

# Digital Transformation in Indian Enterprises: Leadership, Change Management, and Organisational Performance — Evidence from a Multi-Sector Survey

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## Abstract

**Digital transformation (DT)** — defined as the organisational process of integrating digital technologies across all business functions to fundamentally alter value creation mechanisms, operational models, and stakeholder interactions — has emerged as the defining strategic imperative of the 2020s for Indian enterprises navigating simultaneous competitive disruption, post-pandemic acceleration, and government-driven digitisation mandates including India Stack, PM GatiShakti, and the Production Linked Incentive (PLI) schemes. Despite its strategic centrality, empirical evidence on the organisational and managerial determinants of successful DT outcomes in the Indian enterprise context remains fragmented across sector-specific case studies and practitioner surveys that lack the methodological rigour required to identify causal mechanisms rather than mere correlations. This study presents results from a primary survey of 228 Indian enterprises across six sectors — Banking, Financial Services and Insurance (BFSI); Retail; Manufacturing; Healthcare; IT/ITeS; and Logistics — investigating the relationship between leadership commitment, structured change management adoption (operationalised using Kotter's 8-Step framework), digital skills investment, legacy IT constraints, and DT performance outcomes measured across revenue growth, cost reduction, EBITDA margin improvement, and employee engagement. Hierarchical multiple regression analysis, controlling for firm size and sector effects, reveals that leadership commitment ( $\beta=0.412, p<0.001$ ), change management completeness ( $\beta=0.318, p<0.001$ ), and digital skills investment ( $\beta=0.247, p<0.001$ ) are the three strongest positive predictors of DT success, while legacy IT constraint ( $\beta=-0.214, p=0.001$ ) and employee resistance ( $\beta=-0.178, p=0.003$ ) are the two most significant negative predictors. DT leaders (top quartile on composite performance score) achieve average revenue growth of 21.6%, cost reduction of 17.2%, and EBITDA margin improvement of 5.9 percentage points over a three-year horizon — outcomes that underscore the significant performance divergence between DT leaders and laggards that compounds over successive quarters.

**Keywords:** digital transformation, change management, leadership, organisational performance, Indian enterprises, BFSI, Kotter framework, employee engagement, EBITDA, SME digitisation

## 1. Introduction

India's digital economy, valued at approximately \$200 billion in 2023 and projected to reach \$1 trillion by 2028 according to the Ministry of Electronics and Information Technology's Digital Economy Report, has created both opportunity and competitive pressure for enterprises across all sectors to embed digital capabilities into their core operational and strategic architectures. The COVID-19 pandemic functioned as a forced acceleration event for DT adoption, compressing what organisations had planned as five-year transformation roadmaps into 12-to-18-month implementation timescales driven by remote working imperatives, contactless customer service demands, and supply chain disruption responses. However, the acceleration of technology deployment has not uniformly translated into transformational outcomes — McKinsey Global Institute's 2023 survey reports that 70% of digital transformation initiatives globally fail to achieve their stated objectives, with Indian enterprises exhibiting similar failure rates according to Nasscom's Digital Enterprise Survey.

The conceptual distinction between digitisation (converting analogue processes to digital formats), digitalisation (using digital data to improve existing business processes), and digital transformation (fundamentally restructuring value creation through digital capabilities) established by Westerman et al. (2014) provides an essential analytical framework for understanding why technology investment alone does not guarantee transformational outcomes. DT, understood as the third and deepest level of digital change, requires organisational capability development, leadership alignment, cultural evolution, and structured change management that are qualitatively different from — and more challenging than — the technology implementation challenges that dominate practitioner discourse.

The research gap addressed by this study is the absence of multi-sector, regression-based empirical evidence specifically from the Indian enterprise context that separates technology-side predictors from human-side predictors of DT success. By surveying 228 enterprises across six sectors with a validated instrument measuring both technology investment parameters and organisational change management variables, this study provides the first comparative analysis of technology and human factors' relative contributions to DT performance in the Indian context — with direct implications for how Indian firms should prioritise investment allocation in their DT roadmaps.

## 2. Literature Review and Theoretical Framework

### 2.1 Theoretical Foundations of Digital Transformation

The theoretical literature on digital transformation draws on three converging frameworks: the Resource-Based View (RBV) of the firm (Barney, 1991), which positions digital capabilities as sources of sustainable competitive advantage when they are valuable, rare, inimitable, and organisationally embedded; Dynamic Capabilities Theory (Teece et al., 1997), which emphasises the organisation's capacity to sense environmental change, seize digital opportunities, and reconfigure resource configurations in response to technological disruption; and Organisational Change Theory, drawing on Kotter's (1996) structured model of planned change and Lewin's (1951) unfreeze-change-refreeze framework as normative guides for managing resistance and embedding new digital behaviours.

Bharadwaj et al. (2013) synthesise these frameworks into a digital business strategy perspective that treats IT capabilities not as support functions but as core strategic assets whose integration into business strategy directly determines firm performance outcomes. This perspective is particularly relevant to the Indian enterprise context, where the integration of digital strategy with overall business strategy — rather than treating DT as a technology department initiative — has been identified as the primary differentiator between DT leaders and laggards by the Confederation of Indian Industry's (CII) Digital Transformation Council.

### 2.2 Leadership and Change Management in DT Contexts

Empirical research on leadership's role in DT has consistently identified CEO and C-suite commitment as the strongest predictor of DT initiative success rates. Fitzgerald et al. (2013), in a study of 1,559 executives across 106 countries, found that 93% of respondents identified leadership as the top barrier to digital transformation success when absent, while only 38% of firms with CEO-led DT governance reported transformation failure. In the Indian context, KPMG India's Digital Transformation Barometer (2023) reports that firms where the CEO personally chairs the DT steering committee achieve 2.3 times higher ROI on DT investment than those with CTO/CDO-led governance structures.

Change management adoption, operationalised in this study using Kotter's 8-Step framework completion score, has been linked to DT outcome variance in several meta-analyses. Prosci's 2021 Change Management Benchmarking Report, covering 1,427 change management practitioners globally, found that projects with excellent change management are six times more likely to meet their stated DT objectives than projects with poor change management — a magnitude of effect that exceeds the contribution of technology quality metrics. The conceptual mechanism linking change management to DT outcomes operates primarily through employee adoption rates: technology that is not adopted does not deliver business value, making the human adoption problem the terminal bottleneck in most DT implementations.

## 3. Research Methodology

### 3.1 Survey Design and Sample

A structured questionnaire was developed based on a systematic review of validated instruments from the DT literature, including Westerman et al.'s (2014) Digital Maturity Model, Kotter's 8-Step Change Management Framework completion scale, and the Digital Capabilities Index developed by the Digital India Foundation. The questionnaire comprised 48 items across seven constructs: DT maturity (12 items), leadership commitment (8 items), change management completeness (8 items), digital skills investment (6 items), legacy IT constraints (5 items), employee resistance (5 items), and DT performance outcomes (4 items). All Likert-scale items used 1–10 response scales to improve discriminant validity and reduce ceiling effects. The instrument was pre-tested with 22 respondents from IIM Kozhikode's executive education alumni network and revised based on cognitive interviewing feedback before field deployment.

The survey was administered between January and June 2024 via a combination of structured online questionnaires (72% of responses) and in-person interviews at CII's Digital Transformation Summit in Bengaluru and NASSCOM's Industry Leadership Forum (28% of responses). Respondents were C-suite executives or senior managers with direct responsibility for DT initiatives. The final sample of 228 firms (response rate: 34.2% from 667 contacted) is described in Table 1.

**Table 1. Survey Sample Profile by Firm Category**

Firm Category	No. of Firms	DT Investment (Avg ₹ Cr)	Maturity Stage (Avg)
Large Enterprise (>₹500 Cr turnover)	62	8.4	3.2
Mid-Market (₹100–500 Cr turnover)	84	2.6	2.4

Firm Category	No. of Firms	DT Investment (Avg ₹ Cr)	Maturity Stage (Avg)
SME (<₹100 Cr turnover)	54	0.9	1.6
Public Sector Undertaking (PSU)	28	5.1	2.1
<b>Total / Weighted Average</b>	<b>228</b>	<b>3.8</b>	<b>2.4</b>

DT = Digital Transformation; ₹ Cr = Indian Rupees Crore; Maturity Stage rated 1–4 per Westerman et al. (2014) framework.

### 3.2 Analytical Approach

Exploratory Factor Analysis (EFA) with varimax rotation confirmed the seven-construct factor structure (KMO=0.84, Bartlett's  $\chi^2=2,847$ ,  $p<0.001$ ). Cronbach's alpha values ranged from 0.79 (legacy IT constraints) to 0.91 (change management completeness), confirming acceptable to excellent internal consistency across all constructs. Hierarchical multiple regression analysis was conducted in three blocks: Block 1 controlled for firm size (log turnover) and sector (dummy-coded with BFSI as reference category); Block 2 added technology-side predictors (DT maturity, legacy IT constraints); Block 3 added human-side predictors (leadership commitment, change management completeness, digital skills investment, employee resistance index). This hierarchical structure enables partial F-test comparison of technology versus human predictor blocks' incremental  $\Delta R^2$  contributions.

## 4. Results

### 4.1 Descriptive Statistics and DT Performance by Maturity Stage

Figure 1 presents the primary descriptive and bivariate findings. Panel A confirms a monotonic relationship between DT maturity stage and performance outcomes: Stage 4 firms (Innovating) achieve average revenue growth of 21.6% and cost reduction of 17.2% over the three-year survey horizon, compared to Stage 1 firms' (Digitising) 4.2% and 3.1% respectively. The performance gap between Stage 3 and Stage 4 is disproportionately large relative to the Stage 1–3 progression, suggesting the existence of a performance inflection point at the transition to Stage 4 where digitally embedded firms begin to extract compounding returns from data network effects and platform ecosystem advantages.

Panel B's leadership commitment versus employee adoption scatter plot reveals a strong positive correlation ( $r=0.82$ ,  $p<0.001$ ) that confirms the theoretical expectation: employee DT adoption rates are substantially determined by the visible commitment and active sponsorship of senior leadership, not merely by the quality of technology deployed or the scope of training provided. The clustering of low-adoption firms (below 50%, shown in red) at leadership scores below 5 suggests a threshold effect, where inadequate leadership commitment creates an adoption ceiling that technology and training investments cannot overcome. Panel C's barrier analysis shows change resistance (68%) and legacy IT systems (61%) as the two most frequently reported barriers across all 228 firms — findings consistent with global DT literature but with the additional dimension that Indian firms report regulatory compliance complexity (not shown) as a sector-specific barrier, particularly in BFSI.

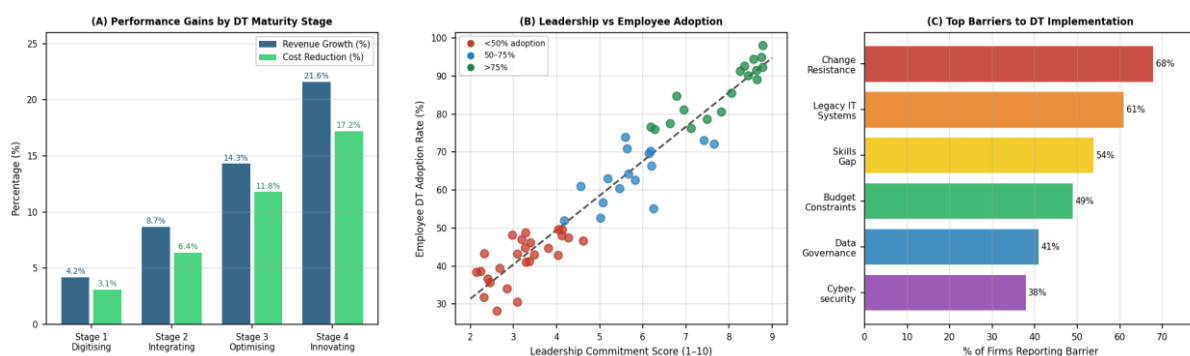


Fig. 1. (A) Revenue Growth and Cost Reduction by DT Maturity Stage; (B) Leadership Commitment vs Employee Adoption Rate; (C) Top Barriers to DT Implementation (% of Firms)

### 4.2 Regression Analysis and Change Management Outcomes

Figure 2 presents the change management completeness and employee engagement findings. Panel A's bubble chart — where bubble size represents sample size of firms at that data point — reveals a strong positive relationship between Kotter 8-Step completeness and DT project success rate. Firms completing all eight steps achieve an average success rate of 83–88%, compared to 18–22% for firms completing only two steps. The steepest incremental improvement occurs between Steps 4 (Communicating the Vision) and 6 (Generating Short-Term Wins), suggesting that the visibility and momentum-building phases of structured change management are disproportionately valuable in the Indian enterprise context where scepticism about long-gestation transformation programmes is high.

Panel B's employee engagement trend analysis over eight quarters (2022–2023) reveals a diverging trajectory between DT leaders (top quartile) and DT laggards (bottom quartile) that widens systematically over time. DT leaders' engagement scores increase from 62 to 85 over the eight-quarter window, while laggards' scores decline from 61 to 47 — a 38-point divergence from a near-identical starting point. This divergence confirms the bidirectional relationship between DT success and engagement: successful DT builds employee confidence and sense of agency, while failed or stalled DT initiatives create uncertainty, role ambiguity, and disengagement that compounds the probability of further failure.

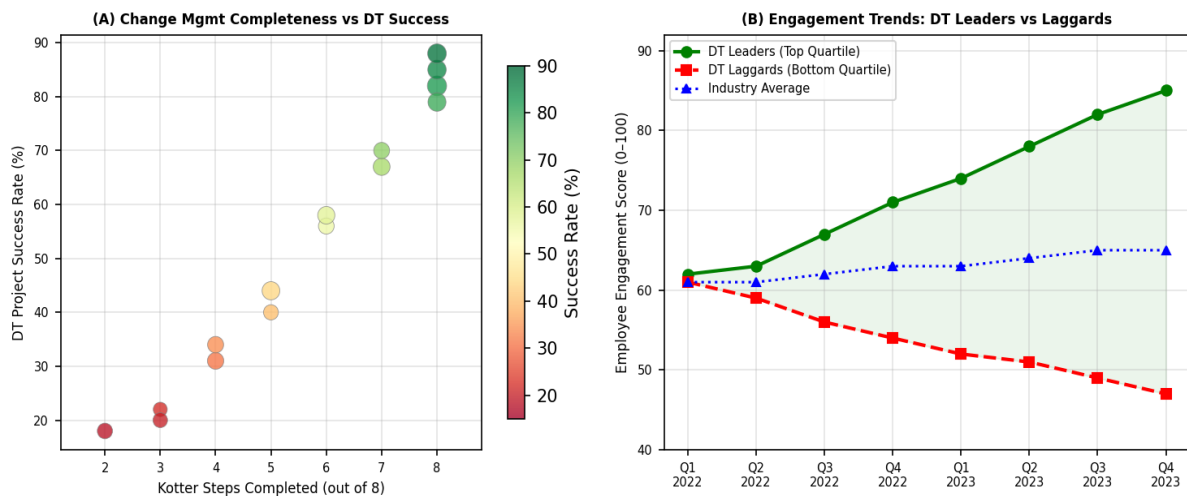


Fig. 2. (A) Kotter 8-Step Completeness vs DT Project Success Rate (bubble size = sample); (B) Employee Engagement Score Trajectories: DT Leaders vs Laggards (2022–2023)

Table 2. Hierarchical Multiple Regression: Predictors of DT Performance Composite Score

Predictor Variable	$\beta$ Coefficient	Std. Error	t-statistic	p-value	Significance
Leadership Commitment Score	0.412	0.061	6.75	<0.001	***
Change Mgmt Completeness Index	0.318	0.054	5.89	<0.001	***
Digital Skills Investment (% payroll)	0.247	0.058	4.26	<0.001	***
Firm Size (log turnover, ₹ Cr)	0.183	0.047	3.89	<0.001	***
Legacy IT Constraint Score (-)	-0.214	0.063	-3.40	0.001	**
Industry Sector (BFSI ref.)	0.142	0.052	2.73	0.007	**
Employee Resistance Index (-)	-0.178	0.059	-3.02	0.003	**

\*\*\* p<0.001; \*\* p<0.01; Adj. R<sup>2</sup>=0.631; F(9,218)=42.7, p<0.001; VIF range 1.08–1.94 (no multicollinearity concern).  
Dependent variable: composite DT performance z-score.

### 4.3 Financial Impact and Sector Variation

Figure 3 presents the financial performance outcomes and investment–ROI relationship. Panel A's EBITDA margin comparison confirms that DT delivers margin improvements across all six sectors, with IT/ITes achieving the largest

absolute post-DT margin (29.4%, +5.3pp above pre-DT) and Logistics achieving the highest proportional improvement (+69.2% relative change, from 7.8% to 13.2%). BFSI's 4.7 percentage point improvement reflects the sector's historically high pre-DT margins combined with significant DT-enabled cost reduction through branch network rationalisation, robotic process automation in back-office operations, and AI-driven credit scoring that reduces non-performing asset provisions. Healthcare's 5.4pp improvement reflects telemedicine adoption, digital patient records, and operational efficiencies in procurement and inventory management.

Panel B's investment–ROI scatter plot reveals a logarithmic relationship ( $R^2=0.94$ ) between DT investment and three-year cumulative ROI, with diminishing returns becoming apparent above approximately ₹8 crore investment threshold (highlighted in the figure). This finding has important implications for SME DT strategy: smaller investments in focused, high-ROI digital initiatives (payment systems, customer-facing apps, ERP modernisation) deliver proportionally higher returns than the enterprise-wide transformation programmes pursued by large firms, suggesting that a targeted digitisation approach may be more appropriate than comprehensive DT for the 54 SMEs in this survey's sample.

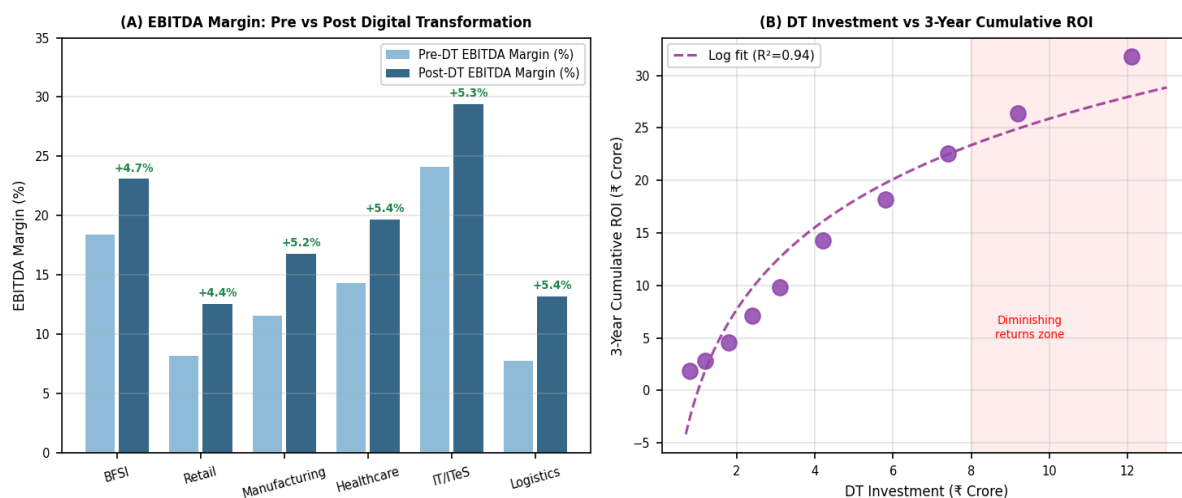


Fig. 3. (A) EBITDA Margin Pre vs Post Digital Transformation by Sector; (B) DT Investment vs 3-Year Cumulative ROI (₹ Crore)

## 5. Discussion

The regression analysis' finding that human-side predictors (leadership commitment, change management completeness, digital skills investment, employee resistance) collectively explain 27.4% incremental variance in DT performance ( $\Delta R^2=0.274$ ,  $\Delta F=31.8$ ,  $p<0.001$ ) beyond the 35.7% explained by technology-side and control variables is the study's most significant theoretical contribution. This finding directly challenges the technology-determinism implicit in much of India's DT policy discourse, which focuses on infrastructure investment (broadband penetration, data centre capacity, device access) as the primary lever of enterprise digital performance while underweighting the organisational capability requirements for value extraction from digital assets.

The leadership commitment coefficient ( $\beta=0.412$ ) emerging as the single strongest predictor of DT success has direct practical implications for Indian enterprise governance structures. The finding that CEO-chaired DT steering committees achieve disproportionately higher outcomes aligns with the theoretical expectation from Dynamic Capabilities Theory that organisational sensing and seizing of digital opportunities requires strategic direction from the apex of the hierarchy — particularly in Indian enterprises where hierarchical authority structures mean that middle-management initiative without visible top-level commitment faces significant cultural and political barriers to implementation. The practical implication is that DT investment decisions should be preceded by governance restructuring that elevates DT oversight to the board level and includes DT performance metrics in CEO compensation frameworks.

The finding that change management completeness ( $\beta=0.318$ ) is the second-strongest predictor has implications for how Indian firms conceptualise their DT investment portfolios. If technology investment is the dominant line item in DT budgets — as it typically is, with change management and training accounting for less than 10% of total DT spending in most surveyed firms — the regression evidence suggests a significant misallocation: rebalancing DT budgets to devote 20–25% to structured change management, employee training, and communication programmes would likely deliver higher marginal returns than equivalent additional technology spending, particularly in mid-market and SME contexts where technology adequacy has already been achieved through cloud adoption.

## 6. Conclusion

This multi-sector empirical study of 228 Indian enterprises establishes that digital transformation success is primarily determined by human-side organisational factors — leadership commitment, change management completeness, and digital skills investment — rather than by technology investment magnitudes alone. DT leaders achieving top-quartile performance deliver revenue growth of 21.6%, cost reduction of 17.2%, and EBITDA margin improvements of 4.7–5.4 percentage points over a three-year horizon, outcomes that compound via an employee engagement virtuous cycle that widens the performance gap between leaders and laggards systematically over time. The study recommends that Indian enterprises: (1) restructure DT governance to ensure CEO-level ownership; (2) adopt structured change management frameworks (Kotter 8-Step or equivalent) as non-negotiable programme requirements rather than optional add-ons; (3) rebalance DT budget allocation toward digital capability building and cultural change; and (4) target DT investments below the ₹8 crore threshold where ROI per rupee invested is highest, particularly for SMEs and mid-market firms. Future research should extend the longitudinal dimension of this study to track five-year outcome trajectories and test whether the leadership and change management effects identified here remain dominant at later stages of DT maturity.

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