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From Talent Analytics to Strategic Foresight: An Exploratory Framework for AI-Enabled Leadership Succession and Organisational Resilience in Manufacturing Industries

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Abstract

Manufacturing organisations are increasingly turning to artificial intelligence (AI) and human capital analytics to spot talent, forecast skill needs, and inform succession decisions. However, having predictive information on hand does not mean that future leaders will actually be developed, that leadership opportunities will be handed out fairly, or that companies will respond to disruption any more effectively. This paper builds an exploratory conceptual framework that explains how AI-enabled talent analytics might be turned into strategic foresight, developmental opportunities, distributed leadership readiness, and organisational resilience. Drawing on theory synthesis and model development, the argument brings together strategic talent management, human capital analytics, dynamic capabilities, experiential leadership development, and capability-based resilience scholarship. The proposed Foresight-to-Readiness Conversion (FRC) framework separates predictive visibility from strategic interpretation and developmental enactment.

It further sets out a countervailing exclusion pathway through which historically biased data, narrow notions of potential, and automated rankings may concentrate opportunities and reduce succession depth. Eight propositions set out the expected mechanisms, contextual conditions, and feedback effects. The framework is grounded in manufacturing, where leadership continuity depends on coordinating plant operations, technical expertise, supply networks, and cross-functional responses to disruption. Its theoretical contribution is to move attention away from how accurate talent predictions are presumed to be and toward the conditions under which such predictions become a resilient, contestable, and developmentally productive leadership system. The paper sets out a research agenda employing longitudinal, multilevel, and quasi-experimental designs, and it reports no fabricated empirical results.

Keywords: ***Artificial Intelligence, Talent Analytics, Strategic Foresight, Leadership Succession, Leadership Readiness, Manufacturing, Organisational Resilience and Strategic HRM***

1. Introduction

In manufacturing, succession planning has conventionally relied on managerial judgments, records of promotions, performance reviews, and the presence of seasoned technical and operational staff. More and more, such inputs can be merged with digital evidence of training, job assignments, competencies, retention trends, and workforce mobility. Analytics powered by AI could assist organisations in identifying skill shortages, weighing potential career routes, and examining different future requirements for leadership. However, a company may be able to rank its current employees accurately and yet still be caught unprepared by an unforeseen plant shutdown, a supply disruption, a technological shift, or the departure of a critical supervisor. The core theoretical issue, then, is not prediction by itself but how predictive information gets transformed into collective leadership capacity.

Talent management scholarship has for a long-time separated roles of strategic importance and deliberate investment in human capital from routine administrative HR work (Boudreau & Ramstad, 2005; Collings & Mellahi, 2009). In a similar vein, work on human capital analytics stresses that data quality and analytical sophistication generate strategic value only when managers have both the ability and the authority to act on the information (Minbaeva, 2018). Bringing AI into HRM further heightens the significance of moving from information to consequential decisions: training data may be incomplete, outcomes depend on context, and recommendations that seem objective can replicate earlier organisational selection patterns (Raghavan et al., 2020; Tambe et al., 2019).

Recent research has made this tension particularly apparent. A systematic review by Theodorsson and Dosanjh (2026) separates AI that augments human judgment from AI that replaces it autonomously, while Bevilacqua et al. (2025) demonstrate how AI reshapes the skills and strategic activities of senior managers. These studies move the field forward, but neither implies that leadership succession should be treated as a straightforward technological selection problem. Succession demands more than correctly pinpointing a replacement for a current role: it entails cultivating several individuals who can interpret emerging risks, coordinate across functions, learn through consequential assignments, and act amid uncertainty. Leadership potential inferred from past performance does not amount to demonstrated capacity for future strategic work.

The manufacturing setting makes this distinction consequential. Production systems link operations, quality assurance, maintenance, procurement, logistics, workforce safety, and customer obligations. A highly effective supervisor in one production environment may need different capabilities to coordinate an AI-assisted line, respond to an energy disruption, or lead a shift in supplier strategy. AI models trained on routine production or promotion histories may capture stable conditions better than rare but decisive disruptions. At the same time, manufacturing firms may depend on expert workers whose contributions are visible through local knowledge but insufficiently represented in formal talent databases. These are plausible contextual challenges, not empirical claims about a particular company or about Pune District.

The research question guiding this paper is: Under what conditions can AI-enabled talent analytics be translated into strategic leadership foresight and developmental succession arrangements that strengthen organisational resilience in manufacturing? Three aims are set out: (a) to separate predictive analytics from strategic foresight and leadership readiness; (b) to build a mechanism-based conceptual model encompassing both developmental and exclusionary pathways; and (c) to advance falsifiable propositions and an empirical research agenda suited to manufacturing organisations.

The paper introduces the Foresight-to-Readiness Conversion (FRC) framework. Its central claim is that AI generates options rather than leadership capability in and of itself. Organisational resilience becomes more probable when decision-

makers read analytics against alternative futures, spread developmental assignments across a leadership pool broad enough to support them, retain human review, and draw lessons from the results. This account is intentionally distinct from the broad assertion that technology enhances talent management, and it does not replicate a study of how HRM practices affect strategic leadership overall.

2. Conceptual Research Design

This article applies theory synthesis and conceptual model development following the approach described by Jaakkola (2020). The purpose is to present a causal-process explanation grounded in identifiable concepts and boundary conditions, not to report effects estimated from a new dataset. The literature was purposefully assembled from complementary scholarly fields: strategic talent management and HR architecture; human capital analytics and AI in HRM; leader development and experiential learning; strategic foresight and dynamic capabilities; organisational resilience; and algorithmic fairness and governance. Foundational theory is reviewed together with relevant systematic reviews and more recent research published through 2026.

The integration proceeded through four analytical steps. First, constructs that are often conflated were separated: a predicted talent score is not a future-oriented managerial judgment, a succession chart does not prove leadership readiness, and resilience is not merely business continuity. Second, relevant literature was used to specify the mechanisms connecting these constructs. Third, an adverse pathway was added in order to identify the conditions under which the same technology might reduce rather than expand leadership options. Fourth, propositions were formulated so that subsequent studies could test the proposed model against simpler alternatives, such as direct effects of AI adoption or conventional high-potential systems.

This design is not a systematic review. No claim is made to an exhaustive database search, a PRISMA flow, search-count statistics, or meta-analytic estimates. Nor does the paper assume that AI adoption is widespread among Pune manufacturers, or that the proposed relationships have already been validated. Manufacturing provides the contextual setting for theoretical application; Pune District is a suitable future field setting, not the source of evidence in this conceptual investigation.

3. Integrating the Theoretical Foundations

Strategic Talent Management clarifies what leadership roles/ pools should be targeted, human capital analytics clarifies how supporting evidence can be collected and analysed. Dynamic capabilities and corporate foresight identify how future changing needs can be anticipated. Research on leader development clarifies how potential can be converted into capability. Finally, research on resilience clarifies the importance of a broad range of capabilities being available and applied in adversity. Whilst these different bodies of theory complement each other, they do not provide an automatic sequence. As such, there are key decision points in the model where the sequence breaks down.

3.1 Strategic talent management and differentiated investment

Strategic talent management focuses on identifying critical roles, building talent pools, and creating distinctive HR processes (Collings & Mellahi, 2009). Decisions around talent should be made with reference to strategic implications (Boudreau & Ramstad, 2005). Depending on strategic value and distinctiveness, organisations will implement varying talent management structures to manage their human capital (Lepak & Snell, 1999). Therefore, succession planning in key roles is important.

Potential issues

If key roles are identified only using existing hierarchies within the organisation, there is risk that only the same limited talent pool previously

acknowledged by previous leaders is identified. This conflates the idea of who should be considered 'talented' in leadership positions with those who have previously been given visibility. There are ongoing issues with the conceptualisation of talent management, including over focus on high potential individuals (McDonnell et al., 2017). In order to create a succession plan, criteria must be in place to identify key roles, but in doing so care must be taken to ensure that current differences in status do not result in certain individuals being systematically excluded from development.

3.2 Predictive analytics, managerial action, and AI limitations

Evidential support for benefits of HR analytics in practice is limited (Marler and Boudreau, 2017). To deliver meaningful insights from human capital analytics, quality data, analytical ability and strategic implementation is required (Minbaeva, 2018). Causality, limited HR data sets and ethical considerations present challenges in applying AI to HRM (Tambe et al., 2019). Predictive accuracy of past data may not translate into appropriate selection for leadership development. For example, a correlation between an individual's promotion in the past and a particular attribute may not indicate causal relationship in readiness to perform novel strategic tasks in the future.

Predictive insight and valid decision making do not equate. While predictive insight may identify potential skill development and career progression for individuals, valid decision-making means that these inferences can be used to assign development opportunities and succession roles. In another decision context, Kleinberg et al. (2018) show how decision rules must be linked to predictive information and appropriate counterfactuals. Within a succession decision context, it is important to know that having a high score in this model will lead to better decisions regarding individual development and that assigning opportunities based on these scores leads to appropriate development of competencies.

Research in digital HRM indicates that digitally recording data in HR does not necessarily mean decisions in HR have changed (Strohmeier, 2020). AI can supplement or replace decision making (Raisch and Krakowski, 2021; Theodorsson and Dosanjh, 2026). However, within the FRC framework, ranked outputs from AI within this process represent suggestive evidence only. Decisions made in personnel should still be justified by developmental evidence, strategic situations and meaningful review processes. This is particularly important if previous patterns of training, promotion and movement in staff reflect biased opportunity.

3.3 Dynamic capabilities and strategic foresight

Resource-based perspective highlights the potential for sustainable competitive advantage if a firm possesses rare and valuable resources (Barney 1991). Within uncertain technological contexts, renewal of resources is also important. Dynamic capabilities are defined as sensing, seizing and reconfiguration (Teece 2007). It has also been highlighted that managerial value is driven by the way resources are organised, packaged and exploited (Sirmon, et al. 2007). Therefore, in order to be strategically valuable, a pool of leadership talent must contribute to organizational adaptability.

Several studies have explored how firms can be prepared for the future. Rohrbeck and Kum (2018) highlight how the capability of an organization to prepare for the future can be studied over time, while Schoemaker et al (2018) identify leadership as an enabler of dynamic capabilities in uncertain contexts. Within this framework, strategic foresight for leadership succession enables AI-driven signals in talent to be developed into changeable scenarios. For example, scenarios could be designed around different production technologies, risk in the supply chain, outdated skills, legal requirements or changing customer needs. Foresight is only achieved if the managers reflect on how differently leadership may need to perform in these changed scenarios.

3.4 Leadership development as demonstrated capability

Developmental experiences are complex processes (Day et al., 2014). The developmental value of experiences gained by managers depends on the level of developmental challenge and provision of feedback within the experience. However, providing too much challenge can reduce developmental value (DeRue & Wellman, 2009). Such development can be considered within the behavioural lever of 'developmental enactment' within the FRC framework. Having the insight into an employee's potential talent should allow them to undertake cross-functional projects, realistic simulations, challenging roles, mentorship and structured feedback.

These experiences allow employees to exhibit capabilities beyond what may have been predicted by their historical score. Within an emerging market context, evidence suggests that talent management practices may lead to indirect effects in relation to HRM, through building social capital within the workforce (Glaister et al., 2018). Therefore, it is valuable to consider development within a network around successor candidates, and not just as an isolated training practice.

In a manufacturing context, strategic leadership may need to involve integration across several areas of expertise, including engineering, operations, quality assurance, safety and supply chain. If a group of potential leaders has only been developed within one area, they may be at risk if challenges arise which require them to work across these functions. It is not required that every potential leader works across every function. Potential leaders should be given roles that will develop capabilities in line with possible future strategic needs.

3.5 Organisational resilience as a capacity and process

Resilience at the individual level can be created through Strategic Human Resource Management (Lengnick-Hall et al., 2011). In terms of capabilities, leaders can contribute to organisational resilience through anticipatory, adaptive and responsive capabilities (Duchek, 2020). Crisis management literature combined with resilience literature suggests that a variety of responses to adversity can occur (Williams et al., 2017). This suggests that depth of succession may be important to allow for various alternatives in response to a shock. If key roles are no longer available, or conditions change suddenly, a variety of prepared leaders may allow for alternative responses.

Distributed leadership readiness is having sufficient depth, diversity, and availability of prepared leaders for strategic positions within the organisation in a variety of relevant scenarios. It should not be confused with simply the number of people in succession planning. Organisational resilience is the ability to be anticipatory, absorb, co-ordinate responses to and adapt to major disruptions. It should be noted that readiness may not be beneficial in cases where the disruption does not fall within prepared capabilities or if leadership cannot be delegated when needed.

4. Research Gap and Conceptual Distinctiveness

There is existing literature addressing these questions. In talent management, research has explored the use of AI in recruitment, learning, retention and performance (Vrontis et al., 2022; Pereira et al., 2023). This can be grouped in 'assisting' or 'autonomous' AI (Theodorsson & Dosanjh, 2026). The role of AI in supporting leadership at the top levels is considered (Bevilacqua et al., 2025). Within strategic talent management, the value of critical roles and talent pools has been established (Collings & Mellahi, 2009). This work should not be overlooked.

However, there are more specific gaps. Firstly, how probabilistic information about individuals translates into strategic leadership requirements, and in turn, how these impacts challenging development opportunities being allocated. Furthermore, how diverse successor populations are created through these challenges, and how this diversification improves resilience. Secondly, how

bias in past data and seemingly neutral scoring could reduce opportunity, creating fragile successor pipelines. By capturing both of these issues in one model, the FRC framework enables research into understanding why a complex analytical system could have positive or negative implications for organisational readiness.

This paper makes four contributions to the literature. Firstly, the model does not simply predict candidates, but considers development decisions. Secondly, strategic foresight is considered as an interpretative mediator, rather than a characteristic inherent in algorithmic outputs. Thirdly, leadership readiness is viewed as a portfolio of factors, rather than a score. Finally, governance is included as a causal factor, as individuals' ability to challenge predictions impacts who receives development opportunities. These considerations allow the model to be testable and differentiate it from a general relationship between AI adoption and performance.

5. The Foresight-to-Readiness Conversion Framework

This model highlights five core constructs within FRC. There is a positive developmental pathway where talent analytics capabilities enable predictive visibility, leading to strategic foresight, effective distribution of development opportunities, readiness for distributed leadership, and organisational resilience. The transition between prediction and opportunities is influenced by governance factors. However, there is also a negative developmental pathway. If limited historical data and unclear rankings occur, development will be limited to visible talent. As such, while short term prediction accuracy may be high, wider successor diversity may be reduced.

5.1 Analytics capability to predictive visibility

Talent analytics capability encompasses having relevant data, assessing data quality, applying justifiable analytical methods and communicating uncertainty. Predictive visibility refers to the breadth and clarity of information on potentially relevant skills, experiences, ambitions and development requirements, and extends beyond identifying a potential high-potential list. For example, a system may provide predictive visibility into future skill shortages within maintenance management or across functions, but not have a justifiable high-potential list.

Insufficient data, unequal opportunity in identification, and lack of contextualisation at role level may reduce predictive visibility. Very complex models may appear sophisticated in their analysis, but it may be hard to challenge the justification behind recommendations. Consequently, higher talent analytics capabilities should improve predictive visibility only if information within them is sufficiently representative and useful to decision-making.

P1: AI-enabled talent analytics capability is positively related to predictive visibility. This positive relationship is stronger if data relating to employees in the workforce is representative, sufficiently complete, and validated for different groups of employees.

5.2 Predictive visibility to strategic succession foresight

Strategic foresight occurs if a predictive (or descriptive) talent view is considered in relation to strategic future tasks. HR professionals, plant managers, operational leaders and technical specialists can consider the different leadership skills required in different automation, disruptive, growth, or scarce resource scenarios. This allows managers to identify new skill requirements not captured by historical data.

Strategic foresight includes changes to the nature of a role. Whereas forecasting that the current Maintenance Manager will leave their position represents a typical workforce planning consideration, considering how in the next 5 years digital monitoring, energy limitations, and supply chain risk could lead to a change in the leadership skills needed within maintenance represents strategic foresight.

P2: Strategic succession foresight is positively related to predictive talent visibility when

analytics are interpreted with scenario analysis across functions as opposed to being interpreted as simple rankings.

5.3 Strategic foresight to developmental opportunity allocation

Leadership development activities should align accordingly. Allocation of opportunities has greater consequences than simply labelling people as 'high potential.'. By being given stretching opportunities, people will develop certain experiences and feedback that will inform future judgements. In contrast, those who do not get given these opportunities may lack the necessary evidence to be selected. Decisions about opportunity allocation can therefore form reinforcing cycles. The mapping of specific opportunities to future capabilities and structured evidence of learning outcomes should be recorded.

P3: There is a positive relationship between higher strategic succession anticipation and strategic alignment and challenging nature of development opportunities given to individuals in the relevant talent pool.

5.4 Developmental opportunities to distributed leadership readiness

There are multiple individuals within the organisation demonstrating potential for leadership in key positions. Breadth: individuals have potential for a variety of different functional roles, in different locations and under different potential disruptive scenarios. Deployment: There is credible evidence for readiness, appropriate decision-making authority and practical transition mechanisms in place. These factors cannot necessarily be assumed based on participation in development opportunities.

Appropriately challenging tasks have been found in experiential research to aid development, so long as feedback is given (DeRue & Wellman, 2009). However, if tasks become too challenging without support, they may negatively affect performance and confidence. Therefore, it is important that development occurs in a gradual manner, with assessment.

P4: Strategic allocation of development opportunities has a positive relationship with organisational readiness for distributed leadership, providing individuals receive feedback during development, appropriate support during tasks, and can apply newly developed skills.

5.5 Distributed readiness to resilience

Distributed leadership will support responsiveness in disruptions. If an organisation has a wide variety of leadership capabilities, they may be able to flexibly re-source staff, continue key activities, and respond differently to new problems. However, this will depend on whether the leadership capabilities align with the disruption. If an organisation has many production managers, but no pre-prepared multifunctional leaders, they may still be vulnerable to disruptions within their supply chain.

This relates to whether the organisation is appropriately prepared for the situation. It should be investigated whether distributed leadership improves: speed of filling key roles; consistency of strategic decision making; co-ordination across different plants; and improvements in adaptability.

P5: Organisational resilience is positively correlated with distributed leadership capabilities. This is particularly true if there are leadership capabilities within the portfolio that match the types of disruption faced.

6. Countervailing Mechanisms and Boundary Conditions

Strong theory should identify the conditions under which technology could be detrimental to succession. Concentration of opportunity via algorithms can be a problem, where those who previously were in high scoring roles receive greater opportunity to showcase leadership potential in the future, while others do not. This may occur without overt discrimination based on demographics. It could occur due to a narrow

definition of leadership potential, or omission of data regarding informal contributions to leadership.

Care must be taken when interpreting claims of reduced bias in hiring through algorithms (Raghavan et al., 2020). Algorithmic decision making could impact balance of power within organisations, or challenge to decisions (Kellogg et al., 2020). Interpretation of HR practices has been shown to impact employee attitudes and behaviour (Nishii et al., 2008), so potentially interpretation issues may occur with opaque succession processes.

6.1 The adverse opportunity-concentration pathway

Over-reliance on historical patterns in promotions, or high-quality roles, means that development opportunities may be focused on employees with characteristics similar to those previously successful in these roles. As the model is updated, development appears to be consistently concentrated within this group of people. In this way, a more effective but less robust succession management system is created. This may not be noticed until new challenges require employees to have skills that do not match this standard profile.

P6: Over reliance on historical talent rankings is positively correlated with clustered development opportunities, and negatively correlated with diversity of leaders prepared.

6.2 Contestable human oversight

Contestable human oversight enables employees and managers to contest the recommendations, and so improve decisions. In contrast, perfunctory human oversight does not address biases in inputs and poor strategy assumptions. Contestable oversight can provide transparency through criteria, an unpunishable appeal/review process, and logs of amended decisions following contextual analysis. Human oversight must be sufficiently independent to challenge powerful existing managers, but should not be so difficult to implement that routine suggestions from analytics are impractical.

P7: If oversight of analytics is contestable, then increased historical ranking dependence has a reduced positive effect on concentrated development opportunities. This is because contestable oversight allows inappropriate, incomplete or biased suggestions to be reviewed and improved.

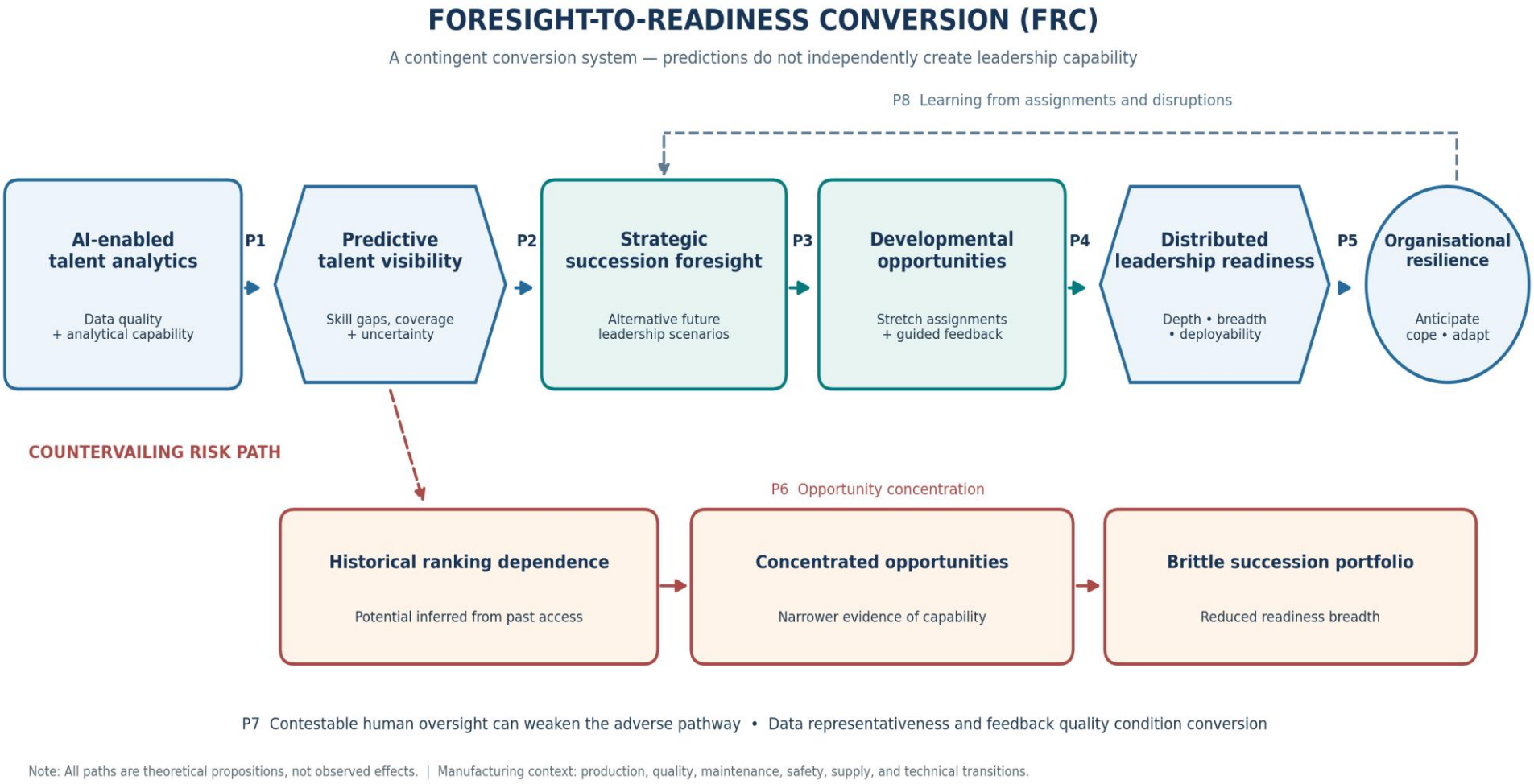
6.3 Strategic renewal through feedback

As technologies, roles and disruptions change, succession frameworks should be updated. Evaluating predicted and observed outcomes, which competencies have been useful and updating scenarios, following developmental experiences or shocks will improve strategic succession foresight. By repeatedly scanning, grasping and reconfigure resources, dynamic capabilities are developed to enable leaders to be updated (Teece, 2007). If learning does not occur from this process, an accurate predictive model is no longer useful as it only reflects previous leadership requirements within an organisation.

P8: Structured feedback from developmental experiences and responses to disruptions improves strategic succession foresight. It ensures appropriate investment in developing leadership aligns with emergent manufacturing requirements.

7. Conceptual Figure and Construct Boundaries

Figure 1. The Foresight-to-Readiness Conversion (FRC) framework



Note. The solid upper pathway represents hypothesised conversions; the lower dashed pathway represents potential exclusion. The diagram is a conceptual illustration, not an empirical estimate.

This model does not imply a one-platform approach in vendors, nor does it suggest that all AI tools have similar organisational impacts. The level of analysis differs depending on the construct. The analytics capability, and succession governance are organisational-level variables, while foresight occurs within managerial interpretation. Developmental tasks and learning occur at individual level. Readiness is an organisational portfolio variable, and resilience is observed at an organisational level in response to adversity. As such, empirical research should consider such differences in level of analysis and so may not wish to include all variables within a single individual-based questionnaire.

Table 1. Conceptual differentiations and potential empirical indicators.

Construct	Distinguishing feature	Illustrative indicators (not validated scales)	Primary level
AI-enabled analytics capability	Evidence-generating infrastructure	Completeness; validation; analyst expertise; uncertainty disclosure	Organisation
Predictive talent visibility	Coverage and interpretability of talent signals	Role coverage; skills visibility; missing-data reports	Organisation
Strategic succession foresight	Scenarios of changing leadership needs	Scenario breadth; cross-functional deliberation; revisions	Managerial team
Developmental opportunity allocation	Access to strategically relevant learning assignments	Assignment distribution; challenge; coaching; feedback	Employee / HR system
Distributed leadership readiness	Portfolio of demonstrably deployable successors	Depth; breadth; cross-role coverage; deployment feasibility	Organisation
Opportunity concentration	Unequal distribution of developmental access	Selection concentration; repeat access; group differences	HR system
Organisational resilience	Anticipation, coping and adaptive renewal	Critical-role continuity; response coordination; recovery learning	Organisation

Note. Illustrative indicators are proposed operational directions and must be validated prior to hypothesis testing.

8. Theoretical Contributions

First, this provides new insights. Research on talent analytics emphasises the analytical value and utility of these practices (Marler & Boudreau, 2017; Minbaeva, 2018). Research on talent management highlights strategic value and distinct investment within talent management. However, the FRC framework clarifies a causal mechanism between signals and future needs for development, leading to tangible preparedness. Therefore, this framework enables distinction between predictive accuracy, and strategic value from a succession system.

Second, this provides temporally new insights. While traditional succession maps tend to focus on filling current roles, our framework considers role needs to be driven by technological and environmental changes. Therefore, the leadership question has shifted from 'who' should fill the current leadership role (within a role) to what leadership capabilities will be required in several plausible futures? This means that the distribution of human capital resources is tied to environmental responsiveness and re-alignment, without requiring strategic intelligence from the predictive analytics.

Third, this provides new insights into the leadership preparedness portfolio. While individual potential and preparedness at an organisational level are two different levels of analysis, it is possible to have an oversupply of

high performing individuals, yet still not have a well-balanced pool of leadership in operational, technical, commercial and crisis coordination roles. By thinking of preparedness as having depth, variety and usability, we can understand why high-potential programmes can be perceived as successful at an individual level, yet prepare organisations poorly for leadership.

Fourth, this facilitates symmetric theories. If we were to state that AI increases resilience, except in cases of poor implementation, it would be difficult to challenge this theory. Our FRC framework however enables us to predict that within some highly analytic systems, the variety of developmental experiences may be systematically reduced. This opposing expectation allows us to challenge the positive effects of the conversion

9. Implications for Manufacturing Management

Identify key roles/leadership requirements (including outside traditional senior management structures). Within maintenance, quality, planning, supplier recovery, safety, and technical change management, there may be different types of leadership. These examples are not exhaustive. The significance of each role/leadership type should depend on the impact of the absence or poor performance of this role. Not just the grade of the role, but the impact of poor performance is important.

Ensure talent data coverage has been assessed by HR and operational leaders. Differentiate between proxies for previous exposure to opportunity and evidence of competency. Identify what leadership activities will be required in the future. Assign development opportunities based on clear criteria, provide coaching, and measure based on performance. Ensure assignment models can be questioned within context. Update the system using results of assignments, empty roles and operational disruptions.

10. Empirical Research Agenda

Identify key roles/leadership requirements (including outside traditional senior management

pathway. It directly addresses concerns around fairness, and governance, raised in AI- HRM literature (Raghavan et al., 2020; Tambe et al., 2019).

Finally, this connects strategic HRM to process-based resilience. Research has shown how HR processes enable the development of resilience (Lengnick-Hall et al., 2011). Different aspects of resilience can be identified: anticipatory, adaptive and coping (Duchek, 2020). In our model we are able to specify how leadership succession processes can affect these capacities, and how this effect will vary dependent on the relevance of scenarios, and organisational learning. This is a more specific claim than stating that improved leadership will lead to improved performance.

Variation can be provided by considering different manufacturers within Pune District. In further research, it may be interesting to compare different sized, owned, technically advanced, and multifunctionally staffed manufacturers. However, generalisations regarding adoption of AI within manufacturing within the region cannot be made within this paper without verified evidence from practice. The contribution made here is theoretical, and has been clearly identified as applicable to manufacturing.

Impacts on sustainability have primarily been identified in relation to sustainable human resources and resilient operations. A deeper pool of successors may decrease unnecessary disruption and ensure more consistent decision making. Training future leaders to consider energy efficiency, safety and impacts on stakeholders may lead to benefits in social and environmental sustainability, however further theoretical definition and analysis of this impact is required. Resilience should not be assumed to equate to evidence of environmental sustainability.

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structure and legal requirements not fully captured in the model.

Overall, within this theory, AI driven succession in manufacturing can be beneficial if probabilistic data can be transformed into adaptable strategic decisions, meaningful development opportunities and a demonstrably usable leadership resource. However, if predictive rankings are assumed to be definitive, and development opportunities are aligned with historical advantage, then the pipeline created by this technology may become fragile. By utilising the factors of strategic interpretation, evidenced development and contestability within the FRC model, this paper creates a basis from which to consider leadership succession in manufacturing, without assuming interchangeability or correlation between analytics, preparedness and resilience.

11. Limitations and Conclusion

This paper is conceptual and does not present causality nor investigate specific manufacturers. Literature was selected selectively. To strengthen validity, further work is required to demonstrate discrimination between strategic foresight, traditional workforce planning and dynamic capability. This framework has oversimplified the interaction between personal career development, leadership, incentive structures within organisations and shocks from the environment. In some very niche environments, scenario planning may produce high-cost inefficiencies. Alternatively, it may be more effective to draw upon fewer experts. Further research should be undertaken to understand this. Fairness and contestability may be influenced by organisational

References

1. *Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120. https://doi.org/10.1177/014920639101700108*
2. *Bevilacqua, S., Masárová, J., Perotti, F. A., & Ferraris, A. (2025). Enhancing top managers' leadership with artificial intelligence: Insights from a systematic literature review. Review of Managerial Science, 19, 2899–2935. https://doi.org/10.1007/s11846-025-00836-7*
3. *Boudreau, J. W., & Ramstad, P. M. (2005). Talentship, talent segmentation, and sustainability: A new HR decision science paradigm for a new strategy definition. Human*

Resource Management, 44(2), 129–136. https://doi.org/10.1002/hrm.20054

4. *Collings, D. G., & Mellahi, K. (2009). Strategic talent management: A review and research agenda. Human Resource Management Review, 19(4), 304–313. https://doi.org/10.1016/j.hrmr.2009.04.001*
5. *Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25 years of research and theory. The Leadership Quarterly, 25(1), 63–82. https://doi.org/10.1016/j.leaqua.2013.11.004*
6. *DeRue, D. S., & Wellman, N. (2009). Developing leaders via experience: The role of developmental challenge, learning orientation, and feedback availability. Journal of Applied Psychology, 94(4), 859–875. https://doi.org/10.1037/a0015317*
7. *Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. Business Research, 13, 215–246. https://doi.org/10.1007/s40685-019-0085-7*
8. *Glaister, A. J., Karacay, G., Demirbag, M., & Tatoglu, E. (2018). HRM and performance—The role of talent management as a transmission mechanism in an emerging market context. Human Resource Management Journal, 28(1), 148–166. https://doi.org/10.1111/1748-8583.12170*
9. *Jaakkola, E. (2020). Designing conceptual articles: Four approaches. AMS Review, 10, 18–26. https://doi.org/10.1007/s13162-020-00161-0*
10. *Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. Academy of Management Annals, 14(1), 366–410. https://doi.org/10.5465/annals.2018.0174*
11. *Kleinberg, J., Lakkaraju, H., Leskovec, J., Ludwig, J., & Mullainathan, S. (2018). Human decisions and machine predictions. The Quarterly Journal of Economics, 133(1), 237–293. https://doi.org/10.1093/qje/qjx032*
12. *Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. Human Resource Management Review, 21(3), 243–255. https://doi.org/10.1016/j.hrmr.2010.07.001*
13. *Lepak, D. P., & Snell, S. A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. Academy of Management Review, 24(1), 31–48. https://doi.org/10.5465/amr.1999.1580439*
14. *Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR analytics. The International Journal of Human Resource Management, 28(1), 3–26. https://doi.org/10.1080/09585192.2016.1244699*
15. *McDonnell, A., Collings, D. G., Mellahi, K., & Schuler, R. (2017). Talent management: A systematic review and future prospects. European Journal of International Management, 11(1), 86–128. https://doi.org/10.1504/EJIM.2017.081253*
16. *Minbaeva, D. (2018). Building credible human capital analytics for organizational competitive advantage. Human Resource Management, 57(3), 701–713. https://doi.org/10.1002/hrm.21848*
17. *Nishii, L. H., Lepak, D. P., & Schneider, B. (2008). Employee attributions of the "why" of HR practices: Their effects on employee attitudes and behaviors, and customer satisfaction. Personnel Psychology, 61(3), 503–545. https://doi.org/10.1111/j.1744-6570.2008.00121.x*
18. *Pereira, V., Hadjielias, E., Christofi, M., & Vrontis, D. (2023). A systematic literature review on the impact of artificial intelligence on workplace outcomes: A multi-process perspective. Human Resource Management Review, 33(1), Article 100857. https://doi.org/10.1016/j.hrmr.2021.100857*
19. *Raghavan, M., Barocas, S., Kleinberg, J., & Levy, K. (2020). Mitigating bias in algorithmic hiring: Evaluating claims and practices. In Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency (pp. 469–481). Association for Computing Machinery. https://doi.org/10.1145/3351095.3372828*

20. *Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. Academy of Management Review, 46(1), 192–210. https://doi.org/10.5465/amr.2018.0072*

21. *Rohrbeck, R., & Kum, M. E. (2018). Corporate foresight and its impact on firm performance: A longitudinal analysis. Technological Forecasting and Social Change, 129, 105–116. https://doi.org/10.1016/j.techfore.2017.12.013*

22. *Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation, dynamic capabilities, and leadership. California Management Review, 61(1), 15–42. https://doi.org/10.1177/0008125618790246*

23. *Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. Academy of Management Review, 32(1), 273–292. https://doi.org/10.5465/amr.2007.23466005*

24. *Strohmeier, S. (2020). Digital human resource management: A conceptual clarification. German Journal of Human Resource Management, 34(3), 345–365. https://doi.org/10.1177/2397002220921131*

25. *Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and a path forward. California Management Review, 61(4), 15–42. https://doi.org/10.1177/0008125619867910*

26. *Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. Strategic Management Journal, 28(13), 1319–1350. https://doi.org/10.1002/smj.640*

27. *Theodorsson, U., & Dosanjh, K. S. (2026). Augmentative or autonomous? Reframing artificial intelligence in talent management through a systematic review. Organization Management Journal, 23(2), 183–197. https://doi.org/10.1108/OMJ-09-2025-2716*

28. *Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022). Artificial intelligence, robotics, advanced technologies and human resource management: A systematic review. The International Journal of Human Resource Management, 33(6), 1237–1266. https://doi.org/10.1080/09585192.2020.1871398*

29. *Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. Academy of Management Annals, 11(2), 733–769. https://doi.org/10.5465/annals.2015.013*