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**EVALUATING THE ROLE OF AI IN PREDICTIVE
INCIDENT MANAGEMENT IN IT ORGANIZATIONS IN
SRI LANKA**

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Degree of Master of Business Administration in Information Technology

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DECLARATION OF THE CANDIDATE & SUPERVISOR

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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ABSTRACT

Evaluating the Role of AI In Predictive Incident Management in IT Organizations in Sri Lanka

The recent development of Artificial Intelligence (AI) has transformed Information Technology (IT) operations, particularly predictive incident management. This study explores the implementation of AI in predictive incident management systems in IT organizations in Sri Lanka. The traditional incident management systems are reactive by nature, fixing issues after they have happened, causing downtime and operational inefficiency. On the other hand, predictive incident management systems powered by AI utilize machine learning, data analytics, and anomaly detection to predict potential IT incidents in advance so that preemptive action can be taken. The research looks into the impact of AI adoption on machine learning, user satisfaction, and organizational trust in AI systems. The research adopts quantitative research design, gathering data from 340 IT professionals through a structured survey. Key determinants examined include AI awareness, data quality, system integration, training, and transparency of AI decision-making. The findings suggest that AI awareness and system integration are significant drivers of predictive incident management performance improvement, while organizational culture, data privacy, and transparency of AI decision-making are critical to trust development. Additionally, data quality issues, integration with current legacy systems, and resistance to AI adoption are emphasized. The study highlights the imperative need to surmount these hindrances for successful implementation of AI in predictive incident management. The research contributes to the current knowledge of AI application in emerging economies and provides actionable suggestions to Sri Lankan IT organizations that aim to improve their incident management systems.

Keywords: Artificial Intelligence, Information Technology operations, traditional incident management systems, operational inefficiency, machine learning

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LIST OF ABBREVIATIONS

Table 1. List of Abbreviations

Abbreviation	Full Form
AI	Artificial Intelligence
ANOVA	Analysis of Variance
R^2	Coefficient of Determination
p	P-value (probability value used in hypothesis testing)
Q	Question (in survey or questionnaire)
F	F-statistic (used in ANOVA test)
β	Beta coefficient (used in regression analysis)
r	Pearson Correlation Coefficient
IT	Information Technology
ML	Machine Learning
GDPR	General Data Protection Regulation
R&D	Research and Development
API	Application Programming Interface