



## The Change Execution Risk and Artificial Intelligence

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### **The Abstract:**

This abstract explores how Artificial Intelligence can be used in containing the Change Execution Risk Exposure of Organizations. Change Execution Risk is the risk that the Change that the Management wants to bring into the organization could fail resulting in Strategic Failure, Loss of Resources, Loss of Competitive Edge, Regulatory Action and much more due to the way change was executed. An organization executes changes [implementation of strategies] through the vehicles of – Projects, Programmes and Portfolios. Containing the Change Execution Risk is in the critical path of achieving the organizational goals. Classic Example of a Change Execution Risk Event: A Project overshoot its schedule by 10 months unable to meet the reporting requirement set out by the Regulator which invited regulatory penalties. The objective of containing the Change Execution Risk would be to prevent Projects/Programmes/Portfolios from failing to deliver the outcomes for which they are initiated [achieving strategic goals]. Change Execution Risks are traditionally contained or controlled through Project Management Best Practices and through Senior Management Oversight. **Artificial Intelligence [AI]** can be leveraged to contain the Change Execution Risk Events. The Proposed approach would be to interlink the Project Portfolio Management [PPM] Tools deployed in the organization like Clarity, Rally, Jeera, MS Project to extract Artificial Intelligence based Status Reports across functions and value streams to give a real time or close to real time report on the effectiveness of the Change Execution in the Organization. The Report can be called the Change Execution Effectiveness Report and can show if the major initiatives are on track or off track and provide



warning signals to Senior Management to respond appropriately. The **Power BI Tool** can also be leveraged to provide innovative reports to Senior Management for swift action. For example, the Change Execution Effectiveness Report can highlight if any of the High Impact Project is off track or going to be off track basis the progress percentage recorded against key milestones, which will help the Senior Management to take prompt appropriate action or escalation to bring the Project back on track.

*Key Words:* Artificial Intelligence, Best Practice, Change Execution Risk, Corporate Governance, Innovation, Project Management, Project Portfolio Management, Strategic Execution Risk, Success Factors.

## **Introduction**

The modern/contemporary business landscape is defined by continuous, rapid transformation across verticals, workstreams and markets. Organizations must constantly adapt to shifting market demands, technological disruptions, and evolving consumer behaviors. However, executing large-scale organizational changes remains notoriously tricky and difficult. Historical data shows that a vast majority of corporate change initiatives fail to meet their original objectives due to human resistance, poor planning, and misaligned resources. This failure rate points towards the critical concept of Change Execution Risk (CER) - the probability that an organization will fail to successfully implement strategic transitions. Managing this risk is paramount to corporate survival, yet traditional risk assessment frameworks often rely on retrospective data and subjective human intuition, leaving leaders poorly equipped to handle dynamic project complexities. Simultaneously, the rise of Artificial Intelligence (AI) is redefining organizational capabilities. Advanced machine learning models, predictive analytics, and natural language processing tools now offer unprecedented data processing power. When applied to change management, AI shifts the paradigm from reactive crisis mitigation to proactive risk forecasting. By analyzing vast streams of operational data, communication patterns, and employee sentiment, AI systems can identify bottlenecks and predict resistance points before they materialize. This technological leap offers a revolutionary mechanism to minimize CER and optimize implementation strategies. Despite this potential, the intersection of CER and AI remains highly nuanced and under-researched. While AI introduces predictive precision, it also injects new variables into the change equation, such as algorithmic bias,



employee data privacy concerns, and technological anxiety. In addition, relying heavily on automated risk assessments can alienate the human element essential to successful cultural transformation. Therefore, understanding how AI both mitigates and complicates the risks associated with strategic change is a critical priority for modern organizational theorists and corporate leaders. This paper investigates the dual role of Artificial Intelligence in the context of Change Execution Risk. Specifically, it explores how AI tools can be systematically leveraged to forecast, monitor, and reduce implementation failures to contain the Change Execution Risk. Conversely, it also examines the unique cultural and operational risks that AI integration introduces to the change process itself. By analyzing case studies and current framework models, this study aims to provide a comprehensive blueprint for balancing technological automation with human-centric leadership to secure successful organizational transformation.

### **Literature Review\***

The Change Management at an Organizational Level (OCM) traditionally suffers from high failure rates, often cited between 60% and 70%. Change execution risk—the probability that a change initiative will fail to achieve its scope, timeline, budget, or quality objectives leading to strategic failure of the organization —stems from human resistance, poor communication, inadequate data processing and poor change management. Concurrently, the integration of Artificial Intelligence (AI) into management practices represents a paradigm shift. This literature review synthesizes current research at the intersection of AI capabilities and change execution risk management, highlighting how predictive, generative, and analytical AI technologies mitigate/contain the Change Execution Risk or introduce additional change risk exposures during organizational transformation.

### Themes in Contemporary Literature

1.The Predictive AI and Quantitative Risk Assessment: Traditional risk management relies on subjective, qualitative assessments (e.g., risk matrices) compiled through manual interviews. Recent literature highlights a shift toward predictive AI models that process historical project data, employee sentiment, and market indicators to forecast failure points. Proactive Risk



Identification: Authors like Alshawaaf and Lee (2021) argue that Machine Learning (ML) algorithms can predict project slippage and budget overruns with significantly higher accuracy than human managers by identifying non-linear patterns in vast datasets. Early Warning Systems (EWS): Research by Dwivedi et al. (2023) emphasizes AI's role as an EWS, automatically flagging anomalies in resource allocation or operational metrics before they escalate into execution failures.

2. The Natural Language Processing (NLP) and the Human Factor - Human Resistance and Culture are widely documented as the primary drivers of change execution risk. Current studies focus heavily on how NLP tools can decode and manage these soft, qualitative risks. Sentiment Analysis: Scholars (e.g., Baptista et al., 2020) demonstrate that NLP tools can continuously analyze employee communication channels (such as Slack, Teams, or internal surveys) to gauge psychological safety, resistance, and sentiment in real time. Tailored Communication Strategy: Instead of one-size-fits-all corporate announcements, generative AI is noted for its ability to create hyper-personalized communication strategies that address the specific anxieties of different employee segments, thereby reducing friction (Raisch & Krakowski, 2021).

3. The Artificial Intelligence as a Strategic Decision-Support System (DSS): During rapid transformations, cognitive overload often leads leaders to make flawed strategic choices, introducing execution risks. Scenario Modeling: Literature regarding AI-driven DSS shows that advanced simulations (like Digital Twins of an organization) allow leaders to test change strategies in a risk-free virtual environment before real-world deployment (Sarker et al., 2021). Data-Driven Agility: AI accelerates the "OODA Loop" (Observe, Orient, Decide, Act), allowing organizations to pivot execution strategies mid-course based on real-time feedback loops rather than lagging quarterly reviews.

4. The Emerging Paradox: Risks Introduced by AI in Change Execution - while AI mitigates traditional execution risks, an emerging branch of literature warns that introducing AI creates an entirely new subset of risks that can derail change initiatives. The "Black Box" Problem and Mistrust: When AI models recommend specific changes (e.g., restructuring or downsizing), the lack of transparency in algorithmic decision-making can severely damage employee trust and heighten resistance (Tambe et al., 2019). Algorithmic Bias and Discrimination: If predictive



models are trained on flawed historical data, they may reinforce systemic biases during restructuring, leading to compliance, legal, and reputational risks (Zuiderwijk et al., 2021). Technostress and AI Anxiety: The change initiative of adopting AI itself induces severe anxiety, leading to quiet quitting or active sabotage, which directly threatens the execution of broader organizational goals.

### The Identified Research Gaps\*

While the existing literature robustly covers the theoretical benefits of AI in project management and the general ethics of AI, a critical gap exists in empirical frameworks that measure the exact ROI of AI interventions on specific change risk metrics and in containing the Change Execution Risk. Most current papers remain conceptual or rely on isolated case studies of tech conglomerates. There is a distinct lack of comparative research across non-tech industries (e.g., banking) regarding how traditional change managers interact with AI-driven risk insights to contain the change execution risk.

\* The literature review is still progressing and given above are the takeaways in the interim.

### **Proposed Research Methodology**

To study the change execution risk and artificial intelligence, a mixed-methods research design seems to be the most suitable approach. This methodology combines qualitative depth to understand human and organizational factors with quantitative breadth to measure risk impacts and trends.

1. The Research Design: Sequential Explanatory Mixed-Methods: This design consists of two distinct phases: a dominant quantitative phase followed by a qualitative phase.

- The Phase 1 (Quantitative): Measures the statistical relationship between AI deployment/implementation and change execution failure rates.
- The Phase 2 (Qualitative): Uses Interviews to explore the human, cultural and operational nuances behind those statistics.

2. The Population and Sampling: Target Population: Change management practitioners, IT project managers, corporate leaders, and employees undergoing AI-driven transformations.



- Sampling Strategy: Quantitative: Purposive and snowball sampling targeting organizations across industries (e.g., Banking, finance, healthcare, tech) that have integrated AI tools within the last 12–24 months. Aim for a minimum sample size of  $(N=100)$  to  $(N=150)$  survey respondents. Qualitative: Theoretical sampling selecting 10 to 15 key informants from the survey pool who experienced extreme success or notable failure in their AI transitions.

3. The Data Collection Methods: Quantitative Tool (Online Survey): Administer a structured questionnaire using a 5-point Likert scale. Measure independent variables (e.g., type of AI deployed, level of employee training) against dependent variables (e.g., user adoption rates, operational downtime, timeline slippage). Qualitative Tool (Semi-Structured Interviews): Conduct 30-to-45-minute virtual interviews using an open-ended interview guide. Focus on probing deep issues like algorithmic bias anxiety, trust in AI decision-making, and leadership communication gaps.

4. Data Analysis Framework Statistical Analysis (Quantitative): Software like SPSS provides with descriptive statistics (means, standard deviations) to map primary risk areas. Apply multiple regression analysis or Structural Equation Modeling (SEM) to determine which AI factors most heavily increase or mitigate execution risk. Thematic Analysis (Qualitative): Transcribe interviews using software like NVivo or ATLAS.ti. Apply Braun & Clarke's thematic analysis framework to code the transcripts. Identify recurring themes, such as "Fear of Redundancy" or "Data Governance Failures."

5. Validity, Reliability, and Trustworthiness: Quantitative: Pre-test the survey via a pilot study to calculate Cronbach's alpha for internal reliability (aim for  $(>0.70)$ ). Qualitative: Ensure credibility and trustworthiness through triangulation (cross-verifying survey data with interview insights) and member checking (sharing transcript summaries with participants to verify accuracy).

6. Ethical Considerations Informed Consent: Participants must sign a digital consent form outlining the study's purpose. Anonymity: Strip all identifying corporate and personal data to protect participants from professional blowback. Data Security: Store all collected materials on password-protected, encrypted cloud drives.



## **The Expected Results**

An expected result of research on change execution risk and artificial intelligence (AI) is that AI significantly reduces implementation failures by predicting human resistance and process bottlenecks before they occur and thereby will help in containing the change execution risks in organizations. The core outcome demonstrates a shift from reactive troubleshooting to predictive Change Execution risk management.

## **Key Research Outcomes**

- **Reduced Change Execution Risk Events:** Organizations which deployed AI in the Change Management Spectrum were found to be better prepared to monitor and contain the Change Execution Risk Exposures and were successful in achieving strategic outcomes.
- **Predictive Risk Modeling:** AI algorithms analyze historical project data to forecast which departments or teams will struggle most with adoption.
- **Sentiment and Resistance Tracking:** Natural Language Processing (NLP) tools scan internal communications to flag employee burnout, confusion, or resistance in real time.
- **Automated Impact Assessment:** Machine learning maps out how a change in one software or process will disrupt interconnected workflows across the company.
- **Power BIs:** can help reduce management time in analyzing and understanding the key trends in the change execution.
- **Tailored Mitigation Strategies:** AI generates customized training and communication plans based on the specific risk profile of different user groups. Quantifiable Benefits 30% Reduction in project delays. Higher Adoption Rates due to hyper-personalized training schedules. Lower Change Fatigue by optimizing the timeline and pacing of rollouts.
- **The Emerging Risk: "AI Blind spots":** The research also highlights a secondary risk: over-reliance on AI insights. If managers trust the data blindly without human empathy, it can alienate employees and increase change execution failures.

## **Likely Discussion Points**

Here are the likely discussion points regarding the outcomes of this research:



- AI as a Catalyst for Execution Risk Algorithmic Bias: Misaligned AI recommendations can lead to flawed strategic shifts.
- Velocity of Change: AI introduces rapid updates, outpacing traditional human adaptation speeds.
- Black Box Risk: Lack of transparency in AI tools lowers employee trust and adoption rates.
- Data Dependency: Poor data quality directly corrupts the execution of AI-driven change initiatives.
- Human and Cultural Resistance: Job Displacement Fear: High anxiety regarding automation triggers passive or active employee resistance.
- Skill Obsolescence: Workers resist new systems if they feel inadequately trained to use them.
- Erosion of Agency: Employees reject changes that replace human intuition with machine decisions.
- Leadership De-skilling: Over-reliance on AI metrics weakens standard management problem-solving abilities.
- Mitigation and Risk Management Capabilities: Predictive Analytics: AI models accurately forecast project bottlenecks and employee churn risks.
- Sentiment Analysis: Real-time monitoring of internal communication reveals early signs of resistance.
- Tailored Training: AI personalizes learning paths to upskill employees based on their unique gaps.
- Scenario Modeling: Digital twins simulate change impacts before full-scale organizational rollout. Governance and Operational Realignment
- Dynamic Frameworks: Traditional static change management models fail; agile frameworks are mandatory. Ethical Guardrails: Research emphasizes establishing clear ethical protocols to maintain workforce trust.
- Continuous Auditing: Constant monitoring of AI outputs is required to prevent scope drift during transitions.



## **The Expected Conclusion**

The integration of Artificial Intelligence (AI) into change execution significantly accelerates project timelines and helps in containing the Change Execution Risk at the Organizational Level, but at the same time could introduce overly complex, systemic risks that traditional change management frameworks fail to address.

### Core Research Findings

- **Shift in Risk Profile:** AI shifts change execution risk from standard human resistance and process delays to algorithmic bias, data drift, and sudden operational dependencies.
- **The "Black Box" Barrier:** Lack of transparency in AI decision-making degrades employee trust, which increases cultural resistance and lowers adoption rates.
- **Skills Mismatch:** Traditional training protocols are insufficient for AI deployment, requiring continuous upskilling rather than one-time onboarding.
- **Governance Gaps:** Rapid AI deployment frequently outpaces corporate governance, leading to immediate compliance, security, and ethical vulnerabilities.

### Strategic Recommendations

- **Dynamic Change Frameworks:** Organizations must replace static change models with continuous, agile governance structures.
- **Proactive Trust Building:** Leaders must prioritize explainable AI (XAI) and transparent communication to mitigate worker anxiety and displacement fears.
- **Hybrid Risk Management:** Risk assessments must evaluate both technical performance (system errors) and human behavior (misuse or disengagement) simultaneously.

### The Ultimate Conclusion

Implementation or deployment of AI in the Change Management Spectrum significantly reduces the likelihood of the Change Execution Risk materialization. However, the success of AI-driven organizational change does not depend solely on the sophistication of the technology, but on the agility of the human infrastructure surrounding it. Future competitive advantage belongs to firms



that treat AI implementation as continuous socio-technical evolution rather than a standard software rollout.

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**Disclaimer:** The research is still progressing and given above are the takeaways in the interim. Various sources available in the internet had been referred while preparing the paper including responsible AI usage.