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WORKFORCE RESILIENCE AND INSTITUTIONAL MEMORY IN GOVERNMENT MANAGED WORLD BANK OPERATIONS

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ABSTRACT
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The article examines workforce resilience as the ability of a government organization to preserve critical management functions in a World Bank operation when staff, consultants, or organizational arrangements change. The empirical basis includes the Strengthening the Social Protection System Project implemented by the Ministry of Employment and Labor Relations, the RESILAND CA Plus Uzbekistan Resilient Landscapes Restoration Project implemented by the national forestry authority, and additional World Bank operations in Uzbekistan. Comparative documentary analysis shows that training individual specialists does not create institutional memory unless knowledge is embedded in decision rights, work products, information systems, and a formal handover procedure. Four mechanisms of workforce risk are identified: vacancy in a critical role, concentration of knowledge in one consultant, combination of incompatible duties, and loss of context during reorganization. A role-based capacity model is proposed in which learning concludes with a reviewed product from an actual operation rather than a certificate of attendance. The model includes a mandatory function handover package and indicators covering backup ownership, recovery time, first-time-right quality, and the share of exceptions resolved without external substitution. It preserves the value of specialist expertise and does not assume that complex operations should eliminate consultants altogether.

KEYWORDS: *Workforce Resilience, Institutional Memory, Capacity Development, Knowledge Transfer, Public Investment, World Bank*

INTRODUCTION

A public investment operation depends on a limited number of critical functions: plan integration, technical requirements preparation, procurement, contract management, financial accounting, performance monitoring, environmental and social responsibility management, and interaction with the funding agency. Formally, these functions may be distributed among several departments. In practice, a single employee often becomes the sole bearer of context: they know the approval history, the current version of the document, informal dependencies, and how to retrieve data from multiple systems.

Personnel turnover in such an environment is not only a hiring issue. It disrupts decision continuity. A new employee receives a job description, but does not always receive open risks, a calendar, version history, access rights, or the basis for previous decisions. Loss of context manifests itself as repeated requests, late commitments, asynchronous plan updates, or reliance on a former consultant. Therefore, personnel resilience should be defined as the system's ability to continue a function with acceptable quality and duration after personnel changes.

The international debate on project teams highlights the dual role of specialized teams. They concentrate competencies and enable complex procedures to be carried out in the short term. However, a parallel structure can weaken the permanent organization and create a gap in pay, knowledge, and information channels [5; 10]. S. Knack links the use of national systems to their quality and donor incentives [14]. S. Marchesi and T. Masi demonstrate that the delegation of implementation depends on information and institutional transparency [17]. Consequently, the transfer of a function to a government agency should not mean a rejection of specialization; the challenge is to make specialized knowledge reproducible within the organization.

A systematic review by H. Kim and Y. Ban divides capability development into individual, organizational, and systemic levels. Supporting factors include local ownership, partnership, and contextual adaptation; barriers include institutional instability, inconsistency, and resource scarcity [13]. A study by G. Adobor, E. Kudonu and A. Daneshfar, using data from public organizations, demonstrates the independent importance of the ability to acquire and retain knowledge in the formation

of organizational memory [4]. These findings are relevant to World Bank operations: the course increases individual knowledge but does not change decision-making power, system access, or workload distribution. The certificate does not indicate whether the employee is able to prepare an acceptable procurement package, close a financial period, or generate replicable evidence of results.

In Uzbekistan, the relevance of this reform increased following Presidential Decree No. PD-51, which provides for the transfer of project functions to permanent units [2]. This reform creates an opportunity to retain knowledge within the government agency. At the same time, it increases the risk of personnel failure if responsibilities are transferred faster than competencies and operational infrastructure. The historical model of Resolution No. PD-3857 and project documents relied on specialized groups [1; 3]. Changing this model requires not a one-time dissolution, but a managed transfer of functions.

The purpose of this article is to develop a model of staff resilience and institutional memory for the World Bank's public operations. The research question is what organizational conditions transform individual competence into sustainable capacity. Unlike previous articles on control, digital traceability, and differences in financing instruments, this paper focuses on human capital, knowledge transfer, and functional recovery after personnel turnover.

Theoretical Basis

D. North defines institutions as formal and informal constraints that structure interaction [19]. Knowledge of a procedure becomes institutionalized when it is anchored not only in the employee's memory but also in a clear rule, authority, work product, and feedback. W. Scott emphasizes the combination of regulatory, normative, and cognitive foundations [21]. An employee may know a formal rule but continue to use the previous route if the organization rewards risk avoidance and does not support escalation.

O. Williamson links the choice of governance mechanism to uncertainty and asset specificity [22]. Knowledge of a specific operation is highly specific: it includes convention, rules, sector technology, and decision history. If it is concentrated in a single specialist, their departure creates dependency and high recovery costs. Standardization is useful for repetitive elements, but does not replace professional judgment. Therefore, institutional memory must store not only the template but also the basis for exceptions.

Organizational capability theory cautions against copying form. L. Pritchett, M. Woolcock, and M. Andrews demonstrate that organizations can reproduce the external features of modern systems without the ability to solve the problem [20]. In terms of training, this means that a curriculum, a roster of participants, and certificates do not prove the ability to manage the process. The functional outcome is the completed product of a real operation and the ability to repeat it without constant external substitution.

World Bank research points to a combination of country, project, and management factors [8; 12; 23]. A strong team can compensate for some organizational weaknesses, but reliance on it increases risk after closure. Assistance can maintain sustainability to a certain level, while excessive external support weakens internal capacity [16]. Thus, the goal of capacity development is not to mechanically reduce the number of consultants, but to enhance the state's ability to correctly define the task, evaluate the product, make decisions, and retain knowledge.

MATERIALS AND METHODS

The study is designed as a comparative study of several operations with an in-depth analysis of two cases [6; 9; 32]. The analytical generalization of the mechanism, rather than the statistical representativeness of the portfolio, corresponds to the methodological position of B. Flyvbjerg [11]. The main cases are the project “Strengthening the Social Protection System in Uzbekistan” (Ministry of Employment and Labor Relations of the Republic of Uzbekistan) and the RESILAND program CA +: the project “Restoration of Sustainable Forest Landscapes in Uzbekistan” (Agency for the Increase of Forests and Green Areas and Combating Desertification) [28; 30; 31]. Additional materials were provided by the project “Modernization of the National Innovation System of Uzbekistan” (Ministry of Innovative Development of the Republic of Uzbekistan), the project “Improving the Energy Efficiency of Industrial Enterprises” (Ministry of Economy and participating commercial banks) and the project “Reform of the Education System of Uzbekistan” (Ministry of Preschool and School Education of the Republic of Uzbekistan) [24; 27; 29].

The corpus includes assessment documents, agreements, operational manuals, progress reports, and final reports. For each case, critical roles, vacancies and staff changes, assignment of responsibilities, the presence of a backup owner, the use of consultants, system access, handover requirements, and documented consequences of staff instability were recorded. Conclusions based on operational observations were not considered an independent assessment; in the absence of a primary document, the fact was designated as a diagnostic area.

A process-tracing approach was applied to episodes where personnel changes could have influenced the decision [6]. Alternative explanations were tested separately. The delay could have been caused by market forces, changes in government policy, technical unpreparedness, or an external shock. A personnel mechanism was considered relevant when the paper trail revealed a vacancy, a transfer without access, the reworking of existing material, or a combination of functions that weakened the segregation of duties.

The author's professional observations were used to formulate questions and understand the context. To reduce the risk of bias, conclusions were based on a hierarchy of sources, and the boundaries of each case were explicitly stated. This approach meets the requirements of insider research: access to practice is beneficial when the researcher separates their own involvement from independent evidence [7; 15]. Analytical coding and comparison were performed using a unified framework based on qualitative analysis methods [18].

Personnel Risk Mechanisms. The first mechanism is a vacancy in a critical role. Its consequences depend not on the number of unfilled positions, but on the function's position in

the solution chain. The absence of an integrator disrupts the overall plan and escalation. A vacancy in a procurement specialist delays the preparation and updating of the STEP system. The absence of a finance specialist creates the risk of delayed accounting and reporting. A vacancy in a technical owner leads to unprepared requirements and acceptance. One unfilled node can halt several processes.

The second mechanism is knowledge concentration. A consultant or employee becomes the sole owner of the history, personal contacts, and files. The documents exist, but they don't form a comprehensible package for another user. Upon departure, the organization returns to re-examining the agreement and reconstructing the rationale behind decisions. This risk is especially high if external expertise replaces the government agency's stated objectives.

The third mechanism is the combination of incompatible functions. Staffing shortages prompt a single employee to assign the preparation, control, and approval of results. In the short term, this speeds up the process, but weakens the segregation of duties and makes errors less detectable. The finance function should not simultaneously prepare and approve reconciliations; the owner of the result should not form an independent opinion on their own performance.

The fourth mechanism is the loss of context during reorganization. Transferring a staff position without a decision history forces the new owner to renegotiate already adopted regulations. A change in ministry or subordination may simultaneously alter email, access rights, banking authority, the commission, and the archive. Formal succession does not ensure operational continuity.

Observations on operations. In the "Strengthening the Social Protection System in Uzbekistan" project (Ministry of Employment and Labor Relations of the Republic of Uzbekistan), a specialized team concentrated technical and fiduciary competencies. The World Bank's final report points to prolonged periods of weak procurement performance, the irrelevance of a significant portion of the procurement portfolio in STEP , and the impact of institutional reorganization [25]. These findings cannot be explained solely by the qualifications of individual employees. They demonstrate that knowledge and responsibility existed within a complex chain of decisions dependent on multiple agencies and changes in government policy.

In the RESILAND program CA +: For the "Restoration of Sustainable Forest Landscapes in Uzbekistan" project (Agency for Enhancement of Forests and Green Areas and Combating Desertification), the assessment document initially identified institutional capacity and fiduciary risks as significant and called for professional strengthening of the team [30]. Geographically distributed implementation requires that the central function understand not only World Bank regulations but also the reforestation cycle, forestry budgeting, and verification of physical results. A vacancy in the coordinator or weak continuity disrupts vertical data flow.

The "Modernization of the National Innovation System of Uzbekistan" project (Ministry of Innovative Development of the Republic of Uzbekistan) demonstrates the importance of a formalized project architecture and the ability to adapt operations to changing conditions [26; 29]. However, the presence of leadership and satisfactory ratings does not automatically reveal the distribution of knowledge between consultants and permanent units. Assessing memory requires documenting who is capable of performing a function after a personnel change.

The "Improving Energy Efficiency of Industrial Enterprises" project (the Ministry of Economy and participating commercial banks) has a long horizon and several stages of additional funding. The final report demonstrates the accumulation of institutional experience, but also reveals lingering questions regarding the definition and quality of data for individual results [24]. Duration alone does not guarantee learning: definitions and references must be transferred along with a history of their changes.

In the "Reform of the Education System of Uzbekistan" project (Ministry of Preschool and School Education of the Republic of Uzbekistan), the short timeframe and early stage make the delay in mobilization disproportionately significant [27]. For a small operation, it is impossible to maintain a full complement of specialized specialists, so the separation of critical roles, pre-established support agreements, and a backup owner are particularly important.

Role model for competency development. The proposed model begins with the expected deliverable. The executive agency manager must be able to appoint a single accountable owner, determine risk appetite, and make escalation decisions. The integrator must maintain the baseline, interfaces, changes, and overall timeline. The technical owner translates the need into measurable requirements and acceptance criteria. The procurement specialist selects the market strategy, implements the process, and transfers the contract to execution. The finance function links the budget, expense tolerance, forecast, and reporting. The data owner is responsible for definition, origin, access, and quality. A member of the collegial body applies the criteria within their mandate.

Each role's training concludes with a product. Participants don't simply study procurement rules; they prepare a real procurement package. The risk module concludes with a risk record with an early warning signal, owner, and action. The data module concludes with a dictionary and control dump. The contract management module concludes with a plan for milestones, acceptance, and changes. The product is reviewed by a peer and approved by the appropriate owner.

Table 1 Role model for competency development

Role	Verifiable competence	Final worker product
Supervisor executive agencies	Ownership, risk appetite, and escalation	Decision on exclusion with a specified period and basis
Integrator project	End-to-end interface planning and management	Baseline, solution map, and cross-functional dependency register
Technical owner	Measurable description of need and acceptance	Technical requirements and acceptance criteria
Purchasing specialist	Market strategy, procedure and contract transfer	Verified procurement package and transfer file to the contract manager
Financial specialist	Forecast, admissibility and connection of payment with the result	Reconciliation of budget, obligations, payments and forecast
Owner data	Origin, quality, access and protection	Data dictionary, control dump and correction log
Member collegial organ	Application of the criterion within the mandate	Individual comment with a document point and a proposed solution

Source: compiled by the author.

Function Transfer Packet. Institutional memory requires a mandatory transfer package. It is not created on the last working day but maintained as a live resource. It includes the source of authority, the current version of the procedure, the calendar, open decisions, risks, contracts, data, access, contacts, and upcoming checkpoints. For significant exceptions, a brief decision basis is retained so that the new owner understands why the standard procedure was changed.

The handover is carried out jointly. The handing over employee demonstrates the execution of a key scenario in the system. The receiving employee reproduces it and confirms access. The manager verifies completeness and accepts the residual risk. If the departure is sudden, a backup owner and a regularly updated electronic package are used. The former employee's account is closed, and the new owner receives personal authorization; login sharing is prohibited.

Table 2 Composition of the critical function transfer packet

Chapter	Content	Control completion
Mandate	Agreement, order, regulation and limits of the right of decision	The new owner understands what he is deciding and what he is escalating
Current versions	Manual, forms, templates and change log	One basic version is installed on the transfer date
Calendar	Regular reports, payments, purchases and milestones	All events have an owner and a reminder
Open solutions	Question, options, agreeing participants and deadline	There is no solution without next action
Risks and limitations	Early signal, owner, action and residual risk	Significant risk is accepted or transferred in writing
Systems and data	Access, reference books, queries and control downloads	Receiving reproduces key scenario
Contracts and obligations	Deadlines, changes, acceptance, claims and payments	Reconciliation with financial and purchasing accounting is complete
Contacts and interfaces	Internal and external participants, format and purpose of interaction	Roles are confirmed regardless of personal channel

Source: compiled by the author.

Indicators of personnel stability. Conventional learning metrics focus on the number of participants and hours. They do not measure retention of function. Five groups of metrics are proposed.

The first is role coverage. This measures the proportion of critical functions with a designated primary and backup owner. The backup owner is only considered after the test scenario has been completed.

The second is recovery time. This measures the period from the departure or unavailability of the primary owner to the first independent, acceptable product from the replacement employee. This metric should take into account the complexity of the function and not encourage the formal adoption of a weak document.

The third is the quality of the first submission. This calculates the proportion of products accepted without a second return based on a previously established criterion. Returns due to a new external norm are not considered a lack of competence.

The fourth is independence from substitution. This measure measures the percentage of exceptions for which the government agency correctly formulated the question, assessed the expert's product, and made a decision without transferring responsibility to a consultant. A complex operation may require the involvement of a specialist; the indicator is the retention of task ownership.

Fifth, memory relevance. This checks the proportion of transmission packets updated within the specified timeframe and the number of instances of using an outdated version after a personnel change.

Table 3 Indicators of personnel stability

Indicator	Way calculation	Limitation interpretations
Coating reserve owner	Critical functions with a prepared substitute are divided into all critical functions	A formal appointment without a test product is not taken into account.
Time recovery	Days to first independent acceptable product	Are compared functions similar difficulties
Quality first performances	Packets accepted without re-return are divided among all submitted packets	A new requirement after submission is taken into account separately
Independent permission exceptions	Decisions where the state owner retained the production and acceptance are divided into all exceptions	The involvement of an expert is not in itself a negative result
Relevance package transmissions	Packages updated on time are divided into all critical packages	A random check of actual applicability is required
Configuration error after shifts	Number of decisions due to outdated version or incorrect access	A single case is analyzed by reason, not just by quantity

Source: compiled by the author.

National Coaching Model. Scaling up the training is advisable after testing the role model on real processes. The central methodological team trains a limited group of practitioners from implementing agencies. Accreditation is awarded not for delivering a lecture, but for supporting the completed cycle and the quality of the product. Annual calibration takes into account anonymized errors, changes in World Bank regulations, and national legislation.

The materials are divided into a general core and specialized modules. The general core covers decision rights, planning, risk management, configuration, and escalation. For investment project financing, procurement, contracts, cost eligibility, and STEP are added . For results-based program financing, the results chain, data, and independent verification are covered. The sector module considers the technical nature of reforestation, social protection, energy, and education.

The national model should not recreate a dependence on a single central trainer. Each module has materials, a test scenario, assessment criteria, and a backup instructor. Trained practitioners are part of a professional community where exceptions are addressed. A solution to a specific project does not become a general norm without testing its applicability.

DISCUSSION

The results show that staff resilience is a property of the management system, not the sum of individual certifications. Employees are able to apply knowledge only when given the mandate, time, data, and feedback. If a permanent unit is assigned a function without resources, training will not compensate for the organizational deficit. If a consultant performs a task in the owner's stead, the high quality of the product does not guarantee the transfer of capabilities.

The role model eliminates two common simplifications. The first is the requirement to completely eliminate consultants. Complex legal, engineering, and digital tasks rightfully require external expertise. State-level expertise is demonstrated in setting the task, evaluating, and maintaining the results. The second is the notion that a generalist can cover all functions. The integrator connects processes but does not exercise technical, procurement, financial, or independent control judgment.

The proposed metrics allow for a transition from a training report to a functional assessment. Their causal effect has not yet been proven. The pilot must establish a baseline, select several repeatable processes, and observe at least two personnel changes or planned replacements. Acceleration is not considered a success if the number of errors, segregation violations, or contractual disputes increases.

The study's limitations include the heterogeneity of the operations and incomplete personnel data. Project documents better describe the formal structure than the day-to-day transfer of knowledge. Final reports document the consequences but do not always restore the role of a specific vacancy. The author's field observations provide context but require independent confirmation. Therefore, the article focuses on the pilot's mechanism and design rather than the quantitative impact of the training.

CONCLUSION

Operational resilience is defined by the ability to continue a critical function after a change in personnel or structure. To achieve this, individual knowledge must be enshrined in decision-making authority, a work product, an information system, a transfer package, and a backup owner. A formal appointment or certification does not confirm readiness.

A comparison of World Bank operations in Uzbekistan identified four recurring risk mechanisms: a vacancy in a critical role, knowledge concentration, the combination of incompatible functions, and the loss of context during reorganization. Their consequences manifest themselves in duplicated materials, outdated data, delayed escalation, and reliance on former employees. The scale of the impact depends on the function's position in the decision chain.

The proposed role model, handover package, and metrics form the basis of a practical pilot. Results should be assessed based on recovery time, the quality of the first product, the availability of a trained deputy, and the maintenance of task ownership

within the government agency. This approach supports the integration of project functions without devaluing professional specialization and sound external expertise.

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