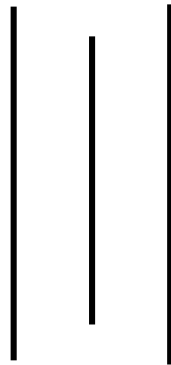


ELECTRONIC PAYMENT SYSTEM
(A Case Study on Electronic Card Section of
NABIL Bank Limited)

By
ARUN SHARMA
Shanker Dev Campus
Campus Roll No.: 2100/061
T.U. Regd. No.: 5-2-37-295-98
2nd Year Exam Symbol No.: 4912

A Thesis Submitted to:
Office of the Dean
Faculty of Management
Tribhuvan University



In partial fulfillment of the requirement for the degree of
Master of Business Studies (MBS)

Kathmandu, Nepal
April 2011

RECOMMENDATION

This is to certify that the thesis

Submitted by:

ARUN SHARMA

Entitled:

**ELECTRONIC PAYMENT SYSTEM
(A Case Study on Electronic Card Section of
NABIL Bank Limited)**

*has been prepared as approved by this Department in the prescribed format of
the Faculty of Management. This thesis is forwarded for examination.*

.....
Shree Bhadra Neupane
(Thesis Supervisor)

.....
Prof. Bishweshor Man Shrestha
(Head, Research Department)

.....
Prof. Dr. Kamal Deep Dhakal
(Campus Chief)

.....
Er. Shankar Nath Adhikari
(Thesis Supervisor)

VIVA-VOCE SHEET

We have conducted the viva –voce of the thesis presented

by:

ARUN SHARMA

Entitled:

**ELECTRONIC PAYMENT SYSTEM
(A Case Study on Electronic Card Section of
NABIL Bank Limited)**

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the degree of

Master of Business Studies (MBS)

Viva-Voce Committee

Head, Research Department

Member (Thesis Supervisor)

Member (Thesis Supervisor)

Member (External Expert)

DECLARATION

I hereby declare that the work reported in this thesis entitled “**Electronic Payment System (A Case Study on Electronic Card Section of NABIL Bank Limited)**” submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of **Shree Bhadra Neupane** and **Er. Shankar Nath Adhikari** of Shanker Dev Campus, T.U.

.....

Arun Sharma

Shanker Dev Campus

Campus Roll No.: 2100/061

T.U. Regd. No.: 5-2-37-295-98

2nd Year Exam Symbol No.: 4912

ACKNOWLEDGEMENT

I am extremely grateful to my thesis supervisors of Shanker Dev Campus **Shree Bhadra Neupane**, and **Er. Shankar Nath Adhikari**. I would like to express my gratitude for their invaluable suggestions, time, and effort paid to me for the completion of this thesis.

I am also indebted to **Mr. Pratul Bhatta** (Junior Officer of Card Division of Nabil Bank) for his kind help in my research work. I would also like to thank **Mr. Niraj Sharma** (Manager, Card Division of Nabil Bank.), my colleague **Mr. Arjun Pokharel** for his kind support and inspiration in preparing this thesis. Further, I am also thankful to all the teachers and staffs of Shanker Dev Campus for their praiseworthy help.

Last but not the least I would like to thank my family members for their constant encouragement and co-operation in my academic pursuit.

Please kindly accept my apology for any occurrence of errors in my research work.

Arun Sharma

ABBREVIATIONS

ABBS	Any Branch Banking Services
ABM	Automatic Banking Machine
AIS	Accounting Information System
AMEX	American Express
ATM	Automated Teller Machine
ATS	Alpine Travel Service
BIN	Bank Identification Number
BIOS	Basic Input Output System
BOD	Board of Director
CBIS	Computer Based Information System
CEO	Chief Executive Officer
CIA	Confidentiality, Integrity, and Availability
CPU	Central Processing Unit
CRISP	Customer Focused Result Oriented Innovative Synergetic Professional
CVC	Card Verification Code
DBS	Database System
DFD	Data Flow Diagram
DOS	Disk Operating System
DSS	Decision Support System
ECS	Electronic Clearing Services
EDC	Electronic Data Capture
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfer
EFTPOS	Electronic Funds Transfer at Point of Sale
EPS	Electronic Payment System
ERD	Entity Relationship Diagram
FSTC	Financial Service Technology Consortium
GDP	Gross Domestic Products
GNP	Gross National Product
HBL	Himalayan Bank Limited
HTML	Hypertext Markup Language

IBM	International Business Machines
IC	Integrated Circuit
ICT	Information and Communication Technology
IME	International Money Express
IRS	Information Retrieval System
ISDN	Integrated Services Digital Network
ISO	International Organization for Standardization
IT	Information Technology
LAN	Local Area Network
MIS	Management Information System
MTCN	Money Transfer Control Number
MTO	Money Transfer Operators
NAC	Network Access Controller
NIBL	Nepal Investment Bank Limited
OLE	Object Linking and Embedding
PDA	Personal Digital Assistant
PIN	Personal Identification Number
POS	Point of sale
RDBMS	Relational Database Management System
SCBL	Standard Chartered Bank Limited
SCT	Smart Choice Technology
SME	Small and Medium Size Enterprises
SMS	Short Messaging Service
SSL	Secured Socket Layer
SWIFT	Social Welfare Interbank Fund Transfer
SWIFT	Society for Worldwide Interbank Financial Telecommunication
SWOT	Strength, Weakness, Opportunity and Threats
T&E	Travel and Entertainment
TSA	Technical Service Agreement
TU	Tribhuvan University
URL	Uniform Resource Locator
VSAT	Very Small Aperture Terminal
WAN	Wide Area Network

TABLE OF CONTENTS

Recommendation
Viva-Voce Sheet
Declaration
Acknowledgement
Table of Contents
List of Figures
List of Tables
Abbreviations

Page No.

CHAPTER I

INTRODUCTION

1.1	Background	Error! Bookmark not defined.
1.1.1	MIS	Error! Bookmark not defined.
1.1.2	Relation between MIS and Bank	Error! Bookmark not defined.
1.1.3	Profile of NABIL Bank Limited	Error! Bookmark not defined.
1.1.4	Electronic Payment System (A Case Study on Electronic Card Section of Nabil Bank Limited)	Error! Bookmark not defined.
1.2	Focus of the Study	Error! Bookmark not defined.
1.3	Statement of Problem	Error! Bookmark not defined.
1.4	Objective of the Study	Error! Bookmark not defined.
1.5	Rationale of the Study	Error! Bookmark not defined.
1.6	Limitation of Study	Error! Bookmark not defined.
1.7	Organization of the Study	Error! Bookmark not defined.

CHAPTER II

REVIEW OF LITERATURE

2.1	Conceptual Framework	Error! Bookmark not defined.
2.1.1	Commercial Banks in Nepal	Error! Bookmark not defined.
2.1.2	Management Information System	Error! Bookmark not defined.
2.1.3	Management	Error! Bookmark not defined.
2.1.4	Information	Error! Bookmark not defined.
2.1.5	Information System	Error! Bookmark not defined.

2.1.6	Information System Security	Error! Bookmark not defined.
2.1.7	System	Error! Bookmark not defined.
2.1.8	Computer Based Information System (CBIS)	Error! Bookmark not defined.
2.1.9	Decision Making and MIS	Error! Bookmark not defined.
2.1.10	Role of MIS	Error! Bookmark not defined.
2.1.11	Objectives of MIS	Error! Bookmark not defined.
2.1.12	Limitation of MIS	Error! Bookmark not defined.
2.1.13	Electronic Payment System	Error! Bookmark not defined.
2.1.14	Concept and Size of Electronic Payment	Error! Bookmark not defined.
2.1.15	Conventional vs. Electronic Payment System	Error! Bookmark not defined.
2.1.16	Process of Electronic Payment System	Error! Bookmark not defined.
2.1.17	Types of Electronic Payment Systems	Error! Bookmark not defined.
2.1.18	Online Credit Card Payment System	Error! Bookmark not defined.
2.1.19	Smart Cards Based Electronic Payment System	Error! Bookmark not defined.
2.1.20	Usage of Electronic Payment Systems	Error! Bookmark not defined.
2.1.21	Critical Success Factors of Electronic Payment System	Error! Bookmark not defined.
2.1.22	Comparison of Electronic Payment Systems	Error! Bookmark not defined.
2.1.23	Credit Card	Error! Bookmark not defined.
2.1.24	Types of Credit Card	Error! Bookmark not defined.
2.1.25	Historical Background of Credit Cards in Nepal	Error! Bookmark not defined.
2.1.26	Advantages and Disadvantages of Credit Cards	Error! Bookmark not defined.
2.1.27	Debit Card	Error! Bookmark not defined.
2.1.28	Types of Debit Card	Error! Bookmark not defined.
2.1.29	Advantages and Disadvantages of Debit Cards	Error! Bookmark not defined.
2.1.30	Charge Cards	Error! Bookmark not defined.
2.1.31	Chip / Smart Cards	Error! Bookmark not defined.
2.1.32	Premium Cards	Error! Bookmark not defined.
2.1.33	VISA	Error! Bookmark not defined.
2.1.34	Master Card	Error! Bookmark not defined.
2.1.35	Parties Involved in Card Business	Error! Bookmark not defined.
2.1.36	ATM and Its Hardware	Error! Bookmark not defined.
2.1.37	Interbank Network	Error! Bookmark not defined.
2.1.38	SCT ATM Network	Error! Bookmark not defined.
2.1.39	Point of Sale (POS)	Error! Bookmark not defined.

2.1.40	Remittance	Error! Bookmark not defined.
2.1.42	SWIFT	Error! Bookmark not defined.
2.1.43	E-banking	Error! Bookmark not defined.
2.2	Review of Journals and Articles	Error! Bookmark not defined.
2.3	Review of Thesis	Error! Bookmark not defined.
2.4	Research Gap	Error! Bookmark not defined.

CHAPTER III

RESEARCH METHODOLOGY

3.1	Research Design	Error! Bookmark not defined.
3.1.1	Population and Sample	Error! Bookmark not defined.
3.2	Sources of Data	Error! Bookmark not defined.
3.2.1	Primary Data	Error! Bookmark not defined.
3.2.2	Secondary Data	Error! Bookmark not defined.
3.3	Data Collection Procedure	Error! Bookmark not defined.
3.4	Analytical Tools and Technology	Error! Bookmark not defined.
3.5	Research Software Tools Used	Error! Bookmark not defined.
3.6	Data Analysis Tools and Techniques	Error! Bookmark not defined.
3.6.1	Data Flow Diagram (DFD)	Error! Bookmark not defined.
3.6.2	Entity Relationship Diagram (ERD)	Error! Bookmark not defined.

CHAPTER IV

SYSTEM ANALYSIS AND DATA PRESENTATION

4.1	Organization and System Analysis	Error! Bookmark not defined.
4.1.1	Management Team	Error! Bookmark not defined.
4.2	System Study	Error! Bookmark not defined.
4.2.1	Cards Products of Nabil	Error! Bookmark not defined.
4.2.2	ATM Services of Nabil Bank	Error! Bookmark not defined.
4.2.3	Overview on Card Fees and Charges	Error! Bookmark not defined.
4.2.4	Remittance Service by Nabil Bank	Error! Bookmark not defined.
4.2.5	Internet Banking by Nabil Bank	Error! Bookmark not defined.
4.2.6	NABIL M-Pay	Error! Bookmark not defined.
4.2.7	Other Services by Nabil Bank	Error! Bookmark not defined.
4.3	Analysis of Existing System	Error! Bookmark not defined.

4.3.1	Card Processing System	Error! Bookmark not defined.
4.3.2	DFD of ATM	Error! Bookmark not defined.
4.3.3	Data Dictionary	Error! Bookmark not defined.
4.3.4	ERD of Bank and Card Division	Error! Bookmark not defined.
4.3.5	Data Security	Error! Bookmark not defined.
4.3.6	Role of Existing System	Error! Bookmark not defined.
4.3.7	Hierarchical Chart of Card Division	Error! Bookmark not defined.
4.4	DFD of Existing System	Error! Bookmark not defined.
4.4.1	Context Level Diagram of Existing System	Error! Bookmark not defined.
4.5	Networking Structure of Nabil Bank	Error! Bookmark not defined.
4.5.1	Branches and ATM Locations of Nabil Bank	Error! Bookmark not defined.
4.5.2	SCT ATM Network	Error! Bookmark not defined.
4.5.3	Global Connection	Error! Bookmark not defined.
4.5.4	International Network	Error! Bookmark not defined.
4.6	Limitation of Existing System	Error! Bookmark not defined.
4.7	Analysis of Primary Data	Error! Bookmark not defined.
4.7.1	Public Opinion Survey Data Analysis	Error! Bookmark not defined.
4.7.2	Staff Opinion Survey Data Analysis	Error! Bookmark not defined.
4.8	Immediate Finding of Current System	Error! Bookmark not defined.
4.9	Justify Your Statement	Error! Bookmark not defined.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1	Summary	Error! Bookmark not defined.
5.2	Conclusion	Error! Bookmark not defined.
5.3	Recommendations	Error! Bookmark not defined.

BIBLIOGRAPHY

APPENDICES

LIST OF TABLES

Table No.	Title	Page No.
Table: 2.1	Organization and Information Concepts	Error! Bookmark not defined.
Table: 2.2	E-Commerce Payments in India	Error! Bookmark not defined.
Table: 2.3	Factors Discouraging Consumer for Online Payments	Error! Bookmark not defined.
Table: 2.4	Players of Credit Cards in Nepal	Error! Bookmark not defined.
Table: 3.1	DFD Object Symbols and Description	Error! Bookmark not defined.
Table: 3.2	ERD Object Symbols and Description	Error! Bookmark not defined.
Table: 4.1	Gender of ATM Card Holders	Error! Bookmark not defined.
Table: 4.2	Age Distribution of Customers	Error! Bookmark not defined.
Table: 4.3	Education Level of Customers	Error! Bookmark not defined.
Table: 4.4	Income Level of Card Holders	Error! Bookmark not defined.
Table: 4.5	Occupation of Card Holders	Error! Bookmark not defined.
Table: 4.6	Influencing Factor of Card Holders	Error! Bookmark not defined.
Table: 4.7	Preference of ATM Card Holders	Error! Bookmark not defined.
Table: 4.8	Types of Cards	Error! Bookmark not defined.
Table: 4.9	Frequency of Usage of Cards by the Respondents	Error! Bookmark not defined.
Table: 4.10	Place / Purpose of Usage of Card	Error! Bookmark not defined.
Table: 4.11	Levels of Satisfaction of Card	Error! Bookmark not defined.
Table: 4.12	Relevancy of Card Facility by Bank	Error! Bookmark not defined.
Table: 4.13	Time Taken by Card Holders to Withdraw Money at ATM	Error! Bookmark not defined.
Table: 4.14	Time Taken for Solving Complaints for ATM Card Holders	Error! Bookmark not defined.
Table: 4.15	Satisfaction in Limit Made by Bank	Error! Bookmark not defined.
Table: 4.16	Supplementary Card Possessed	Error! Bookmark not defined.
Table: 4.17	Reason to Use the Card of Other Banks	Error! Bookmark not defined.
Table: 4.18	Problems Faced by Card Holders in the Areas of ATM Functioning	Error! Bookmark not defined.
Table: 4.19	Expenses through Card	Error! Bookmark not defined.
Table: 4.20	Knowledge of Card Frauds	Error! Bookmark not defined.
Table: 4.21	No of Staff of Taken Sample at Durbarmarg Branch	Error! Bookmark not defined.

Table: 4.22	Level of Satisfaction with Various Aspects of the Card	
	Section & ATMs	Error! Bookmark not defined.
Table: 4.23	Access to Electronic Cards	Error! Bookmark not defined.
Table: 4.24	Effective Use of Card in Transaction Process	Error! Bookmark not defined.
Table: 4.25	Complain from the Card User	Error! Bookmark not defined.
Table: 4.26	Knowledge and Use of the Features of Nabil ATM	Error! Bookmark not defined.
Table: 4.27	Percentage Lowered in the Flow of Customer at the	
	Bank to Withdraw Cash	Error! Bookmark not defined.
Table: 4.28	Uncomfortable Features/Issues of Nabil ATM	Error! Bookmark not defined.
Table: 4.29	Question about Electronic Banking from the Customer	Error! Bookmark not defined.
Table: 4.30	Recommendation	Error! Bookmark not defined.

LIST OF FIGURES

Figure No.	Title Figure	Page No.
Figure: 2.1	MIS and its Components	Error! Bookmark not defined.
Figure: 2.2	Levels of Management	Error! Bookmark not defined.
Figure: 2.3	Information System	Error! Bookmark not defined.
Figure: 2.4	Information Classification	Error! Bookmark not defined.
Figure: 2.5	Information System Components	Error! Bookmark not defined.
Figure: 2.6	Typical Figure of Information System	Error! Bookmark not defined.
Figure: 2.7	Model of System	Error! Bookmark not defined.
Figure: 2.8	Conventional/Traditional Payment System	Error! Bookmark not defined.
Figure: 2.9	Electronic Payment System	Error! Bookmark not defined.
Figure: 2.10	Smart Card Image	Error! Bookmark not defined.
Figure: 2.11	A Block Diagram of an ATM	Error! Bookmark not defined.
Figure: 4.1	Organization Structure of Nabil Bank	Error! Bookmark not defined.
Figure: 4.2	Card Application Collection Procedure	Error! Bookmark not defined.
Figure: 4.3	Login Window of Internet Banking of Nabil Bank	Error! Bookmark not defined.
Figure: 4.4	Login Window of Finacle	Error! Bookmark not defined.
Figure: 4.5	Outlook of the Finacle	Error! Bookmark not defined.
Figure: 4.6	On-US Environment through Credit Card	Error! Bookmark not defined.
Figure: 4.7	On-US Environment through Debit Card	Error! Bookmark not defined.
Figure: 4.8	Payment Settlement of Off-US Transaction System	Error! Bookmark not defined.
Figure: 4.9	Payment Settlement of On-US Transaction System	Error! Bookmark not defined.
Figure: 4.10	Information Flows for an ATM Transaction	Error! Bookmark not defined.
Figure: 4.11	Information Flows for a Credit Card Transaction	Error! Bookmark not defined.
Figure: 4.12	Information Flows for a Debit Card Transaction	Error! Bookmark not defined.
Figure: 4.13	Context Diagram of ATM	Error! Bookmark not defined.
Figure: 4.14	DFD Level 1 of ATM System	Error! Bookmark not defined.
Figure: 4.15	Entity Relationship Diagram of Banking Transaction	Error! Bookmark not defined.
Figure: 4.16	Organization Structure of Card Division of Nabil Bank	Error! Bookmark not defined.
Figure: 4.17	DFD of ATM Work Flow	Error! Bookmark not defined.
Figure: 4.18	Context Level Diagram of Transaction Processing System	Error! Bookmark not defined.

Figure: 4.19	System Level DFD of Transaction Processing System	Error! Bookmark not defined.
Figure: 4.20	Context Level Diagram of Transaction Processing System (Clearance)	Error! Bookmark not defined.
Figure: 4.21	System Level DFD of Clearance System (Base II)	Error! Bookmark not defined.
Figure: 4.22	Gender of ATM Card Holders	Error! Bookmark not defined.
Figure: 4.23	Age Distribution of Customers	Error! Bookmark not defined.
Figure: 4.24	Education Level of Customers	Error! Bookmark not defined.
Figure: 4.25	Income Level of Card Holders	Error! Bookmark not defined.
Figure: 4.26	Occupation of Card Holders	Error! Bookmark not defined.
Figure: 4.27	Influencing Factor of Card Holders	Error! Bookmark not defined.
Figure: 4.28	Preference of ATM Card Holders	Error! Bookmark not defined.
Figure: 4.29	Types of Cards	Error! Bookmark not defined.
Figure: 4.30	Frequency of Usage of Cards by the Respondents	Error! Bookmark not defined.
Figure: 4.31	Place / Purpose of Usage of Card	Error! Bookmark not defined.
Figure: 4.32	Levels of Satisfaction of Card	Error! Bookmark not defined.
Figure: 4.33	Relevancy of Card Facility by Bank	Error! Bookmark not defined.
Figure: 4.34	Time Taken by Card Holders to Withdraw Money at ATM	Error! Bookmark not defined.
Figure: 4.35	Time Taken for Solving Complaints for ATM Card Holders	Error! Bookmark not defined.
Figure: 4.36	Satisfaction in Limit Made by Bank	Error! Bookmark not defined.
Figure: 4.37	Supplementary Card Possessed	Error! Bookmark not defined.
Figure: 4.38	Reason to Use the Card of Other Banks	Error! Bookmark not defined.
Figure: 4.39	Problems Faced by Card Holders in the Areas of ATM Functioning	Error! Bookmark not defined.
Figure: 4.40	Expenses through Card	Error! Bookmark not defined.
Figure: 4.41	Knowledge of Card Frauds	Error! Bookmark not defined.
Figure: 4.42	Level of Satisfaction with Various Aspects of the Card Section & ATMs	Error! Bookmark not defined.
Figure: 4.43	Access to Electronic Cards	Error! Bookmark not defined.
Figure: 4.44	Effective Use of Card in Transaction Process	Error! Bookmark not defined.
Figure: 4.45	Complain from the Card User	Error! Bookmark not defined.
Figure: 4.46	Knowledge and Use of the Entire Features of Nabil ATM	Error! Bookmark not defined.

Figure: 4.47 Percentage Lowered in the Flow of Customer at the Bank to Withdraw Cash **Error! Bookmark not defined.**

Figure: 4.48 Uncomfortable Features/Issues of Nabil ATM **Error! Bookmark not defined.**

Figure: 4.49 Question About Electronic Banking from the Customer **Error! Bookmark not defined.**

