

**A STATISTICAL ANALYSIS OF DETERMINANTS OF  
ROBBERIES IN WESTERN PROVINCE OF SRI  
LANKA.**

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Degree of Master of Science in Business Statistics

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**DECLARATION OF THE CANDIDATE AND 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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The above candidate has carried out research for the Masters Dissertation under my supervision.

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Senior Prof. T S G Peiris

Date:

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## **DEDICATION**

This dissertation is dedicated to my dearest family for the sacrifice they made for me.

## **ACKNOWLEDGEMENTS**

This research was completed with the assistance, ideas and encouragement from a lot of people. However, I would like to devote special thanks to people who extended their support in my humble acknowledgment.

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## ABSTRACT

The growth of the robbery rate in the post conflict phase has been a major problem for the wellbeing of Sri Lankan society. Recent past various kind of frequent methods are being used for the robberies. This study was therefore focused to identify the associations among four different methods of robberies: type of robbery (single vs group), time of the day (day vs night), status of weapon used (yes or no) and mode of travelling (foot vs vehicle). The required data on daily basis (2013-2017) from the Western and Southern provinces were collected from the Crime Intelligence Analyzing Bureau of Sri Lanka Police. The chi-square analysis found that the number of robberies in the two provinces are significantly associated ( $p < 0.05$ ) with type of robberies and the status of weapon used. The percentages of group robberies in southern province (73.9%) is significantly higher than that in western province (67.7%) irrespective of the type of robbers. The odds of group crimes in southern province is 1.35 times higher than that in western province. The odds of crimes without weapon in southern province (72%) is 1.21 times higher than that in western province (76%). It was also found that four methods of crimes are significantly associated pairwise. Irrespective of the province, the percentage of crimes during day time by single person (64%) is significantly higher than the percentage of crimes during day by a group (54%) and that when travelled by foot by a single person (62%) is significantly higher ( $p < 0.05$ ) than the travelled by foot with a group (36%). Furthermore, the percentage of crimes without weapon by a single person (83%) is significantly higher than percentage of crimes without weapon by a group (63%). A log linear model found that in addition to main effects and 2-way effects, only the 3-way interaction between time of day, status of weapons uses and type of robbery is significant ( $p < .05$ ) and the majority of the robberies occurred during day time without using weapon as a group. The inferences derived from this study can be used effectively to reduce the crimes in Sri Lanka, and in particularly day time crimes, without weapon by a single person. It is recommending to carry out similar analyses for other provinces too.

**Keywords:** crimes, log linear models, odd ratios, robberies

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