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Identifying and Evaluating Native Patterns for Creating a Transformational Organizational Culture Based on Modern Public Services in the Context of Intelligent Governance (Case: National Iranian Oil Company)

Bahman Laki[1], Ali Kangarani Farahani[2*], Seyed Rasoul Aghadavood[3]

[1] *PhD Candidate, Department of Public Administration, Sho.C., Islamic Azad University, Shoushtar, Iran. bahman.laki@iau.ac.ir, 0000-0002-6927-7484.*

[2] *Assistant professor, Department of Business Management, Adiban institute of higher Education, Garmsar, Semnan Prvince, Iran.(Corresponding Author) akfarahani29@adiban.ac.ir*

[3] *Assistant Professor, Department of Public Administration, Deh.C., Islamic Azad University, Dehghan, Iran. 1288806736@iau.ac.ir, 0000-0002-6927-7484.*

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ABSTRACT

This research aims to identify and evaluate a native model for creating an organizational transformation culture based on new public services in smart governance and emerging technologies. This study is applied-developmental in nature. Based on purposive sampling, 15 managers of the National Iranian Oil Company were interviewed. In the quantitative section, all heads, managers, and staff working in the corporate sectors were considered; their number was unlimited, and based on Cochran's formula, a sample size of 384 was determined. The qualitative method of Grounded Theory data analysis was used using ATLAS.ti software, and Structural Equation Modeling (SEM) in SmartPLS software was employed for validation. The results of model fit using structural equations, supported the coherence and empirical validity of the proposed model. It showed that the implementation of these strategies directly and indirectly leads to improved organizational efficiency, enhanced service quality, strengthened public trust, reduced operational costs, and the formation of competitive advantages in the public sector. Accordingly, the transformation culture in the National Iranian Oil Company is not merely a transient attitudinal change but a strategic mechanism for aligning economic missions with the values of new public services and the requirements of smart governance. This mechanism, if supported by continuous managerial and institutional backing, can pave the way for the transition of this organization into an agile, accountable, data-driven, and citizen-centric institution at both national and regional levels, laying the essential cultural foundation for the successful adoption of advanced technologies such as the Metaverse, Artificial Intelligence, and Digital Twins. **©authors**

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Introduction

In recent decades, public sector organizations have operated in an increasingly complex, dynamic, and uncertain environment shaped by globalization, digital technologies, higher citizen expectations, growing social demands, limited financial resources, and greater pressure for accountability (Jewapatarakul et al., 2024). These changes have altered the role of government and public service delivery, making traditional bureaucratic structures and static procedures insufficient and pushing organizations toward transformation, institutional innovation, and the use of emerging technologies (Lyu et al., 2026; Alkhamery et al., 2021). However, many public-sector reform and digital transformation programs have struggled because they focus mainly on structure and technology while neglecting the cultural dimension (Lam et al., 2021).

Organizational transformation in the public sector is not only a matter of reorganizing charts or digitizing processes; it also requires changes in attitudes, values, and behavioral patterns (Brynjolfsson et al., 2024). Organizational culture strongly shapes acceptance or resistance to change, and in many government organizations, centralization, hierarchy, risk aversion, conservatism, and strict rule adherence still dominate (Yang et al., 2025). Although these traits once supported cohesion and order, they now hinder innovation, learning, and agility. For this reason, creating an "organizational transformation culture" based on continuous learning, creativity, participatory governance, transparency, and accountability is essential for successful smart governance and improved public service quality (Chui et al., 2018).

The New Public Service approach offers a value-based framework for redefining government's role and its relationship with citizens (Cyfert et al., 2025). Unlike traditional bureaucracy and New Public Management, it emphasizes democratic values, citizen participation, public value, accountability, and trust, treating citizens as active participants rather than passive recipients (Scharowski et al., 2025). Achieving this requires cultural change within government agencies so that serving citizens is seen as a social and ethical mission, not merely an administrative task. Yet the gap between this ideal and current practice reveals a major institutional and cultural challenge (Fountaine et al., 2019).

At the same time, technological change has given rise to smart governance, which uses information technologies, big data, artificial intelligence, and digital platforms to improve decision-making, transparency, efficiency, and citizen interaction (Paul et al., 2024). But evidence shows that success depends more on cultural and organizational readiness than on technology alone; without supportive values, skills, and attitudes, even advanced tools such as Metaverse platforms, Digital Twins, and immersive service interfaces cannot perform effectively (Shevtsova et al., 2024). In many countries, administrative reform has also been implemented in a fragmented way, without theoretical coherence between cultural, technological, and value-based dimensions (Rong et al., 2025). Some efforts have promoted e-government while leaving hierarchical control intact, while others have emphasized training without aligning incentives or evaluation systems with innovation and participation (Ng et al., 2025). This shows the need for an integrated approach linking organizational transformation culture, New Public Service, and smart governance.

The main issue is how to design a native model for creating an organizational transformation culture aligned with New Public Service values and capable of facilitating smart governance and the adoption of emerging technologies in government organizations (Azhdar, 1402). This is especially important because organizational transformation and digital governance models emerge in different cultural and institutional contexts, and direct transfer without attention to administrative structure, social capital, technology maturity, and power relations can produce poor results. Systems with high centralization, complex laws, and cautious cultures need gradual, context-sensitive pathways toward agility and innovation (Masoudi et al., 1402). From a research perspective, there is still a major gap in the literature on the combined study of organizational transformation culture, New Public Service, and smart

governance. Most studies address these concepts separately, while cultural factors are often treated as secondary, despite evidence that culture strongly affects reform success, including the adoption of complex technologies such as the Metaverse (Latupeirissa et al., 2024).

Accordingly, the core research question asks what dimensions, components, and mechanisms are needed to create and institutionalize an organizational transformation culture in the public sector under conditions of smart governance and New Public Service, and how these can be structured into a coherent native model (Gerasimov et al., 2023). Answering this question can help public managers move beyond fragmented reforms and support a more strategic transition toward smart, accountable, and citizen-centered institutions. For the National Iranian Oil Company, such a native model could mark a turning point from traditional structures to an agile, data-driven, and socially responsible organization, strengthening transformational leadership, human capital, accountability, transparency, and the use of smart technologies, including immersive experiences and Metaverse applications. This would improve operational efficiency, reinforce public trust and social capital, and position the company as a pioneer in cultural transformation and smart governance in the public sector.

Literature Review

1. Organizational Transformation in the Public Sector

Organizational transformation refers to a fundamental change in structures, processes, values, and behavioral patterns, going far beyond gradual adjustments and superficial reforms. In the public sector, organizational transformation often arises in response to environmental complexities, rising citizen expectations, technological pressures, and the necessity for accountability. Unlike private organizations, whose primary motivation is profitability, government organizations are mission-driven and derive their legitimacy from providing efficient, equitable, and accountable public services. Therefore, any transformation in this sector must align with public values and collective interests (Ihyauddin et al., 2025).

The literature on organizational transformation indicates that sustainable change is only achieved when it becomes institutionalized within the deep layers of organizational culture. Changing structures without transforming culture often leads to employee resistance and the failure of transformation programs. Consequently, the concept of "transformation culture" is proposed as the foundational bedrock for any change in the public sector (Hau et al., 2024).

2. Organizational Culture and Transformation Culture

Organizational culture is a set of shared beliefs, values, norms, and assumptions that guide the behavior of organizational members (Ayinaddis, 2023). Culture not only determines how tasks are performed but also shapes the framework for interpreting organizational reality. In government organizations, which often have bureaucratic and hierarchical structures, culture can act as either a barrier or a facilitator for change. Organizational transformation culture refers to the formation of a set of values and attitudes that encourage innovation, continuous learning, flexibility, accountability, and participatory governance. Such a culture encourages employees to accept change, engage in inter-departmental collaboration, and adopt new technologies. In this framework, transformational leadership, human resource empowerment, transparency, and organizational trust are key components of transformation culture (Nawaz et al., 2025).

3. The New Public Service Approach

One of the most important theoretical frameworks in public administration is the "New Public Service" approach, which emerged in response to previous models such as Traditional Public Administration and New Public Management (Aboramadan et al., 2020). While Traditional Public Administration emphasized bureaucracy and hierarchy, and New Public Management focused on efficiency, competition, and market logic, the New Public Service approach emphasizes democratic values, citizen participation, and social responsibility. In this approach, citizens are not merely customers but are regarded as "partners" and "co-creators" of public value with the government. The main focus is on serving citizens, strengthening

public trust, participatory governance, and accountability. Therefore, organizational culture in the public sector must be based on respect for citizens, justice, transparency, and accountability (Abdelrahman et al., 2025).

The link between transformation culture and New Public Service is significant because both emphasize human values, organizational learning, and two-way interaction. Without institutionalizing these values in organizational culture, the realization of New Public Service principles will not be possible (Mäntymäki et al., 2022).

4. Smart Governance and Digital Transformation

Technological transformations, particularly in the fields of information technology, big data, artificial intelligence, and digital platforms, have also transformed the concept of governance. Smart governance refers to the systematic use of emerging technologies to enhance decision-making quality, increase transparency, improve service delivery, and strengthen citizen participation. In this framework, data-driven approaches, system integration, digital services, and electronic interaction with citizens are considered core pillars (Yu et al., 2023).

However, global experiences show that investing solely in technological infrastructure does not guarantee the success of smart governance. What plays a decisive role is the cultural and organizational readiness to accept and utilize technology. Resistance to change, lack of digital skills, and bureaucratic culture can hinder the achievement of smart governance goals. Therefore, creating an organizational transformation culture is a fundamental prerequisite for the transition to smart governance (Hasan et al., 2025).

Analysis of the literature shows that these three concepts can be explained within an integrated theoretical framework. New Public Service provides the value-based and normative orientation for transformation; Smart Governance provides the technological and structural context; and Organizational Transformation Culture serves as the internal driver for realizing both (Amoa-Gyarteng et al., 2024). In other words, New Public Service answers the question of "why" and "for what value" transformation occurs; Smart Governance answers the question of "how" services are delivered using technology; and Transformation Culture determines "whether the organization is ready for this transition." Without alignment among these three dimensions, reform efforts will not lead to sustainable results. Although the literature on organizational transformation and smart governance has primarily developed in developed countries, directly transferring these models to other countries without considering cultural, social, and institutional contexts faces challenges. Localization means adapting theoretical frameworks to the structural characteristics, social values, and administrative system of each country.

In many administrative systems, characteristics such as centralization, strong hierarchy, strict regulations, and a culture of caution can hinder innovation. Therefore, a native model for creating transformation culture must be compatible with institutional and cultural realities while preserving the principles of New Public Service and Smart Governance. This requires identifying contextual components, analyzing stakeholders, paying attention to social capital, and designing gradual change mechanisms.

Method

From a philosophical perspective, this research is situated within the interpretive paradigm. Regarding its execution logic, it is inductive; regarding its purpose, it is applied; and regarding its type, it is a mixed-methods study (qualitative-quantitative). The Grounded Theory method was used to present the initial model. The potential participants were all experts and stakeholders within the National Iranian Oil Company. Purposive sampling was used to select individuals who participated in the qualitative section of the research and the interview process.

In this study, the primary source of data was interviews. Initial interviews were exploratory and descriptive. After each interview, coding was performed, and through the constant

comparative method, theoretical codes emerged via open coding. This process was repeated for all 15 interviews, leading to the emergence of concepts, sub-categories, and main categories. It is worth noting that the saturation of axial categories was based on theoretical sampling. The duration of each interview ranged between 30 to 50 minutes. For the analysis of qualitative data, Grounded Theory was used via ATLAS.ti software. In this design, the stages of analyzing the collected qualitative data were carried out in three stages: open coding, axial coding, and selective coding.

Subsequently, after identifying the initial indicators for the native model of creating organizational transformation culture based on new public services within the context of smart governance, data collection was conducted using a five-point Likert scale questionnaire to validate the final research model. To determine the content validity ratio of the questionnaire, the designed questionnaire was distributed among 10 specialists in this field. A content validity ratio of 0.67 was considered acceptable. After calculating the content validity ratio, a value of 0.81 was obtained, indicating that all questions in the questionnaire possessed the necessary validity.

The statistical population of this research includes heads, managers, and staff working in the corporate sectors of the company. These individuals were considered an unlimited population. Given the unlimited nature of the population, the sample size was calculated using the following relationship:

$$n = \frac{{Z\alpha/_2}^2 \times p(1-p)}{\varepsilon^2} = \frac{(1.96)^2 \times .5 \times .5}{(.05)^2} \cong 384$$

In this research, a confidence level of 95% ($\propto= 0/05$)and an accuracy level (ε) of 0.05 were considered. The standard deviation, calculated based on the relationship $\sigma = \frac{5-1}{6}$, was found to be 0.677. The questionnaire was distributed electronically. Structural Equation Modeling (SEM) in SMARTPLS software was used to fit the model.

Findings

Table 1. *specifies the demographic characteristics of the interviewees.*

Classification	Demographic Characteristics	Frequency	Percent
Gender	Male	12	73.33
	Female	3	26.76
Age	30-40	2	6.76
	40-50	5	26.66
	50-60	6	53.32
	Above 60	2	13.33
Education	PhD	10	66.66
	MA	4	26.66
	BA	1	6.66
Total		15	100

To conduct open coding, all interviews were entered into the ATLAS.ti software. The necessary examinations were carried out and the relevant codes were extracted. The labeling of codes was performed based on the interview data, and the researcher attempted, as much as possible, to remain faithful to the participants' perspectives in their responses in order to minimize any potential or unintended bias. Throughout the coding process, the researcher adhered to the principle of theoretical sensitivity, which is a key component of grounded theory research, in order to enrich the study as much as possible. Subsequently, based on the dimensions of the grounded theory model proposed by Strauss and Corbin (1998), the categorization of the identified codes is presented in Tables 2 to 6.

Table 2. *Open Coding of Qualitative Data (Causal Conditions)*

Initial code	Core Category	Selective Category
Continuous changes in the energy market	External Environmental Pressures	Causal Conditions
Political and international pressures		
New environmental requirements		
Global competition in oil and gas		
Limitations caused by sanctions		

Initial code	Core Category	Selective Category
Changing public social expectations		
Need to comply with international regulations		
Demand for transparent managerial accountability	Key Stakeholder Expectations	
Expectation of improved service quality		
Emphasis on social responsibility		
Necessity of observing organizational justice		
Demand for agile decision-making		
Attention to the welfare of employees and their families		
Need for assurance in financial results		
Combating administrative corruption	Need for Transparency	
Transparency in contracts and transactions		
Free access to information		
Standardization of performance reporting		
Transparency in resource allocation		
Increased external oversight		
Reduction of organizational discrimination and rent-seeking		
Expansion of organizational artificial intelligence	Digital Technology Developments	
Development of big data infrastructures		
Digitalization of administrative processes		
Use of the industrial Internet of Things (IIoT)		
Growth of secure cloud systems		
Transformation in inter-organizational communications		
Need for employees' digital skills		
Rising operational costs	Organizational Productivity Decline	
Aging equipment and infrastructure		
Decreased motivation among specialized employees		
Lengthy decision-making processes		
Lack of coordination among organizational units		
Weakness in the performance evaluation system		
Waste of human and financial resources		

Table 3. *Qualitative Data Encoding (Strategic Conditions)*

Initial code	Central Concept	Selective Category
Training in new specialized skills	Empowering Human Resources	Strategies
Enhancing employees' digital skills		
Developing clear career paths		
Establishing a performance-based reward system		
Supporting employees' innovative ideas		
Strengthening interpersonal and communication skills		
Creating a culture of individual accountability		
Implementing artificial intelligence systems	Utilizing Modern Technology	
Using data mining for decision-making		
Digitalizing operational processes		
Developing electronic service platforms		
Applying the Internet of Things (IoT) in industry		
Enhancing organizational cybersecurity		
Modernizing obsolete technological equipment		
Establishing online reporting systems	Institutionalizing Administrative Transparency	
Free access to public information		
Formulating financial transparency standards		
Strengthening the internal audit system		
Creating platforms for citizen oversight		
Increasing transparency in resource allocation		
Periodic performance reporting by managers		
Holding continuous training workshops	Organizational Learning Development	
Establishing organizational innovation centers		
Forming group learning teams		
Supporting project-based learning		
Sharing employees' successful experiences		
Strengthening inter-organizational learning		
Leveraging digital training programs		
Training leaders for innovation	Strengthening Transformational Leadership	
Modeling transformation-oriented behaviors		
Empowering middle managers		
Increasing employee participation in decision-making		
Inspiring an organizational vision		
Strengthening change management skills		
Promoting ethical values and transparency		

Table 4. *Qualitative Data Encoding (Consequences)*

Initial code	Central Theme	Selective Category
Improving the speed of decision-making	Organizational Efficiency Enhancement	Consequences
Reducing waste of human resources		
Streamlining administrative processes		
Increasing equipment productivity		
Optimizing the flow of information		
Enhancing interdepartmental coordination		
Improving team performance		
Increasing stakeholder satisfaction	Improving Service Quality	
Standardizing service processes		
Reducing operational errors		
Easier access to services		
Improving the service users' experience		
Increasing innovation in services		
Enhancing the reliability and accuracy of services		
Increasing transparency in performance	Sustainable Public Trust	
Strengthening managerial accountability		
Reducing corruption and rent-seeking		
Increasing organizational justice		
Constructive engagement with society		
Increasing social capital		
Enhancing the organization's brand credibility		
Eliminating repetitive activities	Reducing Operational Costs	
Reducing administrative paperwork costs		
Saving energy resources		
Optimizing the supply chain		
Reducing ineffective training costs		
Better use of modern technologies		
Strengthening international standing	Government Competitive Advantage	
Improving the ability to attract investment		
Increasing energy market share		
Enhancing the national brand		
Developing innovative capacities		
Ability to respond quickly to changes		
Increasing the attractiveness of international collaborations		

Table 5. *Qualitative Data Encoding (Contextual Conditions)*

Initial code	Central Concept	Selective Category
Strong centralization in decision-making	Traditional Administrative Structure	Contextual Conditions
Long organizational hierarchies		
Slow administrative processes		
Resistance to change		
Structural inflexibility		
High dependence on restrictive regulations		
Lack of innovative structures		
Preference for stability over innovation	Organizational Culture of Bureaucracy	
Emphasis on employee obedience		
Low-risk managerial mindset		
Cultural resistance to transformation		
Focus on form rather than substance		
Lack of mutual trust within the organization		
Prioritizing personal interests over organizational interests		
Low level of digital skills	Level of Employees' Skills	
Weak creativity and innovation		
Dependence on traditional training methods		
Low problem-solving skills		
Knowledge gap between generations		
Lack of interpersonal skills		
Weak teamwork		
Emphasis on energy self-sufficiency	National Macro-Policies	
Focus on national security		
Frequent policy changes		
Dependence on oil revenues		
Shifting political orientations		
Instability in supportive regulations		
Pressure for sustainable development		
Weak system integration	Existing Technological Infrastructure	
Insufficient cybersecurity		
Aging technological equipment		
Limited access to modern technology		
Bandwidth and communication constraints		
Dependence on foreign technologies		
Lack of sustainable investment in technology		

Table 6. *Coding of Qualitative Data (Interfering Conditions)*

Initial code	Core Category	Selective Category
Fear of losing position	Internal employee resistance	Intervening Conditions
Concern about increased responsibilities		
Attachment to traditional methods		
Distrust toward senior management		
Lack of motivation for change		
Concern about skill mismatch		
Rumors and a negative organizational climate		
Inspiring the path of transformation	Transformational managerial leadership	
Creating motivation among employees		
Ability to manage conflict		
Strengthening the spirit of innovation		
Transparency in decision-making		
Active support for new ideas		
Empowering work teams		
Enacting transformation-facilitating regulations	Support from high-level policymakers	
Allocating sustainable supportive resources		
Ensuring relative organizational autonomy		
Reducing short-term political interventions		
Strengthening an effective oversight system		
Providing transformation-oriented incentives		
Aligning macro policies with organizational programs		
Lack of investment in innovation	Limited financial resources	
Inability to modernize equipment		
Limitations in employee training		
Delays in implementing transformation projects		
Dependence on unstable revenues		
Reduction in research and development budgets		
Inequitable allocation of financial resources		
Collaboration with universities and research centers	Strategic inter-organizational interactions	
Creating joint innovation networks		
International knowledge transfer		
Cooperation with the private sector		
Synergy with other government institutions		
Participation in regional projects		
Exchange of managerial and technological experiences		

After completing the analysis and evaluation of the various data, the final model of the study has been presented as follows:

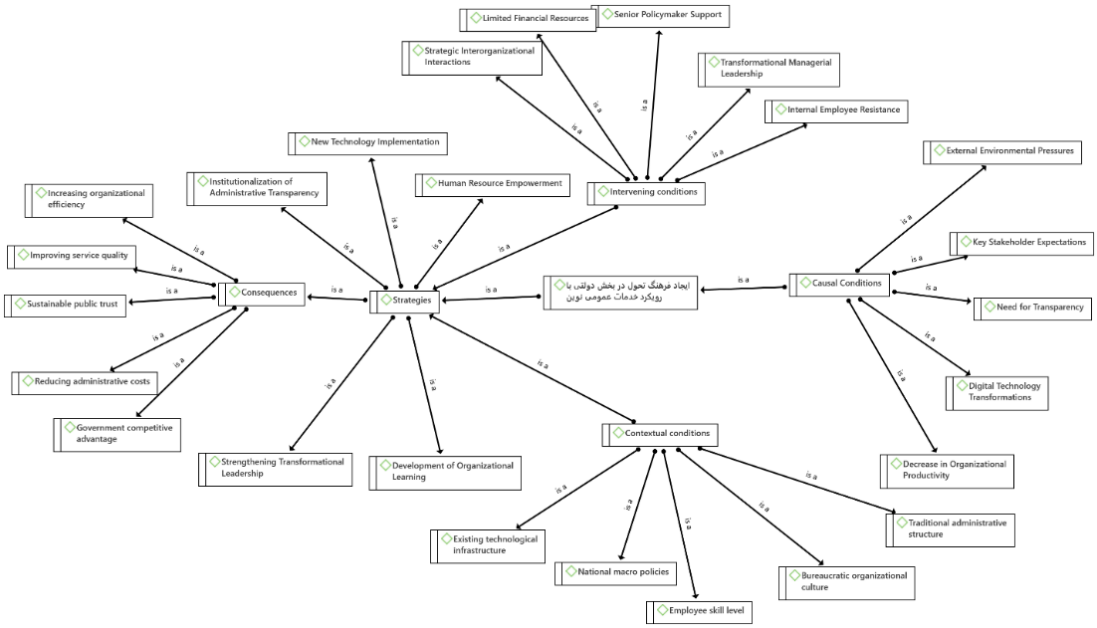

Figure 1. *Grounded Theory Model of the Quality of Forensic Accountants' Judgments (ATLAS.ti Output)*

Model Fit Using the Partial Least Squares (PLS) Method

Demographic Characteristics of the Population

A total of 714 questionnaires were distributed electronically, and 380 valid questionnaires were collected. Table 7 presents the demographic characteristics of the quantitative sample. Among the respondents, 266 individuals (70%) were male and 114 individuals (30%) were female. A total of 137 respondents were between 26 and 35 years old, accounting for 36% of the sample; 182 individuals were between 36 and 50 years old; and 61 respondents were over 51 years old. Additionally, 95 individuals held a bachelor's degree, 190 held a master's degree, and 95 individuals had a PhD.

Table 7. *Demographic Characteristics of the Quantitative Sample*

Characteristic	Percent	Frequency	Classification
Gender	30	114	Female
	70	266	Male
Age	8	30	Under 30
	26	100	31-40 years
	45	173	41-50 years
Education	21	81	Above 51
	34	131	BA
	28	107	MA
	38	149	PhD and above

Descriptive indicators such as mean, standard deviation, and other related measures were used to describe the main variables of the study. These indicators are presented in Table 8.

Table 8. *Descriptive Statistics of the Research Variables*

	Mean	Standard Deviation	Variance	Skewness	Elongation
Casual Conditions	3.86	0.744	0.553	0.961	1.933
Contextual Conditions	3.84	0.791	0.626	-0.651	0.296
Intervening Conditions	3.77	0.871	0.759	-0.649	0.138
Strategy	3.76	0.844	0.712	-0.549	0.301
Consequences	3.66	0.879	0.772	-0.467	0.161

Based on the obtained mean values, it is clear that the response option "high" was selected more frequently. The highest mean belongs to the causal factors compared to the other variables. In addition, according to the skewness and kurtosis values, which fall within the range of –2 to +2, the data are symmetric and follow a normal distribution. Since PLS analysis is derived from linear regression, the assumptions related to regression must also be examined in this approach.

Partial Least Squares (PLS) Technique and Hypothesis Testing

Each research hypothesis was analyzed separately using the Partial Least Squares technique. Finally, the overall research model was also tested using the same method.

1. SRMR = 0.064
2. NFI = 0.96
3. d_ULS = 0.82
4. d_G = 0.77

In order to examine the overall fit of the model, fit indices were calculated in SmartPLS software. The SRMR index value was 0.056, which was less than the threshold value of 0.08 and indicated a good fit of the model. The NFI index value was also reported to be 0.91, indicating a good fit of the model. In addition, the d_ULS and d_G indices values were 0.84 and 0.62, respectively, which also indicated a good fit of the overall model.

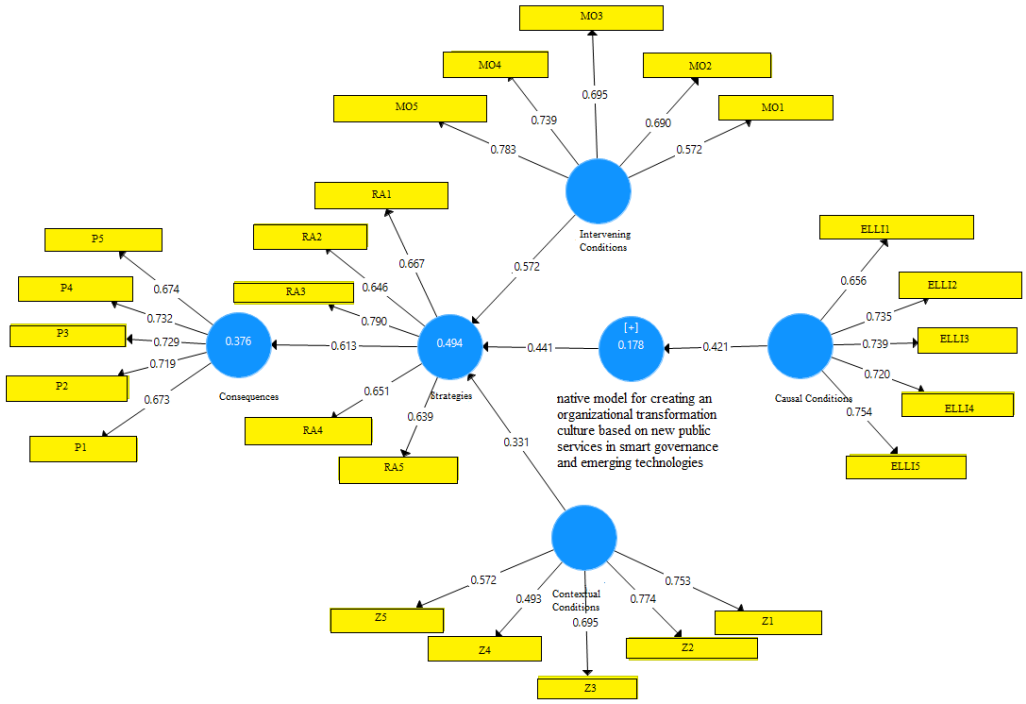

***Figure2**. Factor loadings research model (external model)*

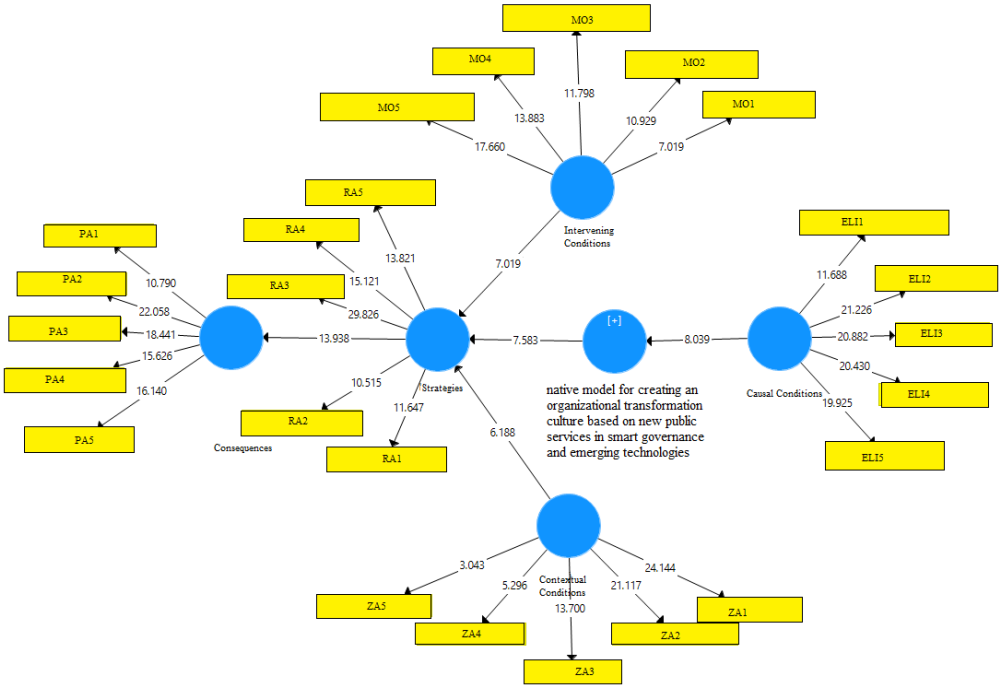

***Figure 3.** Bootstrap t-Statistics of the Research Model (Outer Model)*

Convergent Validity

To assess convergent validity, the indices of Cronbach's alpha, Average Variance Extracted (AVE), Composite Reliability (CR), and the Rho coefficient were used. The following conditions must be satisfied:

CR > 0.7

CR > AVE

AVE > 0.5

***Table 10.** Convergent Validity and Reliability of the Research Variables*

	CR	AVE	Cronbach's alpha
Casual Conditions	**00.793**	0.628	0.794
Core Category	**0.812**	0.670	0.773
Contextual Conditions	**0.845**	0.611	0.835
Intervening Conditions	**0.833**	0.536	0.710
Strategies	**0.846**	0.588	0.773

Consequences	**0.793**	0.628	0.794

According to the results of Table 10, the Cronbach's alpha values for all variables are greater than 0.7; therefore, the reliability of all variables is confirmed. The Average Variance Extracted (AVE) values are consistently greater than 0.5, indicating that convergent validity is also supported. The Composite Reliability (CR) values are greater than both AVE and 0.7, showing that each construct in the model has appropriate validity and reliability. In addition, the Rho coefficient is also above 0.7.

Discriminant Validity (Fornell–Larcker Criterion)

Discriminant validity examines the extent to which a construct is more strongly related to its own indicators than to indicators of other constructs. Acceptable discriminant validity indicates that each construct interacts more strongly with its own items than with those of other constructs. The main characteristic of this matrix is that its diagonal contains values equal to one. Then, the values on the main diagonal are replaced with the square root of the AVE values, and finally, Table 11 is presented.

Table 11. *Fornell–Larcker Criterion*

	Casual Conditions	Contextual Conditions	Intervening Conditions	Strategies	Consequences
Casual Conditions	0.824				
Contextual Conditions	0.380	0.834			
Intervening Conditions	0.720	0.467	0.875		
Strategies	0.759	0.345	0.815	0.860	
Consequences	0.580	0.745	0.750	0.509	0.814

As shown in Table 11, the values on the main diagonal of the matrix are greater than all other values in their corresponding columns, indicating that the model has acceptable discriminant validity. In this section, based on the results obtained from the Partial Least Squares estimations—using factor loadings and bootstrapping—the research hypotheses have been evaluated.

Table 12. *Examination of Research Hypotheses and Path Analysis of the Model*

Hypothesis	Path Coefficient	t-statistic	Significance level	Status
The antecedent conditions significantly affect the main construct.	0.421	8.039	0.000	Confirmation
The main construct significantly affects the strategies.	0.444	7.853	0.000	Confirmation
The strategies significantly affect the outcomes.	0.613	13.938	0.000	Confirmation
The intervening conditions significantly affect the strategies.	0.572	7.019	0.000	Confirmation
The contextual conditions significantly affect the strategies.	0.331	6.188	0.000	Confirmation

Based on the results obtained from the structural equation modeling (SEM), the path coefficients for all hypotheses are greater than 0.3. The significance level for all hypotheses is less than 0.05 ($p = 0.000$). Therefore, with 95% confidence, it can be concluded that all hypotheses are supported.

Discussion

The findings of this study indicate that the "organizational transformation culture based on the New Public Service within the framework of smart governance" in the National Iranian Oil Company (NIOC) is not a linear or single-factor phenomenon; rather, it emerges from the systematic interaction among environmental drivers, institutional contexts, and managerial mechanisms. The grounded theory results revealed that external environmental pressures, digital technological developments, rising stakeholder expectations, and the demand for transparency act as "strategic drivers." However, transforming these pressures into sustainable change depends on the quality of the organization's response at the cultural and leadership levels. Structural equation modeling further demonstrated that strategies such as empowering human resources, institutionalizing transparency, fostering organizational learning, and strengthening transformational leadership play a significant mediating role between causal conditions and organizational outcomes. Without activating these levers,

even in the presence of external pressures, the expected outcomes (efficiency, service quality, public trust, and cost reduction) are unlikely to be achieved.

From a theoretical perspective, the findings are aligned with the New Public Service literature, which emphasizes that public value is created through interaction between government and citizens and through strengthening accountability and responsibility (Denhardt & Denhardt, 2000, 2015). In this study, administrative transparency and enhanced public trust were identified as key outcomes of cultural transformation, directly linked to the values of the New Public Service. Furthermore, the findings suggest that in a large and strategic organization such as NIOC, achieving these values is not possible without redefining bureaucratic culture and moving toward organizational learning and transformational leadership—consistent with classical theories of organizational change and the role of leadership in institutionalizing change (Schein, 2010; Bass & Avolio, 1994).

Compared to studies in smart governance and digital government, the present findings emphasize that technology alone does not create competitive advantage; rather, "cultural readiness" is a prerequisite for its effective utilization. This finding is consistent with arguments in the digital government literature that stress institutional integration and organizational capacity (Dunleavy et al., 2006; Mergel, Edelmann, & Haug, 2019). In essence, the study demonstrates that digital transformation leads to improved service quality and cost reduction only when implemented within a transparent, learning-oriented, and transformation-driven culture. This conclusion complements studies arguing that the transition from e-government to digital governance requires deep institutional changes, not merely the implementation of technological systems.

Regarding intervening conditions, employee resistance and financial resource constraints were identified as potential barriers, consistent with change management literature, which views resistance as a natural reaction to perceived uncertainty and threat (Kotter, 1996). However, the findings indicate that transformational leadership and strong support from senior policymakers can mitigate the negative effects of these barriers. In other words, the quality of leadership and alignment at top decision-making levels determine the speed and depth of institutionalizing a transformation culture. This result aligns with research on transformational leadership emphasizing inspiration, idealized influence, and intrinsic motivation in advancing organizational change (Bass & Avolio, 1994).

In contrast to studies that analyze public sector reforms primarily from the perspective of efficiency and market logic (Hood, 1991), this study demonstrates that in an organization with both governance and economic missions, reliance solely on efficiency logic is insufficient. Instead, the integration of efficiency, social legitimacy, and public trust is crucial. The emergence of "sustainable public trust" as a key outcome in the final model suggests that a transformation culture grounded in the New Public Service can simultaneously reinforce economic and social objectives. Theoretically, this contributes to enriching the literature on the transition from New Public Management to more participatory and value-based paradigms.

From a localization perspective, one of the main contributions of this study is demonstrating that traditional administrative structures and bureaucratic culture are not necessarily absolute obstacles; rather, if gradual and empowering strategies are designed, they can become platforms for transformation. This finding aligns with perspectives emphasizing the importance of institutional context and national contingencies in implementing administrative reforms and highlights the need to avoid adopting imported models without adaptation to local conditions. In this regard, the proposed model—integrating cultural, technological, and leadership components—provides a coherent and context-sensitive framework for transformation in large and complex public organizations.

Overall, the findings suggest that organizational transformation culture in NIOC leads to sustainable outcomes when:

1. Environmental drivers are properly recognized and analyzed;

2. Transformational leadership is strengthened at both senior and middle management levels;
3. Human capital is empowered through continuous training and learning;
4. Technology is aligned with the values of transparency, accountability, and public value creation.

This synergy among culture, technology, and public values forms the core of the proposed model and may serve as a foundation for transformation policymaking in other strategic organizations.

Conclusion

The results of this study show that establishing an organizational transformation culture based on the New Public Service within the framework of smart governance in NIOC is a multidimensional and systematic process shaped by the dynamic interaction among causal, contextual, and intervening conditions. External environmental pressures, increasing stakeholder expectations, the need for transparency, digital technological developments, and declining productivity act as primary drivers of change, pushing the organization toward rethinking its culture and managerial mechanisms. However, the impact of these factors is shaped by the existing administrative structure, bureaucratic culture, employees' skill levels, macro-level policies, and technological infrastructure.

The qualitative grounded theory findings indicate that intervening variables—such as employee resistance, the quality of transformational leadership, the level of support from senior policymakers, financial constraints, and inter-organizational interactions—can either facilitate or hinder the realization of transformation. Key strategies identified as change management levers include empowering human capital, adopting new technologies, institutionalizing administrative transparency, fostering organizational learning, and strengthening transformational leadership. These strategies mediate the relationship between conditions and outcomes.

The structural equation modeling results confirmed significant relationships among constructs and supported the empirical validity of the proposed model. The implementation of these strategies directly and indirectly leads to improved organizational efficiency, enhanced service quality, strengthened public trust, reduced operational costs, and the development of competitive advantage in the public sector.

Accordingly, transformation culture in NIOC is not merely a temporary attitudinal shift, but rather a strategic mechanism for aligning economic missions with New Public Service values and smart governance requirements. With sustained managerial and institutional support, this mechanism can facilitate the organization's transition toward becoming an agile, accountable, data-driven, and citizen-oriented institution at both national and regional levels.

It is recommended that NIOC develop a "Digital Cultural Transformation Roadmap" to institutionalize transformation culture, including cultural maturity indicators, periodic assessment of organizational resistance, and a reward system based on innovation and transparency. Additionally, establishing a "Center for Transformation and Smart Governance" within the organizational structure could enhance coordination among technology, human resources, and macro-level policies, thereby elevating transformation from isolated projects to a strategic organizational level.

Future research is encouraged to integrate the proposed model with complementary theories such as Dynamic Capabilities Theory or Institutional Theory to further examine the role of organizational adaptability and institutional pressures in deepening transformation culture. Testing the model in other large public enterprises (e.g., energy, petrochemical, or infrastructure sectors) would enhance generalizability and external validity.

Given that the present model was validated through grounded theory and structural equation modeling, future studies are also recommended to employ longitudinal designs to examine the sustainability of transformation culture over time. Furthermore, applying organizational network analysis could reveal informal cultural dimensions and the flow of transformational

leadership influence, contributing to a deeper understanding of internal change mechanisms in complex organizations.

Declaration of Competing Interest

The author declares that he has no competing financial interests or known personal relationships that would influence the report presented in this article.

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