcomes, and economic or professional outcomes. This separation prevents attendance, satisfaction, or test scores from being presented as proof of organizational effectiveness.

The principal methodological contribution is the transfer-adjusted competence effect, which combines learning gain with verified workplace application. The framework

supplements this measure with difference-in-differences estimation for labor indicators, conservative calculation of full investment, and attribution-confidence grades. Economic return is reported only when the effect is credibly isolated and the benefit can be monetized without speculative assumptions.

For practical implementation in Uzbekistan, banks should begin with a limited number of programs that have a clearly changed work function, immediate opportunity to perform, and reliable operational data. Asia Alliance Bank and Octobank can serve as contrasting pilot environments, while employee-level results must be collected through anonymized baseline and follow-up procedures. The decisive organizational condition is a preassigned work task supported by access, feedback, and managerial responsibility.

The framework changes professional development from an administrative record of courses into an evidence-based investment process. It enables commercial banks to identify whether a weak result is caused by the training design, insufficient learning, lack of transfer conditions, an inappropriate labor indicator, or the absence of a real economic effect. Such diagnosis is necessary for allocating development budgets, protecting employees from formal assessment, and aligning human capital with the digital transformation of banking.

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Conflict Of Interest

The author declares no conflict of interest.

Declaration On The Use Of Artificial Intelligence-Assisted Technologies

Artificial intelligence-assisted tools were used to support drafting, English-language editing, and document formatting. The author is responsible for verifying the argument, data, references, originality, and final wording before submission. No artificial intelligence tool was used to fabricate empirical data or research results.

REFERENCES

[1] T. W. Schultz, "Investment in human capital," American Economic Review, vol. 51, no. 1, pp. 1–17, 1961.

[2] G. S. Becker, Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, 3rd ed. Chicago, IL, USA: University of Chicago Press, 1993.

[3] D. Acemoglu and P. Restrepo, "Automation and new tasks: How technology displaces and reinstates labor," Journal of Economic Perspectives, vol. 33, no. 2, pp. 3–30, 2019, doi: 10.1257/jep.33.2.3.

[4] G. Vial, "Understanding digital transformation: A review and a research agenda," Journal of Strategic Information Systems, vol. 28, no. 2, pp. 118–144, 2019, doi: 10.1016/j.jsis.2019.01.003.

[5] Central Bank of the Republic of Uzbekistan, Annual Report 2025. Tashkent, Uzbekistan, 2026. [Online]. Available: https://cbu.uz/upload/medialibrary/b0d/4h8ufsm1pbs5e7dl336ygil61lalyws1/Annual-report-2025.pdf. [Accessed: Jul. 11, 2026].

[6] President of the Republic of Uzbekistan, "Decree No. PF-189 of October 22, 2025, On Additional Measures for the Further Development of Artificial Intelligence Technologies," National Database of Legislation, 2025. [Online]. Available: https://lex.uz/en/docs/7790236. [Accessed: Jul. 11, 2026].

[7] President of the Republic of Uzbekistan, "Resolution No. PP-359 of November 27, 2025, On Measures for the Further Development of Financial Technologies in Uzbekistan," National Database of Legislation, 2025. [Online]. Available: https://lex.uz/ru/docs/7864260. [Accessed: Jul. 11, 2026].

[8] President of the Republic of Uzbekistan, "Resolution No. PP-204 of May 26, 2026, On Further Measures to Increase the Popularization of Financial Services and Expand Support for Small and Medium-Sized Businesses," National Database of Legislation, 2026. [Online]. Available: https://lex.uz/ru/docs/8238385. [Accessed: Jul. 11, 2026].

[9] T. T. Baldwin and J. K. Ford, "Transfer of training: A review and directions for future research," Personnel Psychology, vol. 41, no. 1, pp. 63–105, 1988, doi: 10.1111/j.1744-6570.1988.tb00632.x.

[10] B. D. Blume, J. K. Ford, T. T. Baldwin, and J. L. Huang, "Transfer of training: A meta-analytic review," Journal of Management, vol. 36, no. 4, pp. 1065–1105, 2010, doi: 10.1177/0149206309352880.

[11] R. Grossman and E. Salas, "The transfer of training: What really matters," International Journal of Training and Development, vol. 15, no. 2, pp. 103–120, 2011, doi: 10.1111/j.1468-2419.2011.00373.x.

[12] R. A. Noe, Employee Training and Development, 9th ed. New York, NY, USA: McGraw Hill, 2023.

[13] H. Aguinis and K. Kraiger, "Benefits of training and development for individuals and teams, organizations, and society," Annual Review of Psychology, vol. 60, pp. 451–474, 2009, doi: 10.1146/annurev.psych.60.110707.163505.

[14] J. D. Kirkpatrick and W. K. Kirkpatrick, Kirkpatrick's Four Levels of Training Evaluation. Alexandria, VA, USA: ATD Press, 2016.

[15] E. F. Holton III, "The flawed four-level evaluation model," Human Resource Development Quarterly, vol. 7, no. 1, pp. 5–21, 1996, doi: 10.1002/hrdq.3920070103.

[16] J. J. Phillips and P. P. Phillips, Show Me the Money: How to Determine ROI in People, Projects, and Programs. San Francisco, CA, USA: Berrett-Koehler Publishers, 2007.

[17] E. Brynjolfsson, D. Rock, and C. Syverson, "The productivity J-curve: How intangibles complement general purpose technologies," American Economic Journal: Macroeconomics, vol. 13, no. 1, pp. 333–372, 2021, doi: 10.1257/mac.20180386.

[18] European Banking Authority, EBA Report on Big Data and Advanced Analytics. Paris, France: EBA, 2020.

[19] M. Oberländer, A. Beinicke, and T. Bipp, "Digital competencies: A review of the literature and applications in the workplace," Computers & Education, vol. 146, Art. no. 103752, 2020, doi: 10.1016/j.compedu.2019.103752.

[20] R. Vuorikari, S. Kluzer, and Y. Punie, DigComp 2.2: The Digital Competence Framework for Citizens. Luxembourg: Publications Office of the European Union, 2022, doi: 10.2760/115376.

[21] A. M. Saks and M. Belcourt, "An investigation of training activities and transfer of training in organizations," Human Resource Management, vol. 45, no. 4, pp. 629–648, 2006, doi: 10.1002/hrm.20135.

[22] International Organization for Standardization, ISO 30422:2022 Human Resource Management—Learning and Development. Geneva, Switzerland: ISO, 2022.

[23] World Bank, World Development Report 2019: The Changing Nature of Work. Washington, DC, USA: World Bank, 2019, doi: 10.1596/978-1-4648-1328-3.

[24] Organisation for Economic Co-operation and Development, OECD Skills Outlook 2023: Skills for a Resilient Green and Digital Transition. Paris, France: OECD Publishing, 2023, doi: 10.1787/27452f29-en.