

# The Effect of Organizational Culture on Employee Performance

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## ABSTRACT

This study investigates the effect of organizational culture on employee performance within the technology sector, using a leading Egyptian IT solutions company as the empirical context. Organizational culture is conceptualized through Denison's (1990) four-dimensional model (Involvement, Consistency, Adaptability, and Mission), while employee performance is measured using Koopmans et al.'s (2014) Individual Work Performance (IWP) model, covering task performance, contextual performance, and counterproductive work behavior. A mixed-method design was employed: quantitative data were collected from 301 employees via a structured questionnaire, while qualitative depth was obtained through semi-structured open-ended interviews analyzed using Schein's (1985) Three-Level Model. Findings reveal a strong, statistically significant positive relationship between organizational culture and employee performance ( $R^2 = 0.543$ ,  $r_s = .739$ ,  $p < .001$ ). Mission emerged as the strongest predictor ( $\beta = .291$ ), followed by Adaptability ( $\beta = .244$ ) and Consistency ( $\beta = .258$ ). Contextual performance showed the strongest cultural association ( $r_s = .659$ ), surpassing task performance. Qualitative analysis identified collaboration, quality commitment, and open communication as deeply embedded cultural assumptions driving performance. The study contributes empirical evidence from the Egyptian technology sector and offers actionable recommendations for culture-based performance management.

**Keywords:** Organizational Culture; Employee Performance; Denison Model; Technology Sector; Egypt; Mixed Methods; Individual Work Performance; Schein Model

## INTRODUCTION

Organizational culture has emerged as a fundamental strategic lever for understanding employee behavior and driving organizational effectiveness. It refers to the shared values, beliefs, norms, and practices that shape how members of an organization think, decide, and act (Schein, 2010; Robbins & Judge, 2013). As business environments grow increasingly dynamic and knowledge-intensive, culture has evolved from a secondary concern into a primary management tool one that influences and is associated with whether organizations can adapt, retain talent, and sustain competitive advantage.

The technology sector presents a particularly compelling context for examining this relationship. IT organizations rely heavily on human capital, cognitive effort, and collaborative problem-solving. In such environments, performance cannot be mandated by procedure alone; it must be cultivated through culture. Innovation, rapid adaptation, and knowledge sharing all culturally dependent capabilities define success or failure in technology-driven markets (Denison & Mishra, 1995).

Despite a substantial body of literature affirming the culture-performance link, critical gaps persist. Empirical evidence from technology-sector organizations remains limited relative to studies in public administration, banking, and manufacturing. More specifically, no published study to date has examined this relationship within the Egyptian technology sector a rapidly expanding industry characterized by growing global integration and strategic national importance. Furthermore, few studies have simultaneously applied Denison's (1990) multidimensional culture model and Koopmans et al.'s (2014) multidimensional performance framework in a single investigation.

This study addresses these gaps through a mixed-methods investigation at a leading Egyptian technology company. It aims to: (1) examine the overall impact of organizational culture on employee performance; (2)

identify which Denison dimensions most strongly predict performance; and (3) provide evidence-based recommendations for culture led performance enhancement.

## LITERATURE REVIEW

### Organizational Culture

Organizational culture is one of the most extensively studied yet conceptually contested constructs in management science. At its core, scholars converge on three foundational elements: shared values, collective beliefs, and behavioral norms. Robbins and Judge (2013) describe it as a system of shared meaning that distinguishes one organization from another. Schein (2010) defines it as a set of shared assumptions learned by a group as it solves problems of external adaptation and internal integration. Lunenburg (2011) specifically links culture to behavioral and cognitive outcomes, establishing the conceptual bridge between organizational culture and employee performance.

Denison's (1990) model adopted in this study conceptualizes organizational culture across four measurable dimensions: Involvement (empowerment, team orientation, capability development), Consistency (core values, agreement, coordination), Adaptability (creating change, customer focus, organizational learning), and Mission (strategic direction, goals, vision). This framework has demonstrated cross-sector validity and provides a robust foundation for empirical measurement.

### Employee Performance

Employee performance is a multidimensional construct extending well beyond task completion. Campbell (1990) defines it as observable behaviors relevant to organizational goals and under individual control. Koopmans et al. (2014) refined this into three dimensions: task performance (core job duties), contextual performance (discretionary behaviors supporting the organizational environment), and counterproductive work behavior (actions that harm the organization or colleagues). This tripartite framework is particularly well-suited to the knowledge-based IT sector, where discretionary effort and collaborative citizenship are as critical as technical output.

### The Culture-Performance Relationship

Empirical evidence consistently supports a positive relationship between organizational culture and employee performance. Denison and Mishra (1995) established significant associations between all four culture dimensions and organizational effectiveness. Al-Sada et al. (2017) reported a significant positive relationship in the IT sector ( $r = .612, p < .01$ ). Shahzad et al. (2012) found similar results in Pakistan's telecommunications sector ( $R^2 = .338$ ). The literature further reveals that culture exerts a stronger influence on contextual performance than on formal task execution, as contextual behaviors are inherently more sensitive to the social and normative environment (Williams & Anderson, 1991). However, some studies report weaker or context-dependent culture-performance links, suggesting that sector-specific moderators such as organizational size, leadership style, and national cultural context may influence the strength and direction of this relationship (Gordon & DiTomaso, 1992; Sørensen, 2002). These findings caution against overgeneralizing the culture-performance relationship and underscore the importance of contextually grounded empirical investigation.

### Research Gap and Objectives

Three interrelated gaps motivate this study. First, empirical evidence from technology-sector organizations, especially in Egypt, is conspicuously absent from the literature. Second, the simultaneous application of Denison's culture model and Koopmans et al.'s performance framework remains rare. Third, no study has employed a mixed-methods design integrating Schein's qualitative framework with quantitative culture-performance analysis in this context. This study addresses all three gaps, with the following objectives:

- To examine the impact of organizational culture on employee performance at a leading Egyptian technology company.

- To explore how each Denison dimension (Involvement, Consistency, Adaptability, Mission) influences employee performance.
- To provide practical, evidence-based recommendations for culture-driven performance management.

## Theoretical Framework

### Schein's Three-Level Model (1985)

Edgar Schein's model identifies three hierarchical levels of organizational culture. Artifacts constitute the visible layer: observable structures, dress codes, rituals, and physical arrangements. Espoused Values represent the intermediate layer: stated strategies, goals, and philosophies that guide decision-making. Basic Underlying Assumptions form the deepest layer: unconscious, taken-for-granted beliefs that powerfully shape behavior yet are rarely articulated. Schein's model is used in this study for qualitative analysis, allowing researchers to explore whether culture's influence on performance operates at the surface level or through deeper, more enduring belief systems.

### Denison's Organizational Culture Model (1990)

Denison's model provides a quantitative measurement framework. Each of the four dimensions captures a distinct facet of organizational culture. Involvement reflects employee empowerment and participatory decision-making. Consistency captures the degree to which shared values translate into uniform behavioral norms across the organization. Adaptability measures organizational responsiveness to change and commitment to continuous learning. Mission reflects the clarity and communication of long-term organizational purposes. Denison's normative database enables comparative benchmarking, a methodological advantage leveraged in this study.

### Koopmans' Individual Work Performance Model (2014)

Koopmans et al. (2014) developed the IWP model to provide a validated, survey-based instrument for measuring employee performance across three dimensions. Task performance captures the effectiveness of core job execution. Contextual performance captures voluntary, extra-role behaviors that support organizational and social functioning, including helping colleagues, demonstrating initiative, and organizational citizenship beyond formal job requirements. Counterproductive work behavior captures actions that harm the organization. This framework is particularly appropriate for IT environments where cognitive, collaborative, and discretionary behaviors are central performance drivers.

## Research Model

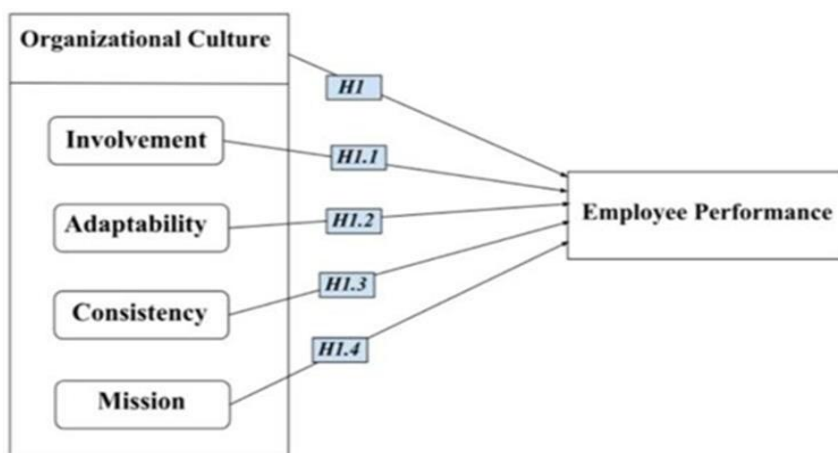


Figure 1

Source: Developed by the researchers based on Denison Model (1990)

## RESEARCH METHODOLOGY

### Research Design

This study employs a mixed-method research design combining quantitative and qualitative approaches. The mixed design enables both statistical measurement of the culture-performance relationship and deep contextual understanding of the mechanisms through which culture shapes performance in daily organizational life (Creswell, 2018). Quantitatively, a descriptive and analytical research design was adopted, using structured questionnaires to test theoretically derived hypotheses. Qualitatively, inductive thematic analysis was applied to open-ended survey responses. A deductive approach guided the quantitative strand, testing hypotheses derived from the Denison and Koopmans frameworks. A pragmatist philosophical stance integrates both approaches.

### Population and Sample

The study population comprises approximately 1,200 employees at a leading Egyptian technology company specializing in digital transformation, software development, and IT services. Using Cochran's (1977) formula at a 95% confidence level and 5% margin of error, the required sample size was calculated at 291 respondents. After adjusting for the finite population, 301 valid responses were collected, representing all 20 organizational departments including software engineering, data science, human resources, sales, finance, marketing, and operations. Inclusion criteria required at least six months of organizational tenure and active participation in core operations. Part-time employees, interns, and non-operational support staff were excluded.

The sample demographic profile reflects the Egyptian IT sector: 76.4% male ( $n = 230$ ), with 70.1% of respondents aged 25–44 years. The modal tenure category was 4–7 years (33.9%), and 66.8% of respondents had four or more years of organizational experience, supporting the reliability of cultural self-reports.

### Measurement Instruments

Organizational culture was measured using a 48-item instrument based on Denison's (1990) model, covering all four dimensions and twelve sub-dimensions (12 items per dimension). Employee performance was measured using Koopmans et al.'s (2014) IWP scale (18 items covering the three performance dimensions). All items employed on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Qualitative data were collected through open-ended survey questions analyzed within Schein's (1985) three-level framework. Seven employees across technical, managerial, and support functions participated in the qualitative strand.

### Analytical Approach

Quantitative data were analyzed using IBM SPSS Statistics (Version 26). Reliability was assessed via Cronbach's Alpha; normality through Kolmogorov-Smirnov and Shapiro-Wilk tests; validity through Spearman's Rho convergent validity analysis. Given that several sub-dimensions violated normality, a common pattern in Likert-scale organizational data Spearman's Rho was applied for all correlation analyses involving sub-dimensions. Linear regression (simple and stepwise multiple) was retained for predictive analysis, as regression's normality assumption applies to residuals rather than raw scores, and both composite variables satisfied this criterion. It is acknowledged that stepwise regression is exploratory in nature and may capitalize on sample-specific variance; findings should therefore be interpreted as indicative rather than confirmatory, and replication in independent samples is recommended. Qualitative data underwent inductive thematic coding with theoretical organization guided by Schein's model. Regarding the qualitative strand, semi-structured interviews were conducted face-to-face with seven purposively selected employees representing technical, managerial, and support functions. Each interview lasted approximately 30–45 minutes and followed a pre-designed protocol covering perceptions of organizational culture, daily work practices, and performance experiences. Interviews were audio-recorded with participant consent, transcribed verbatim, and analyzed inductively using open and axial coding procedures. Themes were subsequently organized within Schein's (1985) three-level framework. To enhance trustworthiness, member checking was applied by sharing key themes with two participants for confirmation. Thematic saturation was approached after the sixth interview, with the seventh confirming no new substantive themes, though it is acknowledged that saturation claims are inherently limited with small qualitative samples. The researchers

acknowledge their positionality as organizational behavior scholars with familiarity with the Egyptian IT context; reflexivity was maintained by adhering strictly to the interview protocol and separating data collection from theoretical interpretation during the coding process.

## RESULTS

### Reliability and Validity

The overall measurement instrument demonstrated excellent internal consistency (Cronbach's  $\alpha = .900$ ). The Organizational Culture scale achieved good reliability ( $\alpha = .868$ ), with all four sub-dimensions ranging from .809 to .834, individually exceeding the minimum threshold of .70 (Nunnally, 1978). The Employee Performance scale attained acceptable reliability ( $\alpha = .739$ ), with sub-dimension alphas of .712 to .724. Convergent validity was confirmed: all Spearman's Rho correlations between sub-dimensions and their parent composites exceeded .70 (range: .702 to .872), substantially surpassing Hair et al.'s (2019) minimum threshold of .50. It is acknowledged that full construct validation ideally requires exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and discriminant validity testing. Given the scope and constraints of the present study, these procedures were not conducted; future research is encouraged to apply both EFA and CFA to formally test the factor structure of both instruments and to further strengthen construct validity claims for the Denison and IWP instruments in the Egyptian technology sector context.

Table 1. Reliability Coefficients

| Construct              | Dimension                  | Items | Cronbach's $\alpha$ | Classification |
|------------------------|----------------------------|-------|---------------------|----------------|
| Organizational Culture | Involvement                | 12    | .821                | Good           |
| Organizational Culture | Consistency                | 12    | .809                | Good           |
| Organizational Culture | Adaptability               | 12    | .834                | Good           |
| Organizational Culture | Mission                    | 12    | .816                | Good           |
| Employee Performance   | Task Performance           | 6     | .712                | Acceptable     |
| Employee Performance   | Contextual Performance     | 6     | .724                | Acceptable     |
| Employee Performance   | Counterproductive Behavior | 6     | .703                | Acceptable     |

Source: SPSS Out Come

### Correlation Analysis

Spearman's Rho analysis confirmed a strong, statistically significant positive relationship between the Organizational Culture composite and Employee Performance composite ( $r_s = .739$ ,  $p < .001$ ). Among performance dimensions, Contextual Performance showed the strongest cultural association ( $r_s = .659$ ), followed by Counterproductive Work Behavior ( $r_s = .575$ ) and Task Performance ( $r_s = .550$ ). Among cultural dimensions, Consistency demonstrated the strongest association with overall Employee Performance ( $r_s = .649$ ), followed by Adaptability ( $r_s = .630$ ), Mission ( $r_s = .603$ ), and Involvement ( $r_s = .559$ ). All correlations were significant at the .001 level.

Table 2. Spearman's Rho Correlation Matrix

| OC Dimension | EP Composite | Task Perf. | Contextual Perf. | Counterproductive WB |
|--------------|--------------|------------|------------------|----------------------|
| OC Composite | .739         | .550       | .659             | .575                 |



|              |      |      |      |      |
|--------------|------|------|------|------|
| Consistency  | .649 | .480 | .594 | .511 |
| Adaptability | .630 | .494 | .543 | .484 |
| Mission      | .603 | .470 | .543 | .432 |
| Involvement  | .559 | .395 | .507 | .453 |

$p < .001$  (two-tailed).

Source: SPSS Out Come

### Regression Analysis

Simple linear regression revealed a strong association between Organizational Culture and Employee Performance, with the model accounting for 54.3% of the variance in self-reported performance scores ( $R^2 = .543$ , adjusted  $R^2 = .541$ ,  $F = 355.236$ ,  $p < .001$ ). It is noted that, given the cross-sectional self-report design, shared method variance may partially contribute to this estimate and causal interpretation should be avoided. The unstandardized coefficient ( $B = .417$ ) indicates that each unit increase in Organizational Culture score is associated with a .417-unit increase in Employee Performance. To assess multicollinearity, Variance Inflation Factor (VIF) values were examined for all predictors in the stepwise model; all VIF values fell below 5.0, indicating acceptable levels of multicollinearity (Hair et al., 2019). Residual diagnostics confirmed approximate normality of errors and absence of systematic heteroscedasticity patterns. This  $R^2$  value substantially exceeds those reported in comparable studies (Shahzad et al., 2012:  $R^2 = .338$ ; Tseng, 2010:  $R^2 = .274$ ), likely reflecting the heightened cultural contingency of performance in knowledge-intensive IT work.

Stepwise multiple regression identified Mission as the single strongest cultural predictor ( $\beta = .291$ ,  $\Delta R^2 = .298$ ,  $p < .001$ ), independently explaining approximately 30% of performance variance. Adaptability entered second ( $\beta = .244$ ,  $\Delta R^2 = .142$ ), Consistency third ( $\beta = .258$ ,  $\Delta R^2 = .071$ ), and Involvement fourth ( $\beta = .103$ ,  $p = .051$ ). The final four-predictor model explained 55.8% of performance variance (adjusted  $R^2 = .552$ ).

Table 3. Stepwise Multiple Regression Results

| Step | Predictor Added | $R^2$ | $\Delta R^2$ | $\beta$ (Final Model) | Sig. |
|------|-----------------|-------|--------------|-----------------------|------|
| 1    | Mission         | .298  | .298         | .291                  | .000 |
| 2    | Adaptability    | .440  | .142         | .244                  | .000 |
| 3    | Consistency     | .511  | .071         | .258                  | .000 |
| 4    | Involvement     | .558  | .047         | .103                  | .051 |

Source: SPSS Out Come

### Hypothesis Testing

Table 4. Hypothesis Testing Summary

| Hypothesis | Relationship                                              | Result                                  |
|------------|-----------------------------------------------------------|-----------------------------------------|
| H1         | Organizational Culture $\rightarrow$ Employee Performance | Supported ( $r_s = .739$ , $p < .001$ ) |
| H1.1       | Involvement $\rightarrow$ Employee Performance            | Supported ( $r_s = .559$ , $p < .001$ ) |

|      |                                     |                                 |
|------|-------------------------------------|---------------------------------|
| H1.2 | Consistency → Employee Performance  | Supported (rs = .649, p < .001) |
| H1.3 | Adaptability → Employee Performance | Supported (rs = .630, p < .001) |
| H1.4 | Mission → Employee Performance      | Supported (rs = .603, p < .001) |

SPSS output based on research hypothesis

## Denison Benchmarking Results

Denison Organizational Culture Survey benchmarking positioned the studied organization consistently in the upper quartile relative to comparable organizations. Adaptability achieved the highest dimension score (76th percentile), driven by Creating Change and Customer Focus (both 77th percentile), consistent with the competitive demands of an IT services firm. Mission scored 74th percentile, Involvement 73rd percentile, and Consistency the lowest at 72nd percentile making Consistency the primary cultural development priority. Notably, the Agreement sub-dimension (within Consistency) and the Empowerment sub-dimension (within Involvement) recorded the two lowest scores in the entire instrument (71st and 70th percentile, respectively), identifying specific actionable gaps. Benchmarking percentile scores were derived by reference to the Denison Consulting normative database (Denison & Mishra, 1995; Denison et al., 2004), which provides comparative scores across a large sample of international organizations. The Denison Organizational Culture Survey instrument was administered in its validated form, and sub-dimension scores were calculated in accordance with the standard scoring procedures outlined in Denison's (2006) technical manual.

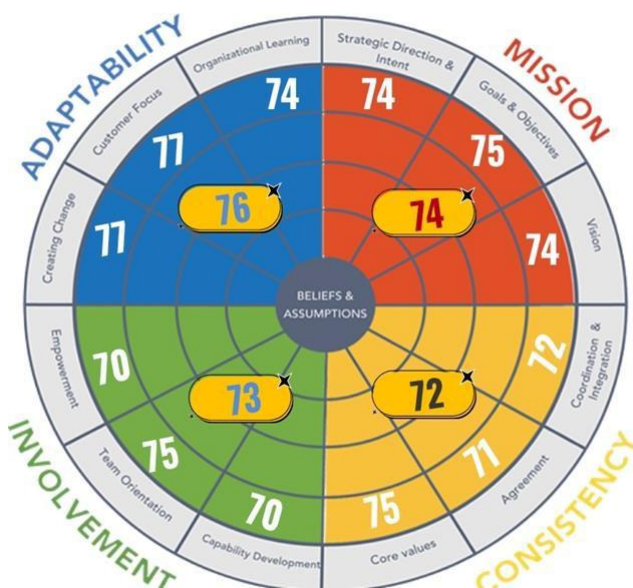


Figure 2 Denison Organizational Culture Model: All Dimension and Sub-Dimension Scores

## Qualitative Findings

Thematic analysis of seven employees across technical, managerial, and support roles identified ten main themes organized within Schein's (1985) three-level model. Nine of ten themes achieved full saturation (all 7 participants). At the Artifact level, key themes were Autonomy and Decision-Making (structured decentralization with ~70% daily independence for technical roles), Cross-Team Coordination (enabled by project management tools and a dedicated Project Management function), and Systemic Barriers (procedural friction, partially resolved through ongoing reforms). At the Espoused Values level, themes included Open and Instrumental Communication (concerns generated tangible organizational responses), Learning and Adaptability (training budgets, internal sessions, technology piloting), and Goal Clarity (strong for technical and managerial staff; limited for support functions). At the Basic Assumptions level, Collaboration as a Cultural Given and Organizational Citizenship Behavior emerged as spontaneous, unrequested cultural reflexes. Performance Outcome themes included Task Performance and Quality as a Non-Negotiable Belief (quality described as a 'red

line'), and Pressure Management and Resilience (adaptive correction mechanisms triggered under sustained performance pressure).

Figure 1. Schein's Three-Level Model of Organizational Culture Based on Qualitative Data from ITWorx

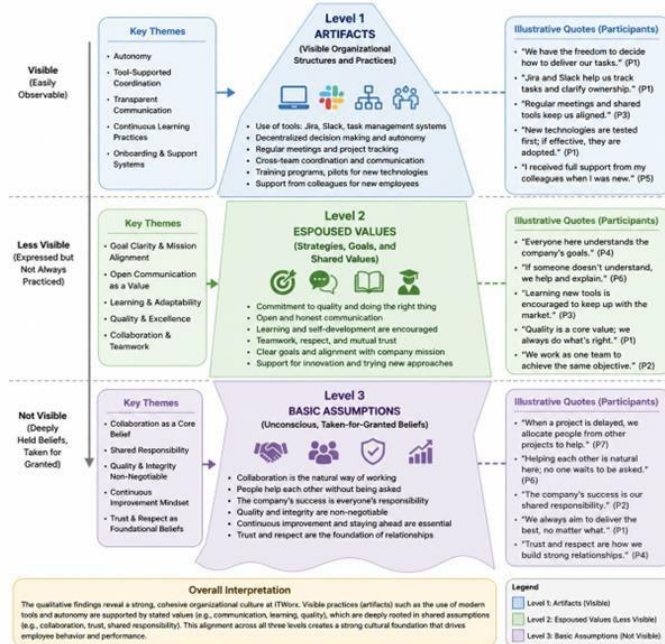


Figure 3 Qualitative Results

## DISCUSSION

The central finding that Organizational Culture is associated with 54.3% of the variance in self-reported Employee Performance is consistent with and extends the foundational proposition of Denison and Mishra (1995) and places the studied organization's culture-performance coefficient ( $r_s = .739$ ) among the highest reported in comparable IT sector studies globally. The substantially higher explained variance relative to prior studies (e.g., Shahzad et al., 2012:  $R^2 = .338$ ) is interpreted as reflecting a characteristic of knowledge-intensive IT work: when performance depends primarily on cognitive engagement, creative collaboration, and discretionary effort rather than procedurally specified task execution, the cultural conditions governing that engagement carry proportionally greater predictive weight.

Mission's emergence as the dominant predictor is consistent with Denison and Mishra's (1995) theoretical proposition that strategic clarity provides employees with the directional framework needed to allocate effort purposefully. The qualitative finding that employees working on high-impact projects experience heightened personal significance and intrinsic motivation operationalizes this statistical result at the behavioral level. This resonates with Sinek's (2009) 'Why' argument and Bakker and Demerouti's (2008) Job Demands-Resources model, both of which position purpose as a primary driver of discretionary performance.

The theoretical paradox of Consistency simultaneously the strongest bivariate correlate of Employee Performance ( $r_s = .649$ ) and the lowest Denison benchmarking score (72nd percentile) represents the study's most practically significant finding. It suggests that the dimension with the greatest measurable performance impact is also the organization's most underdeveloped cultural area, identifying a high-leverage investment opportunity. Sorensen's (2002) work demonstrates that cultural consistency generates multiplicative rather than merely additive performance effects, making this gap particularly consequential.

The finding that Contextual Performance is most strongly associated with Organizational Culture ( $r_s = .659$ ) confirms Williams and Anderson's (1991) theoretical proposition that extra-role, citizenship-oriented behaviors are more culturally sensitive than formally prescribed task behaviors. Qualitative data revealed that all seven participants described voluntary knowledge-sharing, peer mentoring, documentation updates, and collective quality ownership as spontaneous expressions of cultural identity rather than responses to managerial instruction.



This positions OCB as the behavioral bridge through which organizational culture translates into collective organizational effectiveness, consistent with Podsakoff et al.'s (2000) meta-analytic conclusions.

A theoretically important contextual consideration is the potential moderating role of Egyptian national culture. Hofstede's (1984) profile positions Egypt as high-power distance, collectivist, and high uncertainty avoidance dimensions that might constrain open communication and decentralized decision-making. The present findings reveal a partial paradox: the studied organization appears to have developed cultural norms instrumental voice, meaningful autonomy, spontaneous collaboration that partially contradict national cultural expectations. This divergence, consistent with Gerhart (2009), suggests that internationally oriented knowledge-intensive firms in Egypt may selectively import global IT professional cultural norms in ways that substantially moderate national cultural constraints, offering a model for broader organizational development in the Egyptian private sector. It should be noted, however, that these interpretations extend beyond the empirical scope of a single-firm study and should be treated as theoretically informed speculation rather than empirically established conclusions. Comparative multi-firm or cross-national research would be required to substantiate these broader cultural claims.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

This study provides robust empirical evidence that organizational culture is strongly associated with employee performance in technology-sector organizations, accounting for 54.3% of variance in self-reported performance scores at the studied organization. Mission clarity is the strongest individual cultural predictor, operating through purpose-driven motivation and strategic alignment. Contextual performance discretionary, citizenship-oriented behavior is more culturally responsive than task performance, confirming that culture's primary performance mechanism is behavioral empowerment rather than procedural compliance. The qualitative findings reveal that the most performance-relevant cultural elements operate at Schein's deepest level basic assumptions of collaboration, collective ownership, and quality as a non-negotiable standard making them both the most powerful and the most organizationally enduring cultural assets. The study contributes the first mixed-methods empirical examination of this relationship in the Egyptian technology sector and demonstrates that internationally oriented knowledge firms can develop high-performance cultures that transcend national cultural limitations.

### Recommendations

Based on the empirical findings, four strategic recommendations are proposed for the studied organization and analogous technology companies:

**1. Build a Cross-Functional Consistency Program.** Given that Consistency is simultaneously the strongest bivariate performance predictor and the lowest-scoring Denison dimension, a structured program should translate stated organizational values into observable behavioral standards across all departments. Quarterly leadership alignment sessions, monthly team values-reflection rituals, and a co-created Values Behavioral Charter should target increasing the Agreement sub-dimension from the 71st to the 76th percentile within 18 months (about 1 and a half years).

**2. Implement a Cascaded Mission Communication Framework.** Mission is the strongest regression predictor ( $\beta = .291$ ), yet qualitative data reveal uneven distribution: support-function employees experience significantly weaker goal clarity than technical and managerial staff. A three-tier communication system redesigned all-hand meetings, department-specific mission statements, and a monthly Mission Impact Dashboard should ensure that every functional role understands its contribution to organizational purpose.

**3. Develop a Learning Equity Framework.** Adaptability scored highest on Denison benchmarking (76th percentile) and was the second-strongest regression predictor ( $\beta = .244$ ), yet learning infrastructure primarily serves technical roles. A role-type-specific competency pathway, a monthly cross-functional Internal Learning

Exchange, and integration of learning metrics into performance management for all employees would democratize the organization's strongest cultural asset.

**4. Create Structured Empowerment Pathways for Non-Technical Functions.** Empowerment scored the lowest of all 12 Denison sub-dimensions (70th percentile), with qualitative evidence confirming that support-function employees experience bounded and ambiguous decision-making authority. Role-specific Empowerment Charters, process improvement of ownership for non-technical teams, and a Micro-Leadership Program would extend the decentralized decision culture beyond technical domains and eliminate the role-stratified empowerment gap.

### Limitations And Future Research Directions

This study is subject to several limitations. First, the single-organization design, while enabling depth and internal validity, limits generalizability to other technology firms, sectors, or national contexts. This also means that detailed organizational-level interpretations — such as benchmarking comparisons and qualitative cultural descriptions — reflect the specific cultural configuration of this organization and should not be extrapolated to the broader Egyptian IT sector without further validation. Second, the cross-sectional design captures a snapshot at a single point in time and cannot account for longitudinal cultural change or causal direction; accordingly, all findings should be interpreted as reflecting association rather than causation. Third, as both predictor (organizational culture) and outcome (employee performance) constructs were measured from the same respondents using the same questionnaire at the same time, there is an inherent risk of common method bias (CMB) that may inflate observed correlations and regression coefficients. Although the mixed-methods design provides partial triangulation, the qualitative sample ( $n = 7$ ) is insufficient to fully offset this risk. Future studies are strongly encouraged to apply formal CMB diagnostics such as Harman's single-factor test, a marker-variable approach, or CFA-based method factor checks. Additionally, self-reported measurement of counterproductive work behavior is particularly susceptible to social desirability bias and defensive responding, which may result in underreporting of such behaviors and should be explicitly acknowledged as a validity limitation. Fourth, the qualitative sample ( $n = 7$ ) was sufficient for thematic saturation within this specific organizational context but insufficient for systematic generalization across the broader sector.

Future research should: (1) extend this investigation longitudinally to examine whether cultural interventions produce measurable performance changes over time; (2) replicate the design across multiple Egyptian and regional technology firms to test generalizability; (3) examine OCB as a mediating mechanism in the culture-performance chain using structural equation modeling; (4) investigate role-based and hierarchical differences in cultural experience more systematically; and (5) explore whether national culture moderates the organizational culture-performance relationship across different Egyptian industry sectors.

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