APPLICATION OF QUEUING THOERY TO ENHANCE THE OPERATIONAL EFFICIENCY OF THE BANK

By

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108656E

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Declaration of the Candidate and Supervisor

The work submitted in this dissertation is the result of my own investigation, except where otherwise stated.

It has not already been accepted for any degree, and is also not been concurrently submitted for any submitted for any other degree

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DEDICATION

My parents, my brother and two sisters

&

My wife Sonali and my daughter Ranudi

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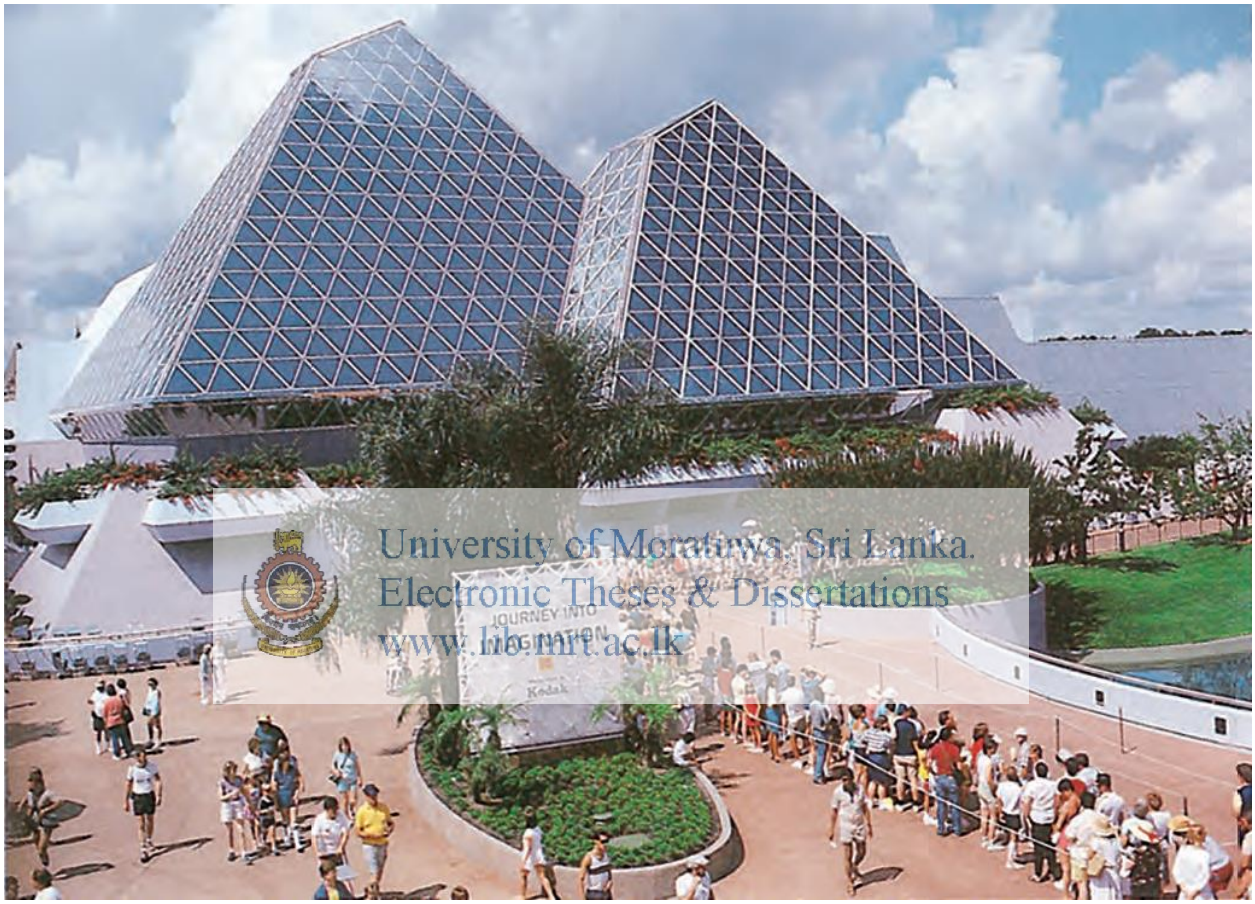
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ABSTRACT

This study reviews the applications of queuing theory to the field of banking queue management problems. This review proposes a system of classification of queues in the banking sectors, which examined with the assistance of queuing models. The areas described in the literature are the common problems encountered in the queue management strategies in the banking industry. The goal is to identify the best effective method to reduce customer-waiting time at the bank to the maximum possible standard while improving the efficiency of the bank.

Customer satisfaction is a concern to service industries as customers expect to get their service promptly. For a service industry like a bank, there is a need for efficient bank Teller scheduling system that takes into account recognizing various customers' expectations.

This study concentered on the single channel waiting line systems with poison arrivals and exponential service times in Bank of Ceylon, City office, Bank of Ceylon Kuliyapitiya and Bank of Ceylon Bingiriya.

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All above branches have separate queues for the separate counters. (Many lines)They use rule of thumb to open/close counters at the branches based on their experience.Consequent to our findings and calculations we have proved that having one line and many counters (One line) is effective than having many lines. Further, with respect to open/close of counters we have suggested queue probability tool. Queue probability is one of significant factor to determine to set up number of counters effectively.

Key words: Queuing Theory, Mathematical modeling, Bank, customers, inter arrival time, service time, queuing system, M/M/1/∞ Model, M/M/Z/∞ Model

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ABBREVIATIONS

Abbreviations	Description
ATM	Automated Teller Machine
PLC	Public Limited Company

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