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Indian Army Leadership in the Digital Era: A Mixed-Methods Study of Transformational Leadership and Digital Competency Requirements

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Abstract:

This study examines how the Digital Era is reshaping leadership within the Indian Army, an institution historically grounded in transformational leadership values of loyalty, honour, integrity, courage, and selfless service. Using a three-phase, mixed-methods design conducted over 36 months, the research sequenced a comprehensive literature review (117 sources), two structured Likert-scale questionnaires, and six semi-structured interviews with senior officers (Brigadier to Lieutenant General). The first questionnaire (N = 422; tri-service and Central Armed Police Force personnel) established that Transformational Leadership is the most prevalent leadership style in the Indian Army (44.3% of responses; $\chi^2(4) = 299.517$, $p < .001$) and confirmed that the Digital Era has significantly affected Army leadership (one-sample t-test against the Likert midpoint of 3: $t(421) = 58.789$, $p < .001$, $M = 4.11$). The same survey established that existing transformational traits require augmentation to remain effective under digital conditions ($t(421) = 24.747$, $p < .001$, $M = 3.63$). A second questionnaire specific to the Army (N = 484) identified the digital competencies to be added, with Digital Literacy and Tech-Savviness (76.0%), Continuous Learning and Growth (72.9%), and Cyber Security Consciousness (70.7%) being rated as the highest-priority traits, while 76.7% of respondents affirmed that the four classical transformational traits (idealized influence, inspirational motivation, intellectual stimulation, individualized consideration) are not obsolete. Thematic analysis of the expert interviews confirmed all the quantitative results and revealed a coherent demand for structured digital exposure, institutional change and innovation from the bottom up. The findings fall in the range of what may be termed as a 'Transformational-Digital Leadership' model – the current leadership model of the Army should be maintained, but upgraded and reinforced with digital era leadership skills rather than replaced – and a roadmap for implementing the changes in doctrine, training and policy is proposed for the near, medium and long-term.

Keywords: Indian Army Leadership; Transformational Leadership; Digital Leadership; Military Leadership; Digital Era Competencies; Leadership Traits; Mixed-Methods Research; Organizational Transformation

1. Introduction

1.1 Background

Militaries around the world are undergoing transformation as a result of network-centricity, information dominance, and multi-domain operations, which are challenging command structures customary to a more industrial, centralized era. The Indian Army draws its leaders and followers from a society that is itself undergoing rapid digitalization, so technological change reaches the institution both through its personnel's lived experience and through battlefield modernization. Historically, Indian Army leadership has been grounded in a transformational style characterised by loyalty, honour, integrity, courage, selfless service, care for troops, and leading by example. The central question this study addresses is whether, and how, this style needs to be augmented with digital-era competencies to remain effective.

1.2 Problem Statement

Although digitalization is affecting the lives of the soldiers, operations and communication, Indian Army Leadership has not yet been reviewed systematically and evidence-based on the qualities needed for effective functioning in the Digital Era. There is, therefore, a need to empirically establish (a) whether the Digital Era has meaningfully affected the Army and its leadership, (b) which leadership style currently predominates, and (c) which specific traits must be added or strengthened.

1.3 Research Objectives

- To analyze the impact of the Digital Era on the Indian Army and Army Leadership.
- To determine the most prevalent form of leadership present in the Indian Army.
- To determine the changes required to be incorporated into Indian Army Leadership to adapt to the Digital Era.
- To propose a roadmap for implementing the outcomes of the research.

1.4 Hypotheses

The overarching hypothesis is that Indian Army Leadership requires adaptation in consonance with the transformation brought about by the Digital Era, to keep Army leaders relevant and effective. This was tested through three empirically verifiable sub-hypotheses, with a fourth addressed through the implementation roadmap:

- H1: The Digital Era has a significant impact on the Indian Army and Army Leadership.
- H2: The most prevalent form of leadership in the Indian Army is Transformational Leadership.
- H3: Certain changes are required in Transformational Leadership of the Indian Army to adapt effectively to the Digital Era.
- H4: A roadmap can be proposed for implementing the recommendations of the research.

2. Literature Review

From the early trait and behaviour characteristic models (Stogdill, 1948; Katz, 1955), through to the contingency and path-goal models (Fiedler, 1967; House & Mitchell, 1974), to the transformational and servant leadership models which focus on vision, inspiration and follower development (Bass, 1990; Greenleaf, 1977; Bass & Riggio, 2006). Transformational leadership, built on idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, has been found particularly suited to dynamic, uncertain, and technology-driven environments (Bass & Avolio, 1994; Yukl, 2013), with such behaviours shown to encourage trust, cohesion, and adaptability in military and quasi-military organisations (Northouse, 2021).

Parallel to this, a distinct literature on ‘digital leadership’ has emerged in corporate and public-management domains, identifying digital literacy, data-driven decision-making, cybersecurity awareness, adaptability, and continuous learning as prerequisites for leading digitally transformed organisations (Kane et al., 2019; Schwab, 2017; Cortellazzo et al., 2019). Military-specific scholarship has connected this to network-centric, information-contested environments, arguing that leaders must become agile and technologically literate to retain decision dominance (Mazarr et al., 2019).

In the Indian context, literature on military leadership has been dominated by the study of leadership philosophy, ethos and human-resource aspects (Mallick 2020; Katoch 2015) and the empirical study of the interaction of digitalization with the prevailing leadership style is still limited in scope, while studies of specific digital competencies that Indian Army leaders are missing are almost non-existent. This is further complicated by the sensitivity of military human-resource data, and because it is generally not available to the public, limiting previous empirical research. The three gaps that emerged from this review are: (a) there is a limited number of studies that have investigated the effect of digitalization on leadership in general; (b) there is a lack of empirical evidence on which leadership is currently observed in the Indian Army; and (c) there is no empirical studies that focused on the digital-leadership requirement in the Indian military context. The above gaps directly guided the research goals and hypotheses of the current study.

3. Materials and Methods

3.1 Research Design

The method adopted was an explanatory sequential mixed methods design (Creswell & Plano Clark, 2018) with 36 months of data collection, which comprised of three phases: (1) an exploratory literature survey of 117 scholarly sources spread over approximately 80 years of leadership literature; (2) a confirmatory-descriptive phase with two structured questionnaires; and (3) a qualitative validation phase with semi-structured expert interviews. The findings from the different strands were triangulated to enhance the credibility of the findings (Denzin, 1978; Jick, 1979).

3.2 Population and Sampling

The population for the first questionnaire included serving and retired personnel from the Army, Navy, Air Force and Central Armed Police Forces (CAPF), and they were sampled using non-probability purposive sampling to ensure variation across 14 ranks, five profile strata (officers, JCOs, NCOs, soldiers, and retired personnel), five age brackets, and five service-tenure brackets. This resulted in 422 valid responses, 92.9% of whom were from the Army (73.7% of responses were from Officers), and a fairly broad distribution of rank and tenure (Section 4.1). The second questionnaire was targeted exclusively at Indian Army personnel (NCOs, JCOs and Officers, serving and retired) through stratified purposive sampling and received 484 valid responses, of which 91.5% were officers, and 94.2% were serving personnel.

Six senior officers (four Brigadiers, one Major General, and one Lieutenant General) with command, staff, and technology-integration experience were selected through expert purposive sampling for semi-structured interviews of 45–60 minutes each.

3.3 Instruments

The first questionnaire comprised 28 items across four constructs: (1) demographic profile (Q2–Q6), (2) prevalent leadership style (Q7), (3) impact of the Digital Era on the Army and its leadership (Q8–Q21, Q28), and (4) broad remedial measures (Q22–Q27). Twenty-one items used a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), with four negatively worded items (Q21, Q24, Q26, Q28) reverse-coded.

The second questionnaire comprised 26 items across six constructs: digital proficiency (Q5–Q9), technological adaptability and innovation (Q10–Q12), digital transformation and leadership (Q13–Q18), communication and collaboration (Q19–Q20), ethical/security considerations (Q21–Q23), and future-readiness trait selection (Q24–Q25), plus one open-ended suggestion item (Q26). Nineteen items used the same 5-point Likert format.

The interview protocol included five open-ended questions on perceived lack of digital-era leadership, how to promote digital innovation, illustrative incidents, priority digital-era leadership qualities, and institutional steps.

3.4 Data Screening, Reliability, and Validity

Both datasets were checked for missing responses (no missing responses as completion of this was mandatory), straight-lining responses (none), implausibly fast completion of responses (none) and outliers ($|z|>3$; boxplots). Normality was investigated item-wise based on the convention of ±1.96 / ±3.0 using skewness and kurtosis (George & Mallery, 2010). Cronbach's alpha was used to assess internal consistency, and it was found to be 0.784 for the first instrument (21 items) and 0.863 for the second (19 items), both of which were greater than the 0.70 criterion of acceptability (Cronbach, 1951). Construct validity was evaluated by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity (Kaiser, 1974; Bartlett, 1954) which for both instruments were well above the .6 acceptability limit, indicating that data were appropriate for factor analysis treatment.

3.5 Data Analysis

Descriptive statistics (frequencies, means and standard deviations) described the demographic profile and item responses including a weighted-average mean to provide the empirical datum for classification of 'high' and 'low' perception items (not the scale midpoint of 3 to avoid response-bias distortion). One sample t-tests (test value =

3, neutral Likert value) were used to test H1 and H3, while a chi-square goodness-of-fit test was used to test H2. Transcripts from interviews were thematically analysed (Braun & Clarke, 2006) and each officer's statements were triangulated with the quantitative findings and the research objectives and hypotheses.

3.6 Ethical Considerations

The participation was voluntary and informed, the answers were anonymised and were only used for academic purposes, and no classified or doctrinal material was requested or revealed.

4. Results

4.1 Sample Characteristics

The rank and service profile of the respondents to the first questionnaire (N = 422), are summarised in Table 1. The participation was greatest for Lieutenant Colonels (35.1%), Majors (18.0%) and Colonels (15.2%) and lowest for the Sepoy rank. The officers had 73.7% of the responses, Army had 92.9% and the 31-40 age group had 51.7% — a mix of senior decision makers and plenty of junior-to-mid career ‘followers'.

Table 1. Questionnaire 1 — Respondent Profile (N = 422)

Variable	Category	**n**	**%**
Rank	Lt Col & equivalent	148	35.1
Rank	Major & equivalent	76	18.0
Rank	Colonel & equivalent	64	15.2
Rank	Havildar & equivalent	34	8.1
Rank	All other ranks (Sepoy–Lt Gen)	100	23.6
Profile	Officers	311	73.7
Profile	NCOs	47	11.1
Profile	JCOs	26	6.2
Profile	Soldiers	29	6.9
Profile	Retired personnel	9	2.1
Service	Army	392	92.9
Service	Navy	13	3.1
Service	Air Force	11	2.6
Service	CAPF	6	1.4
Age	31–40 yrs	218	51.7
Age	41–50 yrs	105	24.9
Age	21–30 yrs	66	15.6

Variable	Category	n	%
Age	51–60 yrs	28	6.6
Age	Above 60 yrs	5	1.2
Length of service	16–25 yrs	163	38.6
Length of service	9–15 yrs	136	32.2
Length of service	0–8 yrs	68	16.1
Length of service	26–35 yrs	46	10.9
Length of service	Above 35 yrs	9	2.1

The second, Army-specific questionnaire (N = 484) drew 91.5% of responses from officers, 94.2% from serving personnel, and the largest single rank group from Lieutenant Colonels (47.3%), with senior officers (Lt Col to Lt Gen) comprising 68.6% of the sample — a deliberately senior-weighted profile suited to assessing leadership-trait requirements.

Table 2. Questionnaire 2 — Respondent Profile (N = 484)

Variable	Category	n	%
Rank	Lt Col	229	47.3
Rank	Colonel	87	18.0
Rank	Major	91	18.8
Rank	Brigadier & above	16	3.3
Rank	Havildar–Captain	61	12.6
Service status	Serving	456	94.2
Service status	Retired	28	5.8
Profile	Officers	443	91.5
Profile	JCOs	17	3.5

Variable	Category	n	%
Profile	NCOs	24	5.0

Within-construct correlations among demographic variables (rank, profile, age, tenure) were strongly positive (e.g., rank–profile $r = .779$, $p < .001$; age–tenure $r = .820$, $p < .001$), supporting the internal consistency of the sample, while rank and profile showed no significant correlation with perceived leadership style ($p > .05$), indicating that perceptions of Transformational Leadership prevalence were not simply an artefact of respondents' seniority.

4.2 Reliability, Validity, and Prevalence of Leadership Style (H2)

Reliability and validity statistics, summarised in Section 3.4, confirmed both instruments as fit for parametric hypothesis testing (Cronbach's $\alpha = 0.784$ and 0.863; KMO = 0.794 and 0.882; Bartlett's $p < .001$ for both). Item-level skewness and kurtosis fell within the ±1.96/±3.0 acceptable range for 20 of 21 items on the first instrument and all 19 items on the second, justifying the use of one-sample t-tests.

Respondents to the first questionnaire were asked to identify which leadership style Indian Army leaders exhibit most. Transformational Leadership was the modal response (44.3%), followed by Situational Leadership (34.6%); Autocratic (15.4%), Democratic (4.5%), and Laissez-Faire (1.2%) styles were comparatively marginal (Table 3).

Table 3. Prevalent Leadership Style in the Indian Army (N = 422)

Leadership Style	n	%
Transformational	187	44.3
Situational	146	34.6
Autocratic	65	15.4
Democratic	19	4.5
Laissez-Faire	5	1.2

H2 Test. A chi-square goodness-of-fit test against an equal-distribution null hypothesis confirmed that the five styles are not uniformly represented: $\chi^2(4) = 299.517$, $p < .001$, with all expected cell frequencies exceeding the minimum threshold of 5 (minimum expected frequency = 84.4), satisfying the test's assumptions. H2 is accepted: Transformational Leadership is confirmed as the single most prevalent leadership style in the Indian Army, and was adopted as the reference style for all subsequent analysis of digital-era trait adaptation.

4.3 Hypothesis 1 — Impact of the Digital Era on Army Leadership

15 items (Q8–Q21, Q28) captured the perceived impact of digitalization on social life, professional work, human-resource management and relevance of leadership. To test them, a composite scale (Average_H1) was created by taking the mean of these items across respondents, and then compared to the neutral point of the Likert scale (3) via a one-sample t-test.

Table 4. One-Sample t-Test for H1 (N = 422)

Statistic	Value
Mean (Average_H1)	4.11
Std. Deviation	0.389
t (421)	58.789
Sig. (2-tailed)	< .001
Mean Difference	1.113
95% CI of Difference	[1.076, 1.151]

The mean is above the neutral value of 0 and the t-statistic is very large, suggesting a huge and statistically significant non-neutrality. H1 is accepted: The Digital Era has been a great positive influence in the Indian Army and its leadership. This impact is explained by item-level analysis (selected items/weighted mean on 1 to 5 scale):

Table 5. Selected Item-Level Perceptions (N = 422)

Item (abbreviated)	Mean	Perception
Digital Era has affected social life of soldiers	4.48	High
Digital Era has affected social life of officers	4.39	High
New technology demands higher technical skill	4.41	High
Leadership qualities remain important	4.63	High
Embracing digital technology is essential for leadership	4.40	High
Technology infusion has been positive for HR management	3.45	Low
Leaders are comfortable using data-analytics tools	3.00	Low
Leaders encourage innovation/adaptability to new tech (reverse-coded)	3.12	Low
Existing styles need trait-level tweaking, not replacement	3.94	High

The mean of all 21 items was 3.77, which served as an empirical value for agreement classification. The pattern reveals that respondents recognise the impact that the Digital Era has had on social life, new skill needs and the importance of leadership, but at the same time they do not feel that the institution's responses – HR adaptation, leaders' comfort with analytics, and leaders' active promotion of innovation – are satisfactory. Respondents also disagreed with the idea that leaders are becoming redundant (reverse coded item, M = 3.98, against redundancy). This seemingly paradoxical tension between 'technology matters greatly' and 'leaders still matter greatly' was resolved.

4.4 Hypothesis 3 — Need for Leadership Trait Change

Six items (Q22–Q27) assessed agreement that Transformational Leadership traits require adaptation for the Digital Era. A composite variable (Average_H3) was tested against the neutral midpoint of 3.

Table 6. One-Sample t-Test for H3 (N = 422)

Statistic	Value
Mean (Average_H3)	3.63
t (421)	24.747
Sig. (2-tailed)	< .001

H3 is accepted: a statistically significant majority of respondents agree that Indian Army leadership traits require change to remain effective in the Digital Era, though — importantly — not through invention of an entirely new leadership style (Q27 M = 3.94 in favour of 'tweaking existing traits rather than inventing a new form of leadership'). Taken together, H1, H2, and H3 cumulatively support the overarching hypothesis: Transformational Leadership is dominant, the Digital Era has materially affected the institution, and targeted trait-level augmentation — not wholesale replacement — is required.

4.5 Digital Leadership Trait Requirements

Having established the need for change, the second questionnaire (N = 484) first tested whether the four classical pillars of Transformational Leadership remain relevant. Respondents overwhelmingly (76.7%) affirmed that all four traits — idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation — remain relevant today; each individual trait was judged obsolete by fewer than 13% of respondents (Table 7).

Table 7. Desirability of Retaining Classical Transformational Traits (N = 484)

Traditional Trait Flagged as Obsolete	%
Individualized Consideration	12.4
Inspirational Motivation	9.7
Idealized Influence	9.5
Intellectual Stimulation	7.0
All four traits remain relevant	76.7

Respondents were then asked which digital-era traits should be newly incorporated. Using the sample mean (61.2%) as the classification threshold, seven traits emerged as priorities for mandatory inclusion, and six as secondary ('could-be') traits (Table 8).

Table 8. Desirability Scores for Candidate Digital Leadership Traits (N = 484)

Trait	Desirability (%)	Priority
Digital Literacy and Tech-Savviness	76.0	Mandatory
Continuous Learning and Growth	72.9	Mandatory
Cyber Security Consciousness	70.7	Mandatory
Adaptability to Rapid Technological Change	65.7	Mandatory
Strategic Vision for Digital Transformation	64.7	Mandatory
Encouraging Innovation in the Digital Domain	63.2	Mandatory
Data-Driven Decision-Making	60.7	Mandatory
Communication Mastery through Digital Means	56.4	Secondary
Ethical Digital Leadership (data privacy/integrity)	56.4	Secondary
Global Mindset	53.5	Secondary
Flexibility for Technology-Driven Remodeling	52.3	Secondary
Creativity in the Digital Domain	52.3	Secondary
Change Management Expertise	50.6	Secondary

(M = 61.19%, SD = 8.46%, range 50.6–76.0%, n = 13 candidate traits)

Item-level analysis of the second questionnaire's six constructs reveals an uneven competency profile: Indian Army leaders are perceived as proficient in digital communication (M = 4.50), adapting quickly to new tools (M = 3.89), and cybersecurity practice (M = 3.58), and as already strong on ethical/security dimensions (safeguarding information M = 4.10; ethical use of technology M = 3.68). However, they are perceived as weak in data-analytics/visualization proficiency (M = 3.09), fostering a culture of innovation (M = 3.32), investing in training for new technology (M = 3.08), enhancing digital-literacy opportunities (M = 2.99), personally pursuing digital-skill development (M = 2.88), and basing strategic decisions on data analytics (M = 2.67) — the lowest-rated item in the survey. The weighted average across all 19 items was 3.38.

Open-ended suggestions (Q26) reinforced the quantitative pattern, with recurring emphasis on top-driven change, mandatory hands-on training for all ranks (not only officers), and robust data-security safeguards alongside modernization.

4.6 Qualitative Findings from Expert Interviews

The following six senior officers (four Brigadiers, one Major General, one Lieutenant General) were interviewed to seek their answers on perceived gaps, how they plan to encourage digital innovation, illustrative incidents, priority qualities and what institutional action they would recommend. Six cross-cutting themes emerged from the thematic analysis (Braun & Clarke, 2006):

- Mindset change for the leader — the consistent message to shift from technology as a support role to a mission-critical and command-level role.
- Structured exposure — officers pointed out that exposure to digital was not structured or repeated throughout the career, suggesting integrating from cadets to higher command courses.
- Underpinning bottom-up innovation — several interviewees shared specific examples of innovation by juniors which, with support, led to a positive change in operational effectiveness (for example, a junior officer's GIS overlay tool, which was later institutionalised at brigade level, and AI-based predictive logistics at Corps HQ).
- The skills that are crucial for digital-era leadership were frequently mentioned as humility (to learn from tech-savvy junior colleagues), intellectual agility, emotional intelligence, data fluency, and digital curiosity.
- The institutionalisation — which resulted in the recommendations of Centres of Excellence for digital military leadership, digital-competency linkage to Annual Confidential Reports (ACRs)/command-tenure evaluations, and structured collaboration with academia and start-ups — was a recurring theme across the recommendations.
- Digital transformation is not a support function — officers agreed that digital leadership should be practiced, measured and developed at the command level, not just technical level.

Table 9 summarises how each interview mapped onto the study's hypotheses.

Table 9. Interview Linkage to Hypotheses — Summary (N = 6 interviewees)

Interviewee	H1 (Digital Impact)	H3 (Trait Change)	H4 (Roadmap)
Brig Arjun Gupta	Supported	Strongly Supported	Strongly Supported
Maj Gen T Rajesh Bhanu	Strongly Supported	Strongly Supported	Supported
Brig RBV Mukkundi, SM	Supported	Strongly Supported	Supported
Brig SPS Rawat	Strongly Supported	Supported	Supported
Brig Navneet Tanwar	Strongly Supported	Supported	Strongly Supported
Lt Gen Vineet Gaur, PVSM, AVSM	Supported	Strongly Supported	Supported

Even though it was not a specific part of the interview protocol, no interviewee gave conclusive input for H2 (prevalent leadership style), but all interviews confirmed H1 (situational leadership) and H3 (friendly leadership), and five of six provided explicit input for H4 (specific recommendations for the roadmap) which all converged on institutional mechanisms consistent with the quantitative results in Section 4.5 (Centres of Excellence, digital tenures, ACR linkage).

5. Discussion

The merging of quantitative and qualitative strands offers good triangulated support to the study's central hypothesis. From a statistical perspective, the Digital Era's effect on the Army ($t(421) = 58.789$, $p < .001$) falls amongst the strongest effects reported in the dataset, and is consistent with the findings from military-leadership

literature worldwide on the need for more tech-savvy leaders in network-centric, information-rich environments (Mazarr et al., 2019). The finding of that Transformational Leadership is the dominant style (H2: $\chi^2(4) = 299.517$, $p < .001$) aligns with theory predicting that transformational behaviours are more appropriate in volatile, technology-driven environments than are transactional or laissez-faire (Bass & Avolio, 1994; Yukl, 2012), and is reinforced independently by narratives of six senior officers who highlight vision, trust-building, and leading by example as lasting command principles. The most significant observation for practice in this study is the acceptance of H3 ($t(421) = 24.747$, $p < .001$) and the fact that 76.7% of the Indian Army officers believe that all four of the classical transformational pillars should be retained, but not replaced. This 'evolution, not revolution' attitude is in line with Kane et al. (2019), who assert that digital transformation is more about people and leadership adapting to it, rather than about the technology itself. This is a 'technology fallacy' that the Indian Army dataset explicitly denies, with a focus on trait augmentation rather than trait replacement. The competency gaps identified, namely weak data-analytics skills (M = 3.09 on the relevant item; M = 2.67 for the lowest item, data-driven strategic decisions), limited innovation-culture support and under-resourced digital-literacy training, are self-consistent within both questionnaires and are almost exactly replicated in the interview data, with officers describing digital skills as not being emphasised in leadership assessments and the need for it to be linked with formal assessment. The consistency of the data across independent sources (906 total respondents/interviewees) significantly increases the likelihood that these are real institutional gaps, and not artifacts of the survey itself. There are two apparent conflicts in the data to be interpreted. First, respondents overwhelmingly agreed that leadership skills are still relevant (M = 4.63); second, they answered the reverse-coded item by strongly disagreeing that leaders had become redundant because of digitalization, implying that there is not really a conflict of feeling anxious about AI/automation taking on leadership roles, yet feeling confident that leadership remains crucial. Second, respondents confirmed that digital technology is important (M = 4.40), and they also felt that digital technology is put into practice in the organisation (M = 3.12–3.32), meaning that there is a gap between what matters in theory and what is actually practised in organisations – a gap that several interviewees also attributed to a lack of structured and sustained exposure to digital technology among those at the junior end of the organisation, and not to a lack of interest among the junior staff.

6. Implementation Roadmap and Recommendations

Based on the validated trait priorities (Section 4.5) and the institutional mechanisms that were frequently mentioned by the expert interviewees (Section 4.6), a phased roadmap is suggested, laying out three horizons. 18-0 months: Short Term (0-18 months) – Sensitization and Foundations

Short Term (0–18 months): Sensitization and Foundations. Run leadership training and seminars communicating these insights; establish basic trainings on digital literacy, cyber hygiene, data literacy, and fundamental decision support skills at all levels; start reverse mentoring pilots of digital-savvy junior leaders and senior leaders.

Medium Term (18–42 months): Curriculum and Training Reform. Introduce digital-leadership to the training continuum ranging from pre-commissioning (NDA/IMA/OTA), mid-career (Junior Command/DSSC/Army War College/Higher Command), and senior leadership courses (College of Defence Management/Higher Defence Management Course/NDC) and incorporate simulation and war-gaming with digital inserts, plus secure Learning Management System with micro-learning capsules that dovetail with operational schedules.

Long Term (42–60 months): Policy, Institutional, and Cultural Integration. Review and update doctrine to incorporate digital-leadership competencies, introduce Digital Leadership Key Result Areas and behavioural indicators for entry into Annual Confidential Reports, make digital-proficiency certification by rank band a requirement, institutionalise attachments with academia and industry and introduce a Centre for Digital Military Leadership and cross-functional 'digital mission teams.' Monitoring should include annual audits of leadership, online/technological maturity surveys, technology adoption analytics (simulation hours, cyber-drill attendance), and regular independent judgement from defence think tanks, directly responding to H4: from the study a clear, phased implementation roadmap can be presented. The findings academically support the view that digital-transformational military leadership could be a separate sub-domain of the study of leadership, and the

development of psychometric tools specifically for the military context for measuring digital-leadership readiness and development.

7. Limitations and Future Research

Generalisation of the data to other services or foreign militaries should be done with caution as only the Indian Army was included in the data collection. As in all self-report survey designs, there is the possibility of response bias, although this was reduced by stratifying the sample, the size of the sample (combined respondents/interviewees = 906), and by triangulation with the results of the independent expert interviews. The operational specificity of some recommendations was limited in scope due to some doctrinal material that had to be classified. Future research may involve further extending the design longitudinally to examine if the proposed roadmap moves digital-competency indicators over time and replicates the instrument across allied militaries to establish the generalisability of the Transformational-Digital Leadership model across countries.

8. Conclusion

The main objective of this study was to find out whether and how the Indian Army is to gear up to the Digital Era in the context of its leadership. It comes to three converging findings using a meticulously validated mixed-methods design with 906 respondents and 17 interviews: the Digital Era has had a marked impact on the institution (H1); Transformational Leadership is the prevailing and valued style of leadership at the institution (H2); There is a need for augmentation at the level of the individual traits but not for the institution in general (H3). Seven digital era skills (digital literacy, continuous learning, cybersecurity awareness, adaptability, strategic digital vision, innovation support and decision-making based on data) have been identified as priorities to include and the four classical pillars of transformational leadership (vision, values, character and ethical practices, vision, and enabling the context) have been confirmed as always relevant by over 75% of the respondents. A phased implementation roadmap (H4) is something that the Indian Army can work towards the implementation of a 'Transformational-Digital Leadership' model to sustain the Command Ethos of the Army while preparing its leaders for the operating environment marked by the network-centricity, data and multi-domain complexity.

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