

**IMPACT OF DIGITAL BANKING
ON BANKS' PROFITABILITY: STUDY ON
SRI LANKAN BANKING INDUSTRY**

L V M N Arseculeratne

(158850N)

Degree of Master of Science

Department of Mathematics

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DECLARATION

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.

Name of the supervisor: Mr. T. M. J. A. Cooray

Signature of the supervisor:

Date:

ABSTRACT

Information Technology is widely used in development and outspreading of banking options. Banking sector is more into digital banking in the current world. A number of studies are carried out on digital banking worldwide. In Sri Lankan context, a quantitative analysis on the bank performance and digital banking aspects was not found. This study attempts to fill this gap by analyzing quarterly data from year 2010 to 2018. Data were obtained from Payment and Settlement Department of Central Bank of Sri Lanka and Central Bank Web site. Bank performance is identified by the return on assets (ROA) before tax. From number of digital banking aspects, the variables used in this study are, number of internet banking transactions, number of point-of-sale (POS) machine transactions and number of mobile banking transactions (MOBT). Time effectiveness and the cost effectiveness of digital banking is discussed in the study. Augmented Dickey Fuller Test was used to check the stationarity of the variables. Since the stationarity test revealed that all the four variables become stationary at the 1st difference, cointegration of the variables were drawn through Johansen Cointegration Test. Trace test indicated four cointegration equations and Max-Eigen Statistic test indicated only one cointegration equation at the 5% level. Hence Vector Error Correction Model (VECM) was fitted to determine the long run equilibrium. Model showed that there exists a very stable long run association that, when the system is deviated from the equilibrium, it is corrected by 63.36% increase in the ROA per quarter. Impulse Response Function was employed to illustrate the importance of each digital banking aspect to banking sector profitability when a shock is imposed to the system. It is observed that the POS transactions affects profitability positively, while internet banking and mobile banking showed a negative impact on profitability. In the short run, internet banking and POS transactions showed an association with profitability. This study recommends that adequate consideration must be given to digital banking in policy implementation with regards to banking sector.

Key words: ROA, INTERNET, ATM, POS, MOBT, VECM

DEDICATION

*I dedicate this Thesis to
God Almighty for the gift of life
and my family
for their love, encouragement and understanding.*

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LIST OF ABRIVIATIONS

AIC	- Akaike Information Criterion
ATM	- Automatic Teller Machine
CBSL	- Central bank of Sri Lanka
CCT	- Call Centre Transactions
FATF	- The Financial Action Task Force
IRF	- Impulse Response Function
ICT	- Information and Communication Technology
LB	- Licensed Banks
LCB	- Licensed Commercial Banks
LSB	- Licensed Specialized Banks
MENAFATF	- Middle East & North Africa Financial Action Task Force
MOBT	- Mobile Banking Transactions
PBT	- Profit Before Tax
POS	- Point of Sale
PSD	- Payments and Settlements Department of CBSL
ROA	- Return on Assets
ROE	- Return on Equity
RTGS	- Real Time Gross Settlement System

SLIP - Sri Lanka Interbank Payment
VAR - Vector Auto Regression
VECM - Vector Error Correction Model