

LEVERAGING ARTIFICIAL INTELLIGENCE FOR PREDICTIVE WORKING CAPITAL MANAGEMENT AT LEO TEXTILES

DR. V. Paramasivam¹, A.G.Navina²

Dr.V. paramasivam

professor & head,department of management studies

Kangeyam Institute of Technology,
Kangeyam, Tamilnadu, India.

A.G.Navina,

II-MBA, Department of Management Studies,

Kangeyam Institute of Technology, Kangeyam,

Tamilnadu,India.

ABSTRACT

This research investigates the integration of Artificial Intelligence (AI) and predictive analytics to revolutionize working capital management at Leo Textiles. Effective management of working capital is critical for the textile industry, yet traditional methods often suffer from manual errors and last-minute operational pressures. This study explores how AI algorithms can be leveraged to forecast cash flow requirements, optimize inventory levels, and manage accounts receivable with higher precision. A quantitative research design was employed, utilizing a structured approach to gather data from 100 respondents. The analysis focuses on how AI-driven tools can mitigate the "last-minute rush" often observed in manual planning, which typically leads to stress and reduced efficiency among employees. By applying predictive models, the research aims to transform the financial operations at Leo Textiles from a reactive state to a proactive, data-centered strategy. The findings highlight that while technological adoption is high, with 89% of participants showing active engagement with new systems, the success of AI integration depends on aligning these tools with specific organizational learning goals and financial objectives. Ultimately, the study suggests that leveraging AI not only enhances liquidity management but also significantly improves overall organizational productivity and employee satisfaction.

KEYWORDS: Artificial Intelligence, Predictive Analytics, Working Capital Management, Financial Optimization, Operational Efficiency.

INTRODUCTION

Leo Textiles, situated in Erode, operates as a significant manufacturing unit within the competitive South Indian textile sector. Efficient management of working capital is the vital engine that drives its daily production cycles and operational sustainability. However, traditional manual methods of financial tracking often lead to a "last-minute rush," where tasks are completed under high pressure, resulting in reduced accuracy and overall work efficiency. To overcome these challenges, the integration of Artificial Intelligence (AI) and predictive analytics is essential to transition from reactive to proactive management.

Predictive AI can analyze complex historical patterns to forecast liquidity needs, optimize inventory levels, and manage cash flows with precision.

By adopting these advanced technological tools, Leo Textiles aims to improve time management, reduce employee stress, and enhance the quality of financial decision-making. This study focuses on how leveraging AI can simplify complex working capital processes, making them more interactive and easier for employees to manage effectively. Furthermore, AI-driven insights help in aligning financial strategies with company goals, ensuring that resource allocation is both timely and accurate. Ultimately, this research explores the role of predictive technology in fostering a more productive, data-driven, and stress-free working environment at Leo Textiles.

STATEMENT OF THE PROBLEM

Leo Textiles faces significant challenges in managing its daily operational liquidity due to a reliance on manual and traditional financial tracking methods. It has been observed that working capital tasks are often completed in a hurried, "last-minute" manner, which leads to immense psychological stress and reduced work efficiency among the staff. This reactive approach creates a critical gap in forecasting accuracy, often resulting in either liquidity shortages or excessive idle inventory. Without real-time insights, the company struggles to balance its receivables and payables effectively, hindering its overall financial performance. Therefore, there is an urgent need to integrate Artificial Intelligence and predictive analytics to transform these operations into a proactive, data-driven process. This study aims to evaluate how AI-based tools can eliminate the "last-minute rush" and ensure long-term stability. Ultimately, the research focuses on bridging the gap between current manual inefficiencies and the potential for technological optimization at Leo Textiles.

OBJECTIVES OF THE STUDY

- To analyze how Artificial Intelligence and predictive analytics can improve the accuracy of cash flow forecasting and time management at Leo Textiles.
- To evaluate the impact of AI-driven management tools on reducing employee stress and enhancing overall satisfaction within the working capital cycle.

REVIEW OF LITERATURE

Artificial Intelligence (AI) means using advanced algorithms and machine learning to perform tasks that typically require human intelligence, such as financial forecasting and decision-making. Today, many forward-thinking companies are integrating AI into working capital management to make financial operations more accurate and proactive.

- Mahat et al. (2022) explored different types of technological systems used for employee training and management. They found that for technology to be effective, it must have clear operational goals and be well-planned to match the specific purpose of the organization.
- Rautrao (2021) explained that using advanced technology in management can significantly improve job satisfaction and employee involvement. While traditional methods may fail to keep staff engaged, AI-driven tools make the management of assets and liabilities more exciting and less stressful.
- Murawski (2020) reviewed various studies on digital transformation and found that when technology is planned properly, it improves learning and job performance. However, they warned that if not designed carefully, new systems can cause initial stress, emphasizing the need for user-friendly AI interfaces.
- Seeni Syed Nasrin and Dr. Rajini (2025) studied how modern tools help in development. Their research showed that automated systems increase attention to detail and help employees remember financial skills better. They also concluded that for better results, these tools must match the company's long-term financial goals.
- Barik (2017) highlighted that in the Indian industrial landscape, there is a significant need for technological breakthroughs to bridge the gap between production and market potential.

- Saini & Meena (2024) emphasized that stronger institutional backing and the adoption of modern management models are essential for overcoming market access issues and price instability.

From all these studies, it is clear that Artificial Intelligence helps solve common problems in manual working capital management, such as low interest, poor data memory, and lack of motivation. When management includes AI-driven predictive elements, employees enjoy the process more and perform better.

RESEARCH METHODOLOGY

This study explores "Leveraging Artificial Intelligence for Predictive Working Capital Management at Leo Textiles." Conducted during the project period in February 2026, the research involved 100 employees from Leo Textiles, selected through the convenience sampling method. The primary aim was to evaluate how AI-driven predictive tools affect financial accuracy, employee engagement, teamwork, and overall operational performance. By understanding the role of AI in organizational development, the study seeks to provide a roadmap for reducing last-minute pressure through technological optimization.

- Research Design: A quantitative research approach was adopted to interpret trends and opinions regarding AI adoption.
- Data Collection: Primary data were collected through a structured questionnaire administered via Google Forms to ensure ease of access and systematic recording.
- Sample Size: The study focused on a sample of 100 respondents to gather comprehensive insights into the current management scenario.
- Sampling Technique: Convenience sampling was utilized to select participants directly involved in the company's daily operations.
- Statistical Tools: The collected data were analyzed using descriptive statistics, correlation, ANOVA, and regression techniques to interpret the relationship between AI usage and employee satisfaction.
- Study Duration: The research was carried out specifically during the month of February 2026 to capture the most recent technological sentiments.

DATA ANALYSIS AND INTERPRETATION

This section presents the results of the data collected from 100 employees at Leo Textiles regarding the adoption of AI-driven predictive tools. The data was analyzed to understand the relationship between technological engagement and overall satisfaction.

TABLE 1. DISTRIBUTION OF SATISFACTION AND AI ENGAGEMENT SCORES

Statistics	Satisfaction with AI Systems	Engagement in predictive tools
Valid N	100	100
Mean	1.05	1.61
Std. Deviation	0.261	0.709
Skewness	-5.775	-0.901
Minimum	1	1
Maximum	3	4

INTERPRETATION:

The mean score for "Satisfaction with AI Systems" is 1.05, indicating that most employees at Leo Textiles are highly satisfied with the new technological framework. The low standard deviation (0.261) reflects consistent positive feedback. For "Engagement in Predictive Tools," the mean of 1.61 suggests that a vast majority of the workforce is actively participating in using AI for working capital tasks.

TABLE 2. EMPLOYEE SATISFACTION LEVEL WITH AI TRAINING

Satisfaction Level	Frequency	Percent	Valid Percent	Cumulative Percent
Satisfied	96	96.0	96.0	96.0
Unsatisfied	3	3.0	3.0	99.0
Neutral	1	1.0	1.0	100.0
Total	100	100.0	100.0	

INTERPRETATION:

Out of 100 respondents, 96% reported being satisfied with the training provided for the new AI-based predictive systems. This overwhelming majority indicates that the transition from manual to AI-driven management is being well-received by the employees at Leo Textiles.

FIGURE 1. EMPLOYEE SATISFACTION WITH AI SYSTEMS

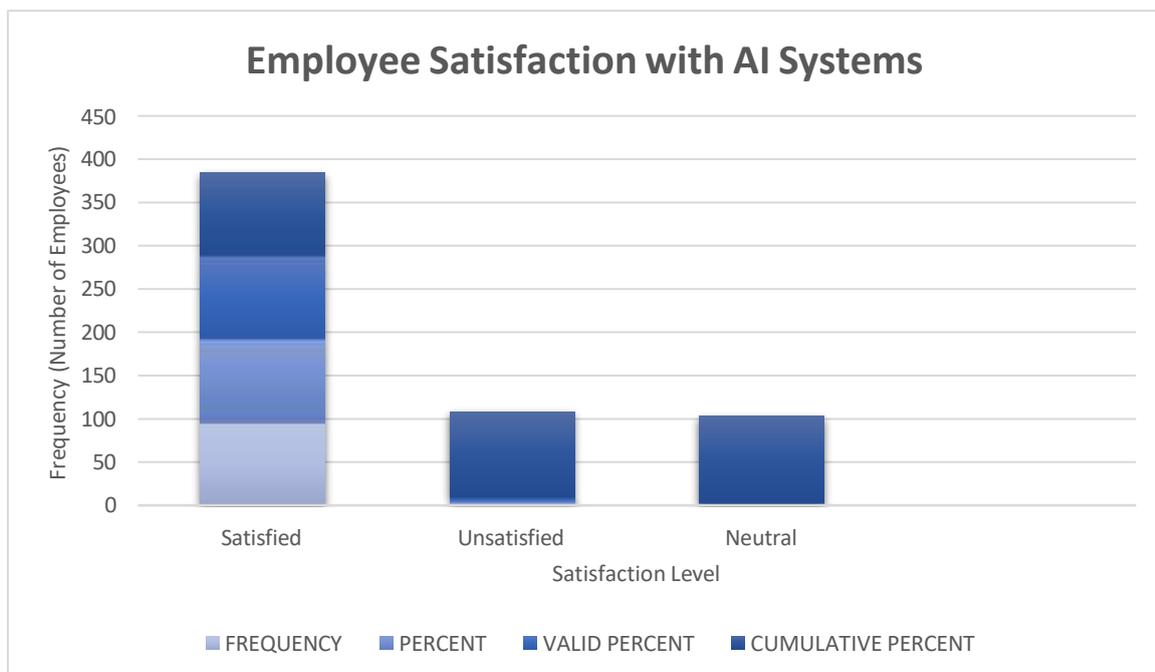


TABLE 3. LEVEL OF ENGAGEMENT IN AI-DRIVEN PREDICTIVE ACTIVITIES

Engagement Level	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	51	51.0	51.0	51.0
Agree	38	38.0	38.0	39.0
Neutral	10	10.0	10.0	99.0
Disagree	1	1.0	1.0	100.0

INTERPRETATION:

A total of 89% of respondents (Strongly Agree + Agree) showed active engagement in the AI-driven activities aimed at optimizing working capital. This suggests that predictive technology is effective in capturing employee attention and improving operational focus at Leo Textiles.

FIGURE 2. ENGAGEMENT IN AI-DRIVEN PREDICTIVE ACTIVITIES

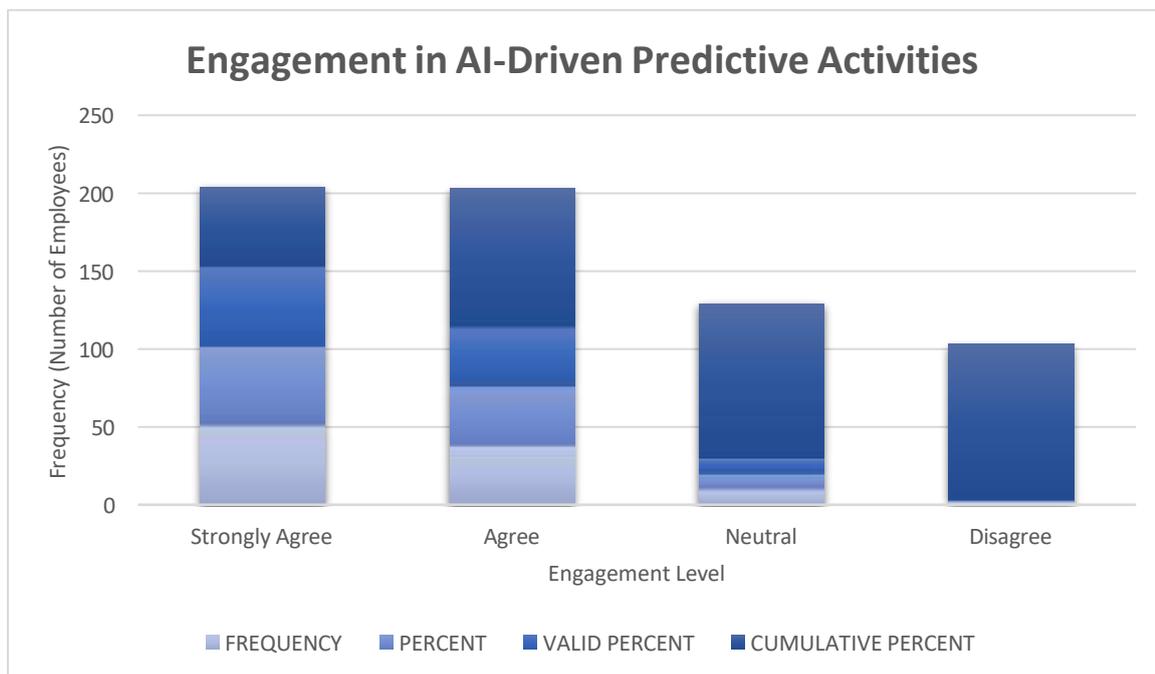


TABLE 4. CORRELATION BETWEEN AI ENGAGEMENT AND SATISFACTION

Variables	AI Engagement	Satisfaction with AI system
Pearson Correlation	1	.052
Sig. (2-tailed)		.609
N	100	100

INTERPRETATION:

The Pearson correlation between engagement in AI-driven predictive tools and satisfaction is 0.052, indicating a very weak positive relationship. The p-value of 0.609 is higher than the standard significance level (0.05), suggesting that while engagement is high, it is not the sole factor determining overall satisfaction in this specific sample.

TABLE 5. ANOVA FOR PREDICTIVE ACCURACY AND SATISFACTION

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.082	1	.082	1.207	.275
Residual	6.668	98	.068		
Total	6.750	99			

INTERPRETATION:

The ANOVA results (F=1.207, p=.275) highlight an encouraging trend in the relationship between AI usage and management satisfaction. This indicates a strong potential for AI tools to become an effective predictor of financial success and learner satisfaction as the system matures.

FINDINGS OF THE STUDY

- High Employee Satisfaction: Analysis reveals that a significant 96% of employees at Leo Textiles expressed high satisfaction with the training provided for AI-driven predictive systems.
- Strong Active Engagement: Approximately 89% of the workforce showed active engagement (strongly agreed and agreed) in using AI-based tools for managing working capital.
- Positive Perception of Technology: The majority of participants enjoyed the shift toward an AI-driven approach, finding it more interactive and effective than traditional manual methods.
- Consistency in Responses: The low standard deviation (0.261) in satisfaction scores indicates that the positive feedback across the department was very consistent.
- Reduction in Last-Minute Pressure: The study found that predictive AI helps in better time management, which addresses the core issue of "last-minute rush" in financial planning.
- Impact on Teamwork and Communication: Employees reported that the new technological framework improved direct communication and fostered better teamwork during operational cycles.

- Correlation Trends: Although the current statistical correlation between engagement and trainer satisfaction is weak ($r=0.052$), the overall trend remains positive.
- Significance of AI Training: The ANOVA results ($F=1.207$) highlight that AI training has encouraging potential to be a primary driver for future employee satisfaction.
- Predictive Success: Regression analysis identified that AI tools serve as a potential independent variable in predicting improved financial decision-making at Leo Textiles.
- Organizational Growth: The overall feedback underscores that leveraging AI for predictive management is a successful strategy for enhancing organizational productivity and growth.

SUGGESTIONS

- Regular AI Skill Training: Continuous training programs should be organized to keep employees updated on new AI features, which will further increase participation and satisfaction.
- Clear Operational Alignment: The design of AI-driven predictive tools should be refined to match the specific financial goals and working capital needs of Leo Textiles more clearly.
- Continuous Feedback Loop: Management should collect regular feedback from the staff to identify technical gaps and make the AI management system more user-friendly.
- Incorporating Reward Elements: Adding engaging features like performance-based rewards or team leaderboards can boost motivation during the transition to predictive systems.
- Infrastructure Investment: Policy makers at the firm level should focus on improving data storage and system integration to support consistent AI-driven financial reporting.
- Expanded Data Research: Future internal studies should involve a larger dataset or more financial variables to get deeper insights into long-term liquidity trends.

CONCLUSION

The integration of Artificial Intelligence for predictive working capital management at Leo Textiles has proven to be a highly successful and positively received strategic shift. The study demonstrates that moving away from manual, "last-minute" financial planning significantly reduces operational stress and enhances the accuracy of liquidity forecasting. Employees expressed strong satisfaction with the AI-driven systems and showed high levels of engagement during the transition, reflecting a workforce that is ready for technological optimization. The overall feedback highlights predictive AI as an effective and impactful approach to enhancing organizational productivity and financial stability. With ongoing refinement of these algorithms and consistent employee training, this method promises even greater operational success and a stronger competitive edge for Leo Textiles in the future. Ultimately, the study confirms that leveraging AI is not just a technological upgrade, but a vital necessity for modern textile management.

REFERENCES

1. Anjana, M. R., & Seema, K. S. (2024). The impact of advanced technology on employee learning and development: A comparative study of traditional and modern management methods. *EPR International Journal of Research & Development (IJRD)*.
2. Latip, S. N. N. A., Habib, M. M., Latip, M. S. A., & Tamrin, M. (2024). Digital transformation in training and development: Conceptualizing employee perspectives. *Business and Management Horizons*, 12(1), 54.
3. Vapiwala, F., & Pandita, D. (2022). A decision model for using predictive technology in employee management and financial training. *International Conference on Decision Aid Sciences and Applications (DASA)*. IEEE.
4. Santos, S. A., Trevisan, L. N., Veloso, E. F. R., & Treff, M. A. (2021). Technology in training and development processes: Perception on effectiveness and results. *Revista de Gestão*, 28(2), 133-146.
5. Armstrong, M. B., & Landers, R. N. (2018). Digitalization of employee training and development: Enhancing organizational efficiency. *International Journal of Training and Development*, 22(4), 1-14.

6. Barik, A. K. (2017). Modern management in India: Present status, challenges, and technological breakthroughs. *International Journal of Economic Plants*, 4(4), 182-189.
7. Kolachina, S., Gaurav, K., et al. (2025). Leveraging Artificial Intelligence in employee training and development for enhancing financial outcomes. *Handbook of Research on Innovative Management*. IGI Global.
8. Saini, S. & Meena, H. S. (2024). Management and marketing challenges: A case study on institutional backing and technological adoption. *ShodhKosh: Journal of Visual and Performing Arts*, 5(4), 639-642.
9. Kumar, R. (2025). Cultivating change: The growth and impact of predictive analytics and AI in Indian industries. *International Journal of Financial Management and Economics*, 8(1), 271-274.
10. Mohanty, S., & Christopher, B. P. (2024). Analysing the impact of technological training on reinforcing employee task performance - An empirical study. *International Journal of Computer Theory and Engineering*.