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The Concept of Life Cycle and Sustainability of Microfinance Institutions – Literature Review

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Abstract

This article paper discusses how development stages (life cycle) and self-sustainability of microfinance institutions relates by reviewing different related literature. Growth stages of microfinance institution can be categorized in different standard measure. However some literature categorized growth stages of microfinance institutions as start-up stage, growing stage and mature stage. This study also presents indicators which may determine microfinance institution's sustainability in relation to growth stages of development of microfinance institutions.

Keywords: microfinance institutions, financial sustainability, development/ growth stages

1. Introduction

For the past three decades microfinance has been regarded as an innovative social approach and practical instrument to attain socio-economic improvement of well-being of low income households who are regarded as poor. Most of microfinance related studies have been focusing on outreach, impact and sustainability as well. The background and objective of microfinance institutions was based on the approach of reducing poverty in the societies. It was regarded as a social-friendly tool for improving standard of living of a given low income households who are regarded as poor by giving them incentives which would enable them to access suitable financial services for their environment then be able to invest in either small or micro entrepreneurial activities and finally create livelihood for themselves. However, the performance and sustainability of microfinance institutions has been a critical argument. Scholars, have been arguing on which approach should microfinance institutions adopt to attain self-sustainability since provision of microfinance services had been dominated by donor funded institutions since the notion that poor are not bankable was one of the constraints for many low income households to access financial services from financial banking system.

The concept of microfinance refers to; financial services tailored to low income households who are regarded as poor, a powerful tool for reducing poverty by enabling people to increase their incomes, save and manage risk. It provides small loans, often under $100, to the low-income households and very low-income households which enable them to earn additional income by investing in either small or micro-businesses (D'Espallier, Guérin, & Mersland, 2011; Dixon, Ritchie, & Siwale, 2007; Hulme & Mosley, 1996; Ledgerwood, 1998, 1999; Ledgerwood, Earne, & Nelson, 2013; WorldBank, 2005). Microfinance institutions provide either standardized small or micro financial services to underserved and low-income households who are been excluded from formal banking system. Microfinance institutions offer loans with technical assistance in business development to low-income community in developing countries and expected to be an effective development agent particularly in poverty reduction (OECD, 1996, 2005-2006).

Based on the context of microfinance institution, self-sustainability refers to an ability to keep on providing microfinance services to low income households who are regarded as poor while maintaining operational activities and financial obligation without assistance of subsidies or external support. Some of studies argued on which approach between either poverty lending approach or financial system approach is appropriate for sustainable microfinance institutions. For instance, poverty lending approach is a subsidy dependent approach in which microfinance institutions provide financial services such as small and micro loans at a minimum cost with an assistance of financial support from donors while financial system approach sustains operational activities by providing microfinance services to the clients without depending on subsidies (Chakrabarti, 2004; Kalpana, 2005; Kotir & Obeng-Odoom, 2009; Morduch & Rutherford, 2003; Sievers & Vandenberg, 2007; Thomas & Sriram, 2002).

One of the challenges for some of microfinance institutions which relied on poverty lending approach was to sustain their operational activities since for the past two decades donor support became less reliable. Therefore, many of microfinance institutions had to switch from poverty lending approach to an alternative approach that could sustain their operational activities without depending on subsides from donor support. Some of studies elaborate on the two opposing approaches in the microfinance movement, these are regarded as "*institutionist"* approach and the "*welfarist"* approach. The "*institutionist"* focus on creating financial institutions that cater to the needs of the poor/low-income clients while achieving financial self-sufficiency. "*Welfarist"* emphasize on depth of outreach, focus on improving the well-being of their clients and openly support subsidizing interest rates for the poor (G. Woller, 2000; Gary Woller, 2002; Gary Woller & Schreiner, 2002; G. M. Woller, Dunford, & Woodworth, 1999)

2. Methodology

The main objective of this paper is to present the concept of Life Cycle and Self-Sustainability of Microfinance Institutions by reviewing different literatures and related studies. The author identifies indicators which may determine microfinance institution's sustainability in relation to growth stages of development of microfinance institution which regarded as microfinance life cycle. Therefore this paper discusses how development/ growth stages (life cycle) relate with sustainability of microfinance institutions.

3. Life Cycle of Microfinance Institution

The growth stages (development) of microfinance institution can be categorized in different standard measure. Table above illustrates growth stages (development) of microfinance institutions where by (0 – 4) years is categorized as Start-Up Stage, (5 – 8) years as growing stage while (9-above) years implies mature stage (Robinson, 2001). This development stages of microfinance institutions also regarded as microfinance life cycle theory where by microfinance institutions may attain operational sustainability normally at stage II after passing stage I. Some of literatures suggests that financial sustainability of microfinance institution can be attained at III, maturity stage. There are also different arguments which indicate different concepts on actual time for microfinance institution to attain its self-sustainability. It is the fact that differences may probably be caused by other factors such as strategies and operational techniques which are employed by given microfinance institutions. For example Grameen Bank's branches took an average of 5 years to attain operational sustainability (Khandker, 1998, 2003; Ledgerwood, 1998; Ledgerwood et al., 2013) while ASA network's branches took an average of 8 months to attain sustainability (Armendáriz & Morduch, 2010; Kotir & Obeng-Odoom, 2009; Matin, Hulme, & Rutherford, 2002; Rutherford, 2004; Thomas & Sriram, 2002). (Johnson, 1998; Johnson & Rogaly, 1997) suggests that it may take 7 to 10 years for microfinance institution to attain sustainability while Von Pischke (2007) suggests that start-up stage may take 3 years or above. According to Consultative Group to Assist the Poor (CGAP, 2005), microfinance institution may take 5 to 10 years to attain operational sustainability (Barr, 2005; Lafourcade, Isern, Mwangi, & Brown, 2005; G. D. Nyamsogoro, 2010; Von Pischke, 2007).

Table 1: Microfinance Institution's development/growth stages

STAGES	NUMBER OF YEARS	STATUS OF STAGE
I	0-4	Start-Up Stage
II	5-8	Growing Stage
III	9-Above	Mature Stage

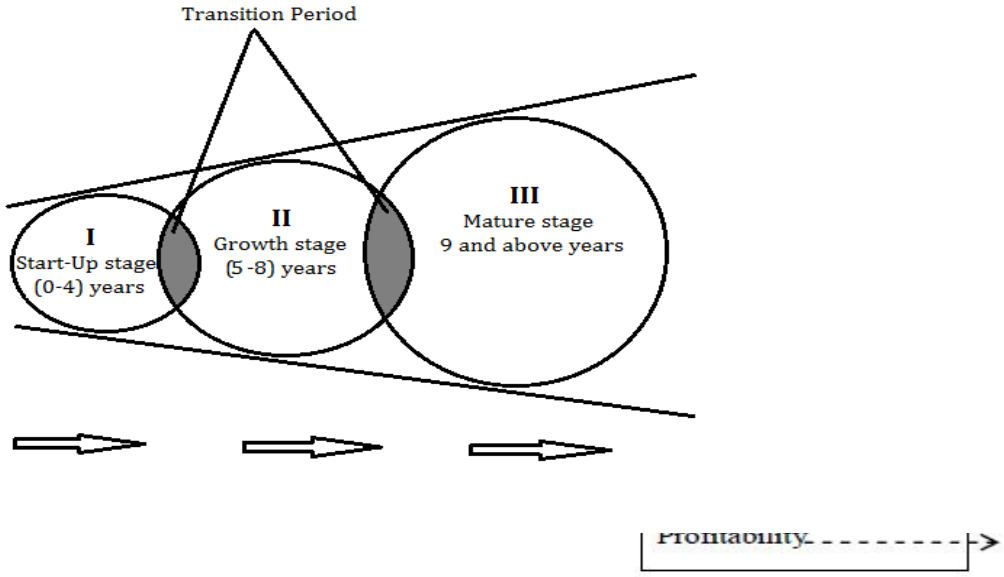

Figure 1: Life Cycle of Microfinance Institution

4. Life Cycle of Microfinance Institution and Performance

According to Canadian International Development Agency (CIDA, 1999), indicators that are relevant in earlier stages of development of microfinance institutions may continue to be relevant at subsequent stages. These indicators consider three stages of development of microfinance institutions in which measures of microfinance financial sustainability are adopted based on respective development/growth stages of a given microfinance institutions. The growth stages (development) of microfinance institution can be categorized in different standard measure. Some of studies suggests that microfinance institutions which are at start-up stage are normally rely on considerable appropriate performance indicators which are based on liquidity, portfolio quality of loan and earnings cover of operating costs. For the II stage, indicators are based on microfinance operation with a focus on productivity and financial performance. For maturity stage which is III stage, indicators are based on status in which microfinance institutions have on their financial self-sufficiency (Armendáriz de Aghion & Morduch, 2000; Matin et al., 2002; G. D. Nyamsogoro, 2010).

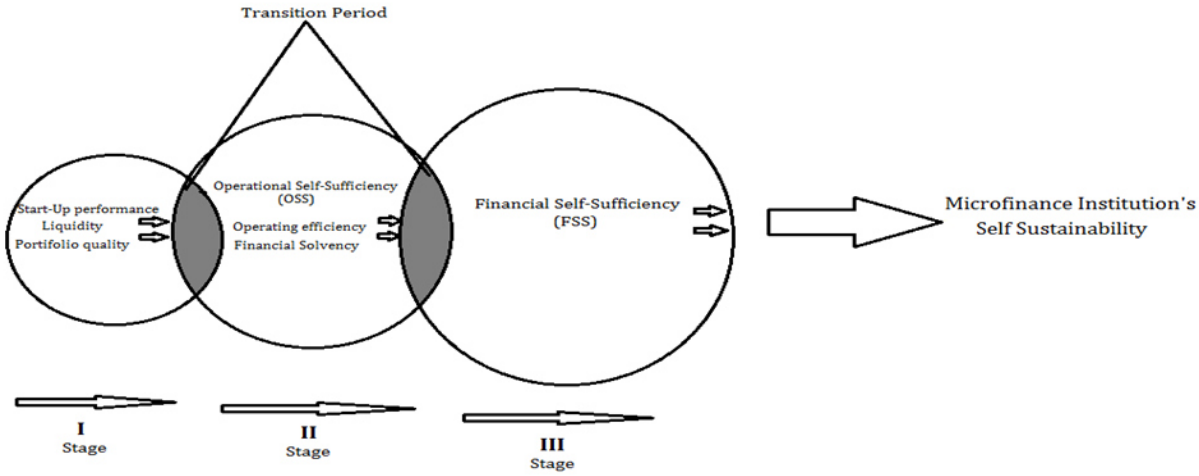

Figure 2: Life Cycle of Microfinance Institution and Self-Sustainability

Figure 3: Flows of Indicators by Stage of development (Source: CIDA (1999:56))

4.1 Sustainability at Start-up Stage (Stage I)

The first few years of operation at start-up stage normally experience slow growing of microfinance institution. At this period of 0 to 5 years microfinance institution may experience higher operating expenses which result from capital investment, lower productivity and higher cash outlay. Consultative Group to Assist the Poor (CGAP, 1995) suggests that at the start-up stage, microfinance institutions should focus on introducing an efficient operation such as operational strategy for service delivery and lending methodology. At start-up stage, financial sustainability can be measured by different indicators which are Earnings Ratio, Liquidity Ratio and Loan Portfolio Quality.

Table 2: Start-Up Stage (Stage I) and Sustainability Indicators

Start-Up Stage (Stage I)		
Indicators	**Indicator's Ratio/ Variable**	**Measurement/ Formula**
Basic Self-Sufficiency	Earnings Ratio	Financial Income / Operating Expense
Liquidity	Liquidity Ratio	Current Assets / Current Liabilities
Loans' Portfolio Quality	Loan Portfolio in Arrears Ratio	Amount of payment past due / value of loans outstanding
	Portfolio At Risk (PAR)	Loans Payment Overdue / Total Loans
	Loan Loss Ratio	Amount of loan written off/ Outstanding Loan Portfolio
	Loan Loss Reserve	Value of loan losses/ Value of Outstanding Loans

4.1.1 Earnings Ratio

Earnings Ratio refers to ratio of financial income to operating expenses. Financial income involves income earned from loan's interest, loan administrative fees and interest on investment while operating expenses includes expenses related to management and provision financial services. These expenses are results from staffs 'salaries, administration activities, training of staffs, travelling expenses, utilities, depreciation and other expenses (G. D. Nyamsogoro, 2010; OECD, 1996).

4.1.2 Liquidity

Liquidity Ratio measures ability to meet short-term obligations in relation with immediate assets which are accessible normally either cash or quick convertible assets (CIDA, 1999). Common liquidity ratio is current ratio which measured as current assets over current liabilities (ability of short-term assets to cover short-term liabilities). The current assets are also regarded as working capital which involves cash, debtors, and interest bearing from deposits while current liabilities include short-term borrowing, savings and interest to customers' deposits (Brealey et al, 2006; Emery et al, 1998). However, consideration of liquidity ratio alone without considering other aspects may sometimes not be sufficient indicator to evaluate financial performance as well as an indicator for financial sustainability of a given microfinance institutions since it is based on current resources available to meet short-term obligations (G. Nyamsogoro, 2010).

4.1.3 Loan Portfolio's Quality

Loan portfolio's quality involves Loan Portfolio Ratio which is a substantial aspect of sustainability at start-up stage of microfinance institutions as well as a measure for portfolio quality of given loans. Basically, portfolio quality of loan indicates the ability to recover principal and generate interest. However, ability to recover principal and generate income is the basis for sustainable microfinance institutions. This is the fact that failure to recover principal leads to loss of capital (CIDA (1999).

The other aspect is Portfolio at Risk which indicates risk to loan portfolio by considering amount of payment past due and total value of loans which have payments in arrears. Portfolio at Risk measured value of outstanding balance of total loans in arrears divided by sum of outstanding loans. It has been suggested that Portfolio at Risk should be below 0.10 (10%) when a given microfinance institution is operating efficiently.

Basically, Portfolio at Risk may probably be higher at start-up stage since microfinance institutions cannot operate efficiently. To ensure financial self-sufficiency for a given microfinance institution, Portfolio at Risk has to be controlled during the entire period of operation. However, Loan Loss has been part of measuring loan portfolio quality where by to monitor it, provision for loan losses should be taken into consideration to estimate expected loans which may default or cannot not be recovered. Loan Loss has standard ratios which are Loan Loss Ratio and Loan Loss Reserve. Loan Loss Ratio which indicates whether there is an improvement of loan recovery at a given time. This ratio regarded as amount of loans written off at given period of time divided by outstanding loan portfolio at a specified time (Armendáriz & Morduch, 2010; Armendáriz de Aghion & Morduch, 2000; Barr, 2005; Johnson & Rogaly, 1997; Matin et al., 2002; Melkamu, 2012; G. Nyamsogoro, 2010; Orua, 2009; Von Pischke, 2007).

Loan Loss Reserve measured as total value of loan losses divided by value of outstanding loans times 100%. This ratio indicates percentage of outstanding loans which are not expected to be recovered at a specified time. It is basically shows status of loan portfolio at a given period of time since it considers outstanding balance of loans in arrears regarding risk of loan not been paid full. Literatures asserts that Loan Loss Reserve Ratio may probably be higher at the start-up stage of microfinance institution's operation and expected to decline as moving towards growing and mature stages assuming other factors remain constant (Atrill and Mclaney, 2004; CIDA, 1999; Emery et al, 1998).

The other related aspect on loan portfolio quality is loans portfolio per loan officer which refers to number of active loans borrowed at a specified time over total number of loans officers. Basically, this ratio measures productivity of loans officers based on number of loans handled issued by them. Some of studies made an assumption that the higher the loans portfolio per loan officer, the more staffs are considered to be efficient. However without assuming all factors being equal, increase in loans per loan officer may affect its efficiency as well as portfolio quality in general. Therefore, it is suggested that loan portfolio per loan officer ratio sometimes may not fulfil as a sufficient key measure for financial sustainability of microfinance at development stage (CIDA, 1999).

4.2 Sustainability at Growing Stage (Stage II)

Sustainability at Growth Stage focused on aspects which are substantially crucial for microfinance institution to gain experience and approaching growing stage (stage II). To attain sustainability at growing stage, improvements on the main operational activities should be a priority. These improvements may involve minimization of operating costs related to issue of loans and maximization of productivity of workers (staffs). Also for microfinance institutions which intend to grow should focus on equity funds, savings and investments since ability to access financing is more relevant at this stage. Some of studies suggests that microfinance institution develop from one stage to another while total cost resulted from provision of financial services is also effectively increasing (Barr, 2005; Melkamu, 2012; G. Nyamsogoro, 2010; Orua, 2009).

4.2.1 Operating Efficiency

Operating Efficiency refers to an extent in which expenses can be covered from an average outstanding loans. It also measures ability of microfinance institution to service loan portfolio with given resources. Literatures assert that as microfinance institution approaching growing stage and maturity stage there is a possibility to experience decrease in cost per loan. This could be resulted from an increase in the number of loans or decrease in costs related to operation, assuming other factors remain constant (G. Nyamsogoro, 2010). Loan portfolio per loan officer measures productivity of loan officer in terms of number of active loans issued by them. Loan portfolio per loan officer is the number of active loans divided by number of loan officers. It is expected that higher the loan portfolio per loan officer, the more efficient the loan officers, other factors remain constant. However, there is no specific standard for the size of the loan portfolio that one loan officer can handle without compromising quality. Therefore, loan portfolio per loan officer ratio may probably not be a sufficient key measure for sustainability of microfinance institution at growing stage (Melkamu, 2012).

Cost per loan can be regarded as operating expenses at a specified period of time divided by total number of loans. An increase in cost per loan may sometimes indicate inefficiency in cost reduction particularly in growing and mature stage. When microfinance develop from one stage to another, it is expected to experience economies of scale while operation cost is minimized. Operating Efficiency Ratio is also regarded as key ratio in determine

efficiency of microfinance institutions where by if this ratio is greater than 1, it implies that expenses incurred in operation were higher than amount invested in issuing such loans while vice versa is true, all factors remain constant. Operating Efficiency Ratio measures operating expenses in relation to outstanding loans while Cost per Loan measures operating expenses in relation to the number of loans. It is also suggested that operating efficiency and cost per loan both may show to what extent microfinance institution's efficiency minimizes cost., Operating Efficiency Ratio of a given microfinance institution is expected to decline while be able to service its loan portfolio at growing and maturity stage (CIDA, 1999:65). Balkenhol (2007).

Table 3: Growing Stage (Stage II) and Sustainability Indicators

Growing Stage (Stage II)		
Indicators	**Indicator's Ratio/ Variable**	**Measurement/ Formula**
Operating Efficiency	Loan Portfolio per loan officer	Loan borrowed / Total number of loan officers
	Operating Efficiency Ratio	Operating Expense/ Average of Loan Portfolio
	Cost per Loan	Total Cost/ Number of loans
Financial Productivity	Financial Productivity Ratio	Financial Income/ Average of Loan Portfolio
	Leverage Ratio	Total Assets / Equity
Operational Self-Sufficiency	Operational Self-Sufficiency Ratio	Financial Income / Total of operating expense

4.2.2 Financial Productivity

Financial productivity refers to income generated from specific operation in relation with average outstanding loan, which also regarded as yield generated by loan portfolio. Therefore, Financial Productivity Ratio measured as financial income divided by average loan portfolio. Financial income sometimes is determined by capital structure, interest rate, cost reduction as well as staffs 'efficiency. Average loan portfolio may probably be determined by outreach factors such as minimum loan size, interest rate, number of instalments and number of borrowers. Some of literatures reported that financial productivity of microfinance institutions expected to increase at growing and maturing stage which is also regarded as an indicator for attaining sustainability (Armendáriz de Aghion & Morduch, 2000; Barr, 2005; Lafourcade et al., 2005; Melkamu, 2012; G. Nyamsogoro, 2010; Orua, 2009; Von Pischke, 2007).

4.2.3 Leverage Ratio

Operating efficiency and financial self-sufficiency are both regarded as an indicator for institutional growth and development. Leverage Ratio refers to as total assets divided by equity. It is suggested that ability to generate earnings for reinvestment is important during growing stage of microfinance institutions (Melkamu, 2012; G. Nyamsogoro, 2010). Based on literatures, most of commercial banks probably operate at an estimated leverage ratio of 12.5 times (CIDA, 1999:65).

4.2.4 Operational Self-Sufficiency Ratio

Operational self-sufficiency is an indicator which shows how microfinance institution is approaching to attain financial sustainability. Operational Self-Sufficiency Ratio is measured as financial income divided by operating expenses. Operational self-sufficiency ratio is regarded based on two aspects of cost elements which are financial costs and loan loss provision. This is the fact at growing and maturing stage microfinance institution may acquire and access funds in terms of loan and savings respectively to support its lending program of providing microfinance services (Melkamu, 2012; G. Nyamsogoro, 2010).

4.3 Financial Self-Sufficiency and Mature Stage (Stage III)

Financial Self-Sufficiency is an ability to cover total costs incurred by microfinance institution from its operation and all activities. Financial Self-Sufficiency Ratio can be measured as financial income divided by sum of operating expenses, financial costs and loan loss provision expense. It shows how does microfinance institution's

earnings are enough to cover total costs and maintain its equity value. Microfinance institutions should make profit from its operating activities to be self-sufficient. Moreover, measures related to profitability should be considered as its indicators, such as Return on Equity (ROE) and Return on Assets (ROA) (Orua, 2009). Return on Equity indicates ability of microfinance institution's management to maintain and increase its net value. It measures efficiency operations and proper portfolio management in relation to equity. Return on Assets measures ability of microfinance institution to manage assets so that can also contribute on its net worth (Armendáriz & Morduch, 2010; Armendáriz de Aghion & Morduch, 2000; Barr, 2005; Chakrabarti, 2004; Fruman & Paxton, 1998; Kotir & Obeng-Odoom, 2009; Lafourcade et al., 2005; Matin et al., 2002; Melkamu, 2012; Morduch & Rutherford, 2003; G. Nyamsogoro, 2010; Orua, 2009; Sievers & Vandenberg, 2007; Thomas & Sriram, 2002). In addition, microfinance life cycle is regarded as progressive process in which indicators that may be relevant at initial stage could also be substantially relevant to subsequent stages. This implies that, for any microfinance institution to meet sustainability should take into consideration each stage of its life cycle since failure to meet sustainability requirements prior to next stage may affect subsequent stage based on the fact each key performance indicators found in each growth stage has its own great role.

Table 4: Mature Stage (stage III) and Sustainability Indicators

Mature Stage (stage III)		
Indicators	**Indicator's Ratio / Variable**	**Measurement/ Formula**
Financial Self-Sufficiency	FSS	Adjusted Financial Income / Operating Expenses + Financial Expenses + Loan Loss Provision Expenses
Profitability	Return on Equity (ROE)	Net Income/ Total Average Equity
	Return on Asset (ROA)	Net Income/ Total Average Assets

5. Conclusion

This article paper summarizes various indicators of performance and sustainability at three growth/ development stages of maturity which known as microfinance life cycle. The article paper presents different indicators and indicators ratio/variables that are relevant in each stages of microfinance life cycle. Based on the indicators ratio/variables which can be adopted as proxy for determinants of financial sustainability at start-up, growing and mature stages, each indicator affect financial sustainability at maturity stage also affect sustainability at early stages of development of microfinance institutions (Armendáriz de Aghion & Morduch, 2000; Barr, 2005; Khandker, 1998; Lafourcade et al., 2005; Melkamu, 2012; G. Nyamsogoro, 2010; Orua, 2009; Thomas & Sriram, 2002; Von Pischke, 2007). Microfinance development stages is also regarded as progressive process in which each sustainability indicators may be relevant at prospective stages. Therefore, to meet sustainability, each stage may have a significant contribution since failure to meet sustainability requirements prior to next stage may affect subsequent stage.

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