



De La Salle University – Dasmariñas

STATISTICAL MODEL FOR THE LENDING SCHEME OF LIVELIHOOD
AND ENTERPRISE DEVELOPMENT CENTER (LEDC)
IN DE LA SALLE UNIVERSITY - DASMARIÑAS

An Undergraduate Research Presented to
the Mathematics Department
College of Science
De La Salle University–Dasmariñas

In Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in
Applied Mathematics

Judea Ann A. Moralidad
Junico Allen T. Herrera

October 2010



ABSTRACT

This study entitled “Statistical Model for the Lending Scheme of livelihood and Enterprise Development Center (LEDC) in De La Salle University – Dasmariñas” aimed to develop a model that will assist LEDC in predicting whether a client’s payer status is good or bad.

The Logistic Regression is the statistical tool used in the study to predict the paying status of LEDC client using gender, marital status, age, educational attainment, family expense, family income, type of business, family size, length of loan, actual payment, and number of delays as the independent variables.

The findings revealed that gender (g), educational attainment (e), type of business (t), length of loan (l), and number of delays (n) were found to be significant to payer’s status; therefore, these variables are the factors that determine LEDC client payer’s status (z). Moreover, the model, the Logistic Regression, developed has an equation given by:

$$z = -1.145 + 0.931 g_1 + 1.665 e_1 + 1.491 e_3 + 1.358 t_5 + 1.36l_3 + 1.54l_4 - 1.708 n .$$

Based on the summary of findings highlighted, the following recommendations are suggested:

LEDC. LEDC should be more careful in approving loans for their clients to minimize the risk of losing. Thus, the researchers highly recommend the use of the model that has been developed using Logistic Regression because it can accurately distinguish good payers from bad payers. Moreover, LEDC may conduct intensive seminar to new clients particularly to



the possible payers determined by the model to minimize the number of bad payers. In addition, all the staffs of LEDC should also be knowledgeable about the model.

College of Business Administration. The researchers recommend inclusion of intensified microfinance and credit scoring in their curriculum for the CBA students to be well-versed with the new trend in lending particularly to the poor who cannot formally borrow from the banks.

Other Microfinance Institutions/ lending institutions. The researcher highly recommend the use of logistic regression to other Microfinance Institutions or lending institutions in creating a model that is appropriate to their company.

Other Researchers. The researchers recommend further investigation relevant to this study and look for other variables that can predict the payer' status.

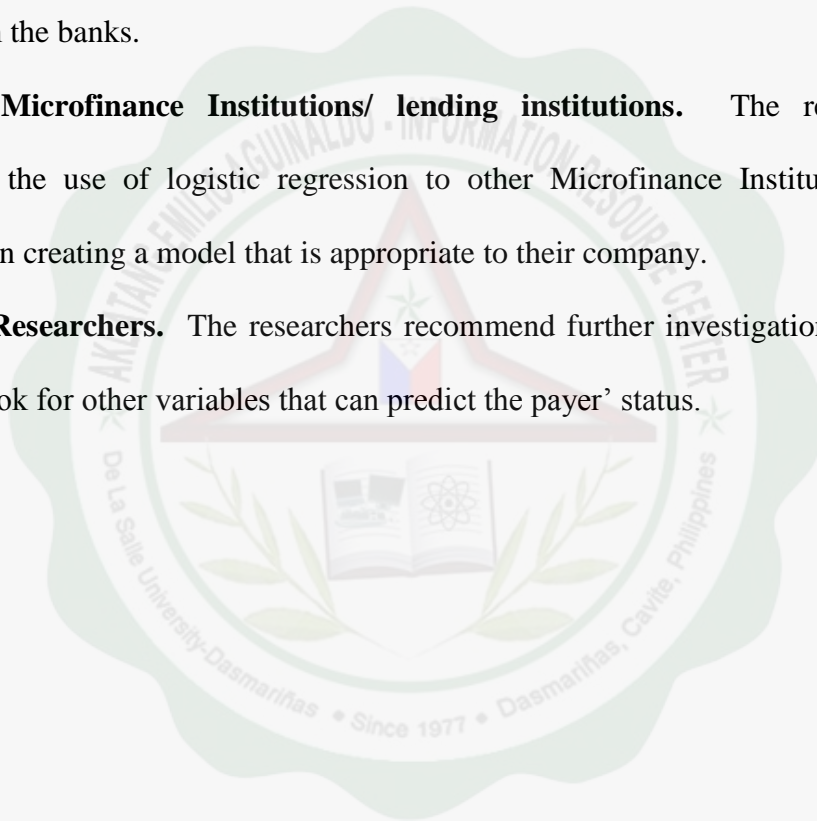




TABLE OF CONTENTS

	PAGE
TITLE PAGE	I
APPROVAL SHEET	Ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	v
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURE	xi
CHAPTER	
1 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Conceptual Framework	4
1.3 Statement of the Problem	6
1.4 Scope and Delimitation of the Study	6
1.5 Significance of the Study	6
1.6 Definition of Terms	7
2 REVIEW OF RELATED LITERATURE	9
2.1 Theoretical Literature	9
2.2 Conceptual Literature	11
2.3 Synthesis	14



	PAGE
3 METHODOLOGY	15
3.1 Research Method/Procedure	15
3.1.1 Collection of Data	15
3.1.2 Data Analysis	15
4 PRESENTATION, INTERPRETATION AND ANALYSIS OF DATA	17
4.1 Problem 1	17
4.2 Problem 2	29
5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	31
5.1 Summary of Findings	31
5.2 Conclusions	33
5.3 Recommendation	34
BIBLIOGRAPHY	35
APPENDIX	37
A Endorsement Letter	38
B Logistic Regression Result	39
C Summary of Data	40
CURRICULUM VITAE	41



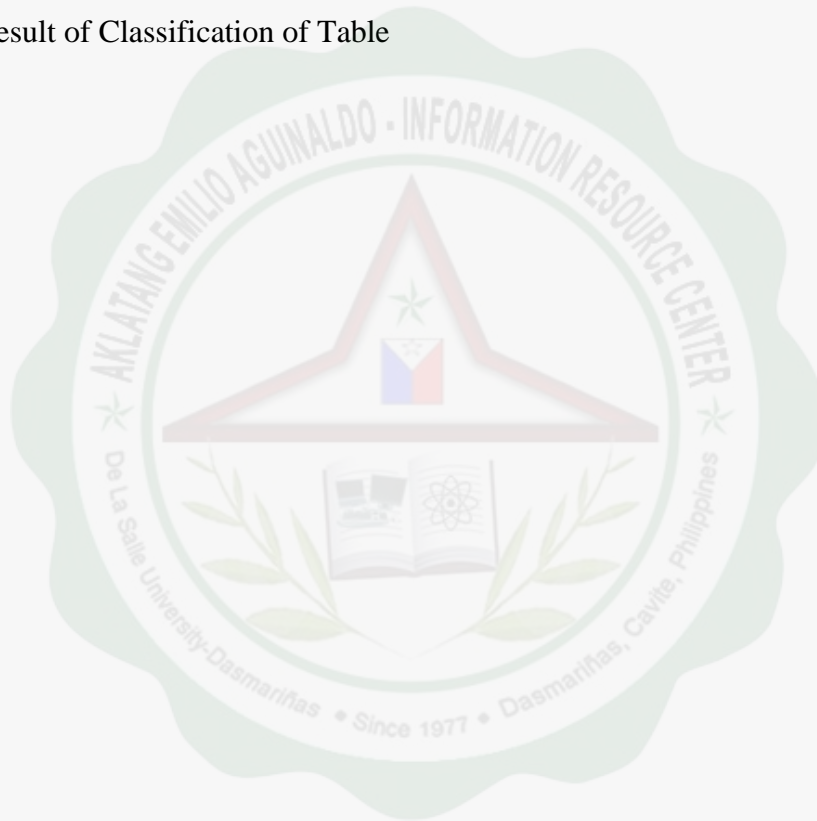
LIST OF TABLES

TABLE		PAGE
1.1	Distribution of Payer’s Status of LEDC client in terms of Gender	17
1.2	Distribution of Payer’s Status of LEDC client in terms of Age	18
1.3	Distribution of Payer’s Status of LEDC client in terms of Educational Attainment	19
1.4	Distribution of Payer’s Status of LEDC client in terms of Marital Status	20
1.5	Distribution of Payer’s Status of LEDC client in terms of Family Size	21
1.6	Distribution of Payer’s Status of LEDC client in terms of Family Income	22
1.7	Distribution of Payer’s Status of LEDC client in terms of Family Expense	23
1.8	Distribution of Payer’s Status of LEDC client in terms of Type of Business	24
1.9	Distribution of Payer’s Status of LEDC client in terms of Length of Loan (in days)	26
1.10	Distribution of Payer’s Status of LEDC client in terms of Actual Payment	27
1.11	Distribution of Payer’s Status of LEDC client in terms of Number of Delays	28
1.12	Summary of the Variables in the Equation Yielding Significant Result	29



LIST OF TABLES

TABLE		PAGE
1.13	Logistic Regression Analysis for Payer Status of LEDC Client Status	39
1.14	Model Summary	40
1.15	Result of Hosmer and Lemeshow Test	40
1.16	Result of Classification of Table	40





LIST OF FIGURE

FIGURES	PAGE
1.1 Paradigm of the Study	5

