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**DEVELOPING SUSTAINABILITY INDEX OF MICROFINANCE
INSTITUTIONS IN PAKISTAN**

By

MUHAMMAD SAAD

**Thesis Submitted to
School of Economics, Finance and Banking
Universiti Utara Malaysia,
In Fulfillment of the Requirement for the Degree of Doctor of Philosophy**



Kolej Perniagaan
(College of Business)
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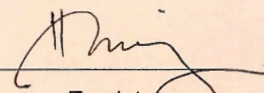
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ABSTRACT

Despite the importance of sustainable microfinance institutions (MFIs) in alleviating poverty, the measurement of sustainability is still under debate. This study aims to develop an index that measures the sustainability of MFIs in Pakistan based on a double bottom line approach. Principal Component Analysis (PCA) is employed to assign weights to individual indicators that are further used to compute the sustainability score of MFIs in Pakistan for the period 2006-2015. The weights assigned to individual indicators of financial self-sufficiency (FSS), operational self-sufficiency (OSS), average loan balance per borrower (ALPB) and a number of active borrowers (NAB) are 0.6643, 0.6607, -0.1905 and 0.2931 respectively. The positive values for weights indicate that any increase in FSS, OSS, and NAB will cause incremental sustainability scores of MFIs, whereas, an increase in ALPB will cause a reduction in sustainability scores of MFIs. The determinants of sustainability are also identified using Fixed Effect Regression. Results suggest that return on asset (ROA), return on equity (ROE), borrower per staff member (BPSM) and gross loan portfolio (GLP) have a significant effect on the sustainability of MFIs. Results found in the moderated model, using age and size as proxies of life cycle theory, further suggest that age significantly moderates the relationship between ROE, portfolio at risk greater than 30 days (PAR>30), BPSM, debt to equity ratio (DER), GLP and sustainability of MFIs. Moreover, size significantly moderates the relationship between ROA, BPSM, and sustainability of MFIs. A composite measure of sustainability developed in this study is helpful for managers to evaluate MFIs in pursuit of their efforts to achieve the double bottom line. Findings further suggest that over the life cycle of MFIs, managers need to mainly focus on ROA, ROE, and BPSM, along with PAR>30, DER and GLP to attain sustainability.

Keywords: microfinance, financial sustainability, double bottom line, life cycle, Pakistan

ABSTRAK

Di sebalik kepentingan institusi kewangan mikro (MFIs) yang mampan dalam mengurangkan kemiskinan, pengukuran kemampuan masih dalam perdebatan. Kajian ini bertujuan untuk membangunkan indeks yang mengukur kemampuan MFIs di Pakistan berdasarkan pendekatan garis bawah berganda. Analisis Komponen Utama (PCA) telah digunakan untuk memberi tumpuan kepada indikator individu dan selanjutnya digunakan untuk mengira skor kemampuan MFIs di Pakistan bagi tempoh 2006-2015. Pemberat yang diberikan terhadap kecukupan kewangan (FSS), kecekapan operasi (OSS), purata baki pinjaman per peminjam (ALPB) dan bilangan peminjam aktif (NAB) masing-masing adalah 0.6643, 0.6607, -0.1905 dan 0.2931. Nilai positif bagi pemberat menunjukkan bahawa sebarang kenaikan dalam FSS, OSS, dan NAB akan menyebabkan peningkatan skor kemampuan MFIs, manakala peningkatan dalam ALPB akan menyebabkan pengurangan skor kemampuan MFIs. Selain itu, penentu kemampuan dikenal pasti menggunakan Regresi Kesan Tetap. Keputusan menunjukkan bahawa pulangan atas aset (ROA), pulangan ke atas ekuiti (ROE), jumlah peminjam bagi setiap kakitangan (BPSM) dan portfolio pinjaman kasar (GLP) mempunyai kesan yang signifikan ke atas kemampuan MFIs. Dalam model perantara, dengan menggunakan umur dan saiz sebagai proksi teori kitaran hayat, keputusan lanjut menunjukkan bahawa usia secara signifikan menyederhanakan hubungan antara ROE, portfolio berisiko lebih daripada 30 hari ($PAR > 30$), BPSM, nisbah hutang terhadap ekuiti (DER), GLP dan kemampuan MFIs. Selain itu, saiz secara signifikan menyederhanakan hubungan antara ROA, BPSM dan kemampuan MFIs. Pengukuran komposit bagi kemampuan yang dibangunkan dalam kajian ini boleh membantu para pengurus untuk menilai MFIs dalam usaha mereka untuk mencapai garis bawah berganda. Dapatan seterusnya mencadangkan bahawa sepanjang kitaran hayat MFIs, pengurus perlu memberi tumpuan utama kepada ROA, ROE dan BPSM, bersama dengan $PAR > 30$, DER dan GLP untuk mencapai kemampuan.

Kata kunci: pembiayaan mikro, kemampuan kewangan, garis bawah berganda, kitaran hayat, Pakistan

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LIST OF ABBREVIATIONS

ALPB	Average Loan Balance per Borrower
BOO	Breadth of Outreach
BPSM	Borrowers per Staff Member
CGAP	Consultative Group to Assist Poor
DER	Debt to Equity Ratio
DOO	Depth of Outreach
FS	Financial Sustainability
FSS	Financial Self-sufficiency
GLP	Gross Loan Portfolio
LCT	Life Cycle Theory
MBB	Micro Banking Bulletin
MFIs	Microfinance Institutions
MIX	Microfinance Information Exchange
NAB	Number of Active Borrower
OER	Operating Expense Ratio
OSS	Operational Self-sufficiency
PAR>30	Portfolio at Risk Greater than 30 Days
PMN	Pakistan Microfinance Network
ROA	Return on Asset
ROE	Return on Equity
RSP	Rural Support Program
SDI	Subsidy Dependence Index
SI	Sustainability Index

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Microfinance institutions (MFIs) are the key credit providers to poor people, lacking collateral, in developing countries. These institutions provide facilities including credit, insurance and deposit accounts (Quayes, 2015; Tehulu, 2013). Thus, microfinance by empowering poor is a concept of poverty reduction (Manos & Yaron, 2009; Rahman & Luo, 2011).

Since the inception of civilization, humanity is facing and fighting against poverty. Poverty remains a reality in most developing countries and witnessing a lack of economic diversity, income inequality, and poor governance are among the root causes (Abdulai & Tewari, 2017). Also, poverty also arises due to the limited availability of finance to poor people (Tehulu, 2013). Access to finance could expand opportunities for all and stability in the financial system tends to promote efficient savings and investment that help an economy grow and reduce poverty gap (Beck *et al.*, 2008). According to the Consultative Group to Assist Poor (CGAP), poverty may be reduced if poor people are given financial facilities including loans, fund savings and transfer, and insurance (CGAP, 2004).

However, financing poor people has remained a major concern globally due to failures associated with formal credit markets (Hulme & Mosley, 1996), the high repayment risks and general lack of acceptable collateral. It has therefore contributed to excluding poor

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