# **36 ISDRS**·2019

# Sustaining Resources for the Future



THE 25TH INTERNATIONAL SUSTAINABLE DEVELOPMENT RESEARCH SOCIETY CONFERENCE

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# **INTRODUCTION**

The proceeding publishes the abstracts and full papers of the 25th conference of the International Sustainable Development Research Society (ISDRS) held by Nanjing University in Nanjing, China in June 2019.

The abstracts and papers were peer-reviewed by the track chairs and board members of the ISDRS carefully. They advance the interdisciplinary field of sustainable development research in concepts, theories, methods, models, and cases presented in the 24 tracks designed for the conference.

The conference offers a great communication platform for academic scholars, governors, and stakeholders in sustainable development, which is an important contribution to the knowledge of sustainable development. Therefore, the reader will find different visions, theoretical orientations, and methodologies from quantitative to qualitative, in exploring the solutions of sustainable development. The topics of the proceeding range from the investigation of resource utilization patterns in the continued developing world and its impacts on the Earth natural and socioeconomic systems to creative solutions to the problems induced by resource utilization of the growing global population.

Within the theme "sustaining resources for the future", this conference explores the fundamental question of how to sustain current development without stripping the resources that the future needs, including biological resources, mineral resources, environmental resources, as well as a well-functioning ecosystem. How could the academic progress in sustainable development be translated into a workable plan is a critical question in the multidisciplinary of sustainable. This proceeding includes the contributions to the challenges and opportunities and solutions to reduce, reuse and recycle the resources to realize a sustainable present and future, as well as the possible mechanisms through which global society could work together to realize sustainable development.

Sincerely,

# Zengwei Yuan

Chair of the 25<sup>th</sup> ISDRS Conference Nanjing, P. R. China

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#### BIMETCH

# Synthesis of a framework for Sustainable Business Models in Financial Inclusion

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#### Synthesis of frame work for Sustainable Business Models in Financial Inclusion

#### 1. Abstract

#### 1.1. Introduction

Economic viability of financial services to the excluded was under question until early 2000s. C.K. Prahlad (2004) changed that perspective. During the same time Micro finance bloomed and flourished as an Industry in India. But then why a scheme like Pradhan Mantri Dhan Yojana (PMJDY) had to be launched and pursued by the government aggressively to achieve the same purpose, if Micro finance was a big success? Did we miss the social angle while defining success? These are the sort questions that buzz in our minds when we look at long term viability of the business.

#### **1.2. Justification**

In spite of Dr Prahlad's propositions, existing literature and evidence show that, only one third of enterprises that are into financial inclusion through the business correspondent model, are economically sustainable; the rest are either into losses or barely meeting the operational expenditure. The main reasons for such situation are problems both on the supply side and demand side. Supply side comes with challenges like high transaction cost, heavy upfront investment, problems with cash logistics and its control. The demand side is riddled with poor financial literacy and poor product &service portfolio. Socially, the viability of financial inclusion was almost wiped out as indiscreet lending practices adopted by commercial models perpetrated suicides in the state. Digital interventions in financial inclusion were made from cost effective perspective. Further, this has also reduced the carbon foot print by reducing the need to travel for financial services. These facts and observations augment the need to look at sustainability from 3 three perspectives that is economic, social and environmental. The sustainable business goals arising from such a holistic view should then dictate the ways and means to develop sustainable business models for the business to cater for financial inclusion.

## 1.3. Aim

The authors, in this paper, attempt to develop a framework to synthesize such a sustainable business model.

## 1.4. Methodology:

Gone are the days of Milton Friedman, who said, "Business of a business is business." Today, Sustainability of a business rests on 3 legs of the tripod e.g. economic, social and environmental. To meet these three diverse objectives, "Five views of business organization" by the business architecture working group (2007) is employed in context of network structure. In turn, within the '5 views model' of the business organization (External strategy view, Capability View, Value chain view, Organization Design view and Information View), the following theories are used to analyze factors influencing the sustainability of the business organization. Business environment analysis is used to study the External strategy while capabilities, value chain and information are studied using digital capability maturity models (2016). The stake holder theory (Freeman-2010) would be used to identify and understand the interaction of various stakeholders in a network organization. Once the top down approach using the aforementioned methodologies that analyzes factors which influence the sustainability is completed, the bottom up approach is used to synthesize a sustainable business model taking into account the factors influencing the sustainability.

#### 1.5. Contribution

The intervention frame work is a matrix 3 dimensional matrix which has six categories of influence on one dimension, role of intervention on the other and direction of influence on the third. As a result of further analysis on this matrix we propose that social and economic factors intermediate the influence of internal stake holder influence and innovation factors on sustainability., while social and economic factors on their own can influence sustainability apart from the contribution of stake holders interest and Innovation

#### 2. Introduction

#### 2.1. Financial Inclusion, Microfinance and Purpose

There are various views on what financial Inclusion is, what is its purpose and scope. Kempson and Whyley (2003) study financial exclusion define financial exclusion and explore the factors contributing to financial Inclusion. World Bank (2015) defines financial inclusion as "financial inclusion refers to the access by enterprises and households to reasonably priced and appropriate formal financial services that meet the needs of enterprises and households. Access to financial services can be defined along several dimensions, including geographic access (that is, proximity to a financial service provider) and socioeconomic access (that is, absence of prohibitive fees and documentation requirements). Appropriate design of products that meet the needs of clients, are sustainable for both providers and users, but do not involve abusive pricing are other important aspects". World bank 2015 defines Microfinance as "Microfinance can be defined as attempts to provide financial services to households and microenterprises that are excluded from traditional commercial banking services. Typically these are low-income, self-employed or informally employed individuals, with no formalized ownership titles on their assets and with limited formal identification papers". These definitions show that microfinance is an industry meant to address financial inclusion.

#### 2.2. The sustainability challenge

Gone are the days of Milton Friedman, who said, "Business of a business is business." Sustainability today means "meeting the needs of today without compromising the ability of future generations to meet their own needs" (Bruntland commission 1987). Today, Sustainability of a business rests on 3 legs of the tripod e.g. economic, social and environmental Robert Goodland(1995). Economic sustainability' implies a "system of production that satisfies present consumption levels without compromising future needs" (Basiago 1999). "Social Sustainability is a positive condition within communities, and a process within communities that can achieve that condition" (Mackenzie 2004). "Environmental sustainability is defined as meeting the resource and services needs of current and future generations without compromising the health of the ecosystems that provide them" (Morelli 2011), The business of financial inclusion is to address this positivity by creating equity in access to essential financial services while being economically viable and ensuring minimal damage to the environment. In order to do so we define the objectives this venture whose fulfillment puts in a frame work that would be a useful tool to synthesize a sustainable business model.

#### 2.3. Research objectives

- Defining Business Model and Sustainability of Micro finance Business Organization in the context of Financial Inclusion
- Identifying the factors that influence the sustainability of business model microfinance organization
- Identify the typologies of influence category of influence

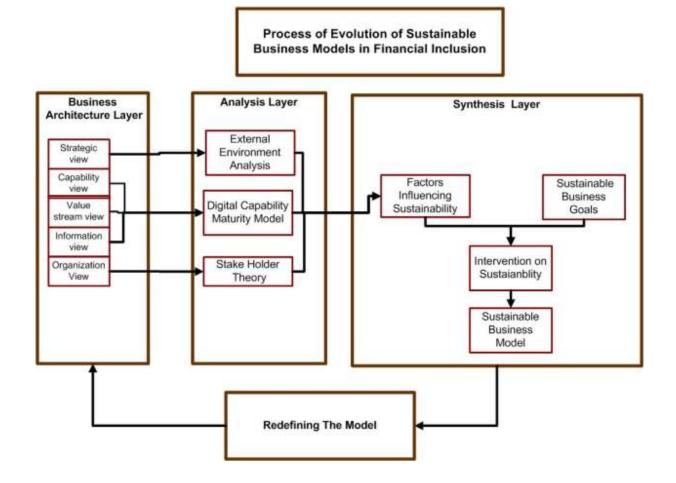
• Proposing a frame work that postulates points and actions of intervention based on factors and categories of influence

#### 3. Literature Review

There are works on profitable models for financial inclusion like Brij Raj (2011) which talk about the economic viability of the business. The work talks about long term sustainability by dealing with four threats identified by Pankaj Ghemawat (2005). What the work does not take into account is social viability like Arunachalam(2011) talks on what led to the microfinance crisis in India. The role of regulatory authorities in ensuring fair play in the ecosystem that is essential for sustainable business as quoted by Jha in "Role of National Bank for Agricultural and Rural Development (NABARD) as micro finance facilitator (2011)" is completely absent. Works like "Sustainability of Social enterprise for financial sustainability "by Das (2015) also talk about economic viability of the business. There are also works on building sustainable social enterprise that address the bottom of the pyramid like that of Sandeep Goyal(2015) for healthcare but this work, too, focuses on economic sustainability of the business. On the other hand, Ganesh (2015) talks about building social performance index for institutions involved in financial inclusion business. Campillo, Wijesiri and Wanke (2017) measure and quantify to what extent Indian banks have met the double bottom line of social benefit and financial profit. But it does not study the factors that influence this measure. What's missing is the holistic view on sustainability taking into account Economic, Social and Environmental aspects. The other missing element is the 360 degree view of such business organization while defining the intervention points in the process of evolving sustainable business model. A framework to synthesize a sustainable business model that minimizes negative impact on social and environmental sustainability is missing in the concurrent works. A work that addresses the lacunae stated above is the need of the hour for the business to survive on its own.

#### 4. Research Methodology and Findings

The methodology we adopt for synthesis of sustainable business models in financial inclusion is represented in the figure -1.



To meet three objectives of sustainability, 5 views of business organization by the business architecture working group (2007) is employed. In turn, within the '5 views theory' of the business organization (External strategy view, Capability View, Value chain view, Organization Design view and Information View), the following theories are used to analyze factors influencing the sustainability of the business organization. External strategy is covered by business environment analysis, while capabilities, processes and information are studied using digital capability maturity models (2016). The stake holder theory (Freeman-2010) would be used to identify and understand the interaction of various stakeholders in a network organization. Once the top down approach using the aforementioned methodologies that analyzes factors which influence the sustainability is done with, the bottom up approach is used to synthesize a sustainable business model taking into account the factors influencing the sustainability (Refer to the figure)

#### 4.1. Finding Components of Business Model that influence sustainability

#### 4.1.1. Under Pinning Theories or frame works

We use 5 views of business organization by the business architecture working group (2007) Digital capability maturity models (2016) and stake holder theory as frame works or underpinning theories

#### 4.1.2. Method used

Based on the existing theories (literature) mentioned in this section we identify various components of business model in financial inclusion and their interactions. The five views of business organization by the business architecture working group (2007) identifies five dimensions of business organization, namely External Strategy view, Capability View, Value chain view, Organization Design view and Information View. To further understand each of these we use the following theories or models, so that the components of business models can be arrived at. The applicable theories are shown in Figure -1. We use a narrative literature review approach to identify the various aspects of a business model and the components of those aspects that influence sustainability of Microfinance Organization and how they influence.

# 4.1.3. Evolution of factors in Business model that Influence Sustainability of Microfinance organization-Narrative Analysis

#### 4.1.4. Sustainability and Business Environment

Purkayasth et al (2014) discuss the impact of regulations in the field of microfinance and financial Inclusion, how regulation is needed from the state/ legal in order to make supervision less costly and ensure fair play in the industry in order to make the industry viable. Pinki Dutta and Debabrat Das(2014) identify the factors that influence financial sustainability in the field of Financial Inclusion that are related to external business environment. Ganesh (2015) talks about building social performance index for institutions involved in financial inclusion business while Addisu(2018) discusses the importance of embeddedness of business organization in local community for successful delivery of double bottom line. CGPAP (2010) discusses the use of microfinance as tool in formulation and implementation of economic policies in terms of access to capital by the excluded, income generation, job creation through micro enterprise

#### 4.1.5. Sustainability and Stake holders

The Stake holder theory Freeman(1984) connects the organization and stake holders making stake holders as affecter and affected of organizational activity. Therefore we take stakeholder theory to study the ecosystem of financial inclusion as an organization and the influence of stake holder motivations on sustainability. The stake holders of business organization Fried Man (2006) are customers, employees, local communities and share holders. Some theories consider managers to be stake holders like employees while some treat them as action of organizations. We treat management as a stake holder which has nature of both employee and share holder using the agency theory of firm Jensen and Mecklings (1976). Filho and barndli(2016) point factors that influence engagement of stake holders for sustainable development. Sarker (2013) discusses how usurious lending and coercive repayment collection is affecting the society in microfinance disturbing the existing positivity in the community the industry serves. Nedunchezian and N Sivasankaran (2009) identifies the stake holders in the eco system of financial inclusion and their performance parameters, stressing on the importance of performance of stake holders to ensure the viability of the

ecosystem. Addisu(2018) discusses the importance of embeddedness of business organization in local community for successful delivery of double bottom line. Haldar and Stiglitz(2016) show how ignoring social embeddedness has resulted in Micro finance crisis in India while Emerson(2003) discusses the viability of adding economic value to share holders while fulfilling the objectives of social enterprise through blended value proposal. Lisa Brandstetter and Othmar M. Lehner (2015) stress on the need to develop portfolio tools for investing in social enterprise quoting the following reasons Capital inflows would enhance the performance of the sector, More and more investors are demanding for ESG (Environmental, Social and Governance) criteria and compliance in their investment portfolios.

#### 4.1.6. Sustainability and Value chain

Pinki Dutta and Debabrat das(2014) also identify the factors that influence financial sustainability in the field of Financial Inclusion that are related to value chain of business form operational perspective.

## 4.1.7. Digital Strategies and Sustainability

Singh and Bhar(2014) discuss the importance of decision support systems in making strategic decisions in microfinance.

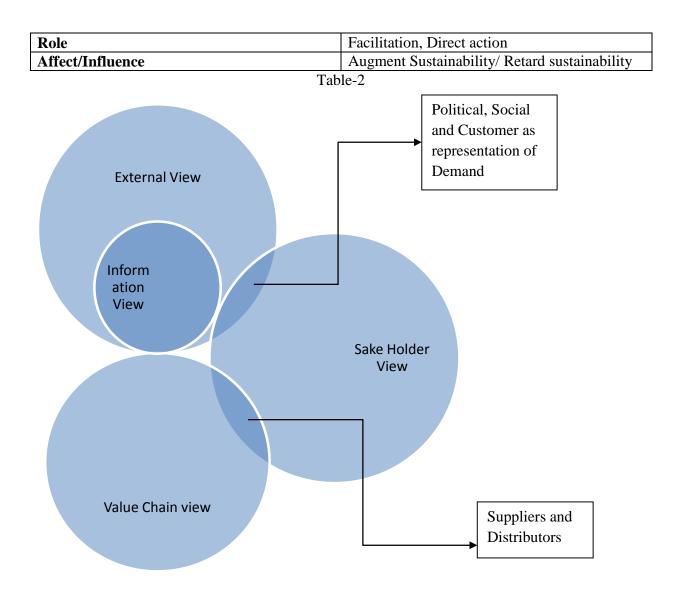
View	Component	Sub Component	Dimension of Sustainability being Influenced	Categories of Influence Applicable
			Social and	
	Legal	Regulations	Economic	Ensure Viability through fair play
	Economic	Inflation	Economic	Reduces the demand for Micro credit as cost of borrowing is hiked due to inflation
External Strategic View	Political	Instrument in making and implementing Economic policy by Government	Social and Economic	Growth and sustainability of business facilitated
	Environmental	Energy and Carbon consumption	Environmental	Reliance on mobile and cloud increases energy consumption but reduces travel need bringing down carbon consumption
		Embeddedness	Social and Economic	Enhances Double Bottom line
	Social	Social Performance	Social	Fulfilling the social objectives and the purpose of the organization

5. Findings

View	Component	Sub Component	Dimension of Sustainability being Influenced	Categories of Influence Applicable
V IC V		Alternative Service delivery channel and operational efficiency	Environmental and Economic and social	Expanding Outreach Reduces cost of operations
		Decision support	Social and Economic	Enhances asset quality and New Markets. And new products to address the underserved
	Technological	Outreach through Digital	Environmental and Economic	Reduction carbon consumption
	Suppliers of Economic capital	Cost of funds	Economic and social	Lower the cost of funds higher the economic profitability and affordability by bottom of pyramid
		Sustainability of Service provider Capability of Service	Economic Economic and	Can disrupt business Creates competitive advantage
	Supply of Technology	Provider Cost of Service	social Economic	to ensure sustainability Impacts the bottom line
Value chain view	Supply of Human capital	Capability of Service Provider	Economic	Creates competitive advantage while positive effect on society is ensured
	Service and product Design	Suitability of the product and affordability of service	Social and Economic	Services and products designed for the excluded
	Service delivery and Monitoring loan recovery	Distributors / Agents/	Economic	Enhances loan asset quality and customer satisfaction
	Servicing deposits and insurance claim		Economic	Enhances customer satisfaction
Information	Transactions and Decisions	Enabling decisions and action.	Economic and social	Prevention of loss Increased outreach Improving operating efficiency
View	Innovation	Product Innovation and Market discovery	Economic and social	Creation of New Products tailored to underserved
Stake Holder		Core Need	Social	Satisfies customers
Holder	<u> </u>	Expectations	Economic	Economic viability

View	Component	Sub Component	Dimension of Sustainability being Influenced	Categories of Influence Applicable	
View			Social and	]	
		Augmented Need	Economic	Sustainable competitive advantage	
			Social and		
	!	Potential Need	Economic	Market Leader and proactive issue tackling	
				Economic value for Investment	
	Share holder	Economic value for		helps attracting mainstream	
I	perspective	Investment	Economic	capital at low cost and buffers financial risk	
	Local Communities perspective(Including the government)	Embeddedness	Social and Economic	Enhances Double Bottom line	
		Suppliers of capital Suppliers of	Economic	Capable of reducing cost of fund	
		technology	Repetition from value chain		
		Distributors of services	Repetition from va	value chain	
		Service delivery			
		and Monitoring and control of loan			
	Suppliers and Distributors	Servicing deposits and insurance claim	Repetition from v	value chain	
	Customer Perspective	Repetition of Custome	omers View in Stake holders View		
	Technology	Repetition of technolo	ogy View		
Capability View	Strategy		Repetition of External View and Value Chain view Repetition of Value chain View		
	Operations				
	Organizational Culture	Ethical Values in Business Practice.	Social and Economic.	Coercive recollection and usurious lending have damaged the social positivity	

When one goes through the findings and observes the repetition of components/ subcomponents from various views the interaction of the various views can be represented as Venn diagram that identifies the commonalities (Fig-2). Digital View (Digital maturity model) encompasses all the other views that address sustainability. Hence it has not been included in Fig-2. When we analyze the influences we get the broad categories (Table-2)



When we sum up the components and subcomponents of the views we get the following categories. Such and aggregation is a "bottom up approach"

- Economic factors
- Political factors
- Environmental
- Social factors
- Stake holder Interests
- Cultural factors

# 6. Synthesis of Interventions and the frame work

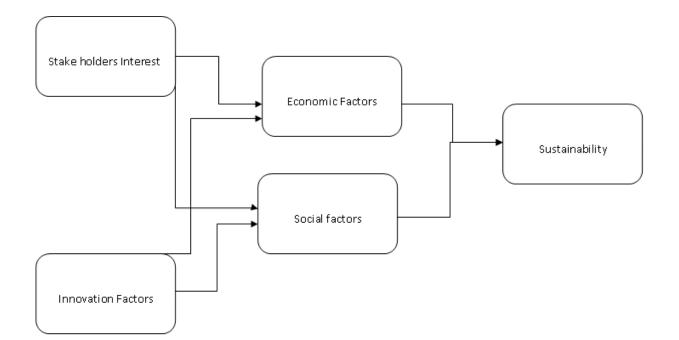
We superimpose the categories of factors on matrix of influence we get matrix 3 dimensional matrix of [6\*2\*2] size containing 24 elements in total. Such a matrix forms the frame work for intervention points

Category	Role	Influence	Likely elements from table one
		Augment	Make financial inclusion a tool in both design and implementation of Economic policy. Regulate and supervise microfinance
Political	Facilitation	Retardation	No active utilization of Financial Inclusion in policy making. No interest in setting up regulatory body to supervise microfinance
		Augment	-
	Direct Impact	Retardation	-
		Augment	-
	Facilitation	Retard	-
Economic	Direct impact	Augment	Control inflation and fund costing. Discovery of excluded or underserved markets Cost efficient solutions to expand outreach and supply of products and services
		Retard	Opposite of augment
	Facilitation	Augment	-
		Retardation	-
External Society	Direct Impact	Augment	Embeddedness Focus on social performance, conduct social audit
	Facilitation	Augment	-
		Retard	-
Internal Stake Holders Interests	Direct Impact	Augment	<ol> <li>Strategic alliances with suppliers of economic capital and technology</li> <li>Cost effective networks to distribute products and services leveraging technology</li> </ol>

	Retardation	business practices and 4)Grievance redressal mechanisms with customers 5)Employee welfare
Facilitation		-
	Retardation	-
Direct Impact	Augment	Design of new products and services. Discovery of new markets Cost effective solutions
		Retardation

## 7. Discussions and Conclusion

Points of intervention are higher in number in internal stake holders. The internal stake holder's intervention has similarity with intervention points of economic and external society. We therefore propose that the influence of Stake holders' interests and Innovation factors on sustainability is influenced by economic and social factors, while social and economic factors on their own can influence sustainability apart from the contribution of stake holders interest and Innovation. The intermediating effects of social and economic factors on sustainability are shown in the figure -3.



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