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DEMYSTIFYING THE FINANCIAL INCLUSION PENETRATION BY CUSTOMISED FINANCIAL INSTRUMENTS – A DEMAND SIDE STUDY DONE ON RURAL CUSTOMERS OF INDIA

P. Baba Gnanakumar[1]

[1]*School of Management, Kristu Jayanti College, Bangalore, India*

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ABSTRACT

The microfinance sector in India witnessed mushrooming growth during the period 2010-11.The growth rate declined after the microfinance crisis. The high interest rate and huge bad debts attributes the micro-finance crisis. To get rid of the crisis the microfinance institutions in India introduced new financial products. Even then the growth rate is in a sluggish trend. Therefore, Indian policy makers are forced to evolve new financial products. In this context, we explores the viability of introducing new financial products bundled with non- financial products to penetrate the microfinance schemes. We explore the possibilities of integrating the financial inclusion schemes with microfinance products. We organised the research in three phases and justified it with case studies. We suggest that new financial products can be evolved by considering the occupational network of the clients and it is possible to integrate them with the financial inclusion schemes of Indian government.

Contribution/ Originality: This study contributes in the existing literature by providing technique of developing customer friendly financial products. The paper's primary contribution is that - the regulators have to integrate the microfinance product with microcredit and micro-insurance products. This study documents the process flow diagram of linking stake holders of microfinance services.

1. INTRODUCTION

The Indian microfinance institutions (MFIs) are structuring their value transformation stage with other financial institutions to ensure the financial inclusion objectives. The global MFIs are growing at the compound annual growth rate of 76% in a year. The total number of MFIs in villages increased four times within three years in India. Even then, micro-finance services are struggling with the rise in transaction costs. To stabilize MFIs funding and prevent bank runs, Indonesia, Korea, Malaysia, and Thailand announced full protection for depositors. Indian MFIs' business shrunk by 33% in the year 2012-13. The biggest MFI -SKS Microfinance reported a net loss of 508 US$ lakhs due to Andhra Pradesh loan portfolio during the year 2011-12. However within a year it reported a profit of 4.15 US$ Lakhs (Pillai, 2013). The impact of Andra Pradesh microfinance crisis in 2011 has been forced this sector to think about new innovative designs for financial products. MFIs are also struggling to hold new clients after the microfinance crisis. Even though the MFIs pushed premium products to the urban customers, they are unable to establish the demand–driven products to rural customers. Hence, a new product design is a must to

alleviate the problems of customisation and transaction costs. In this context, the research has been motivated with an endeavour of establishing new microfinance products that integrate with the financial inclusion schemes.

This research enables the concept of Microfinance by creating new product design. This also adds value to build a model for Microfinance institutions with an aim of providing value added services to the rural mass in India.

2. LITERATURE REVIEW

Past researchers have explored the need for innovative financial products for MFIs and the demand side factors that affect the microfinance services (Anirban, 2013). The research on microfinance has quoted that business viability is a key factor to be considered in developing new product (Mishra, 2006). Previous researches set the bottom level needs of the financial products. It also points out that while designing the financial product, national economic and social impact factors are to be considered (Sasthiri, 2009). The financial product should be built around the social protection needs. Research on product development for microfinance in Egypt contented that the service attitude towards poor is to be considered while designing the MFI products. The Kenyan MFI research contented that while developing the new product for MFIs, the financial viability of payments are to be given importance (Mutua, 1997). The financial instrument developed by the banks should serve the bottom of the pyramid in India. Research done on microfinance products quoted that the microfinance products are supply-driven rather than demand-driven. This research explores the viability of introducing innovative financial products bundled with non- financial products among the rural masses.

3. THE AGENDA

The strategic agenda for this research is to establish a new product design by giving value additions to the existing microfinance products in India. The value agenda for this research is directed towards the identification of the characteristics of the innovative products and how it accelerates the MFIs growth. The policy agenda is to suggest the criteria for developing new products that can be integrated with financial inclusion.

4. THE CORE DISCUSSION

The relationship between microfinance and financial inclusion schemes are portrayed by the past researches conducted in India. In India Microfinance Institutions are enabling the financial inclusion schemes in rural places (Bharath, 2013). The microfinance products are linked with the banks and it paved the way for the financial inclusion schemes (Aravazhi, 2013). The challenges faced by the financial inclusion are reduced by the microfinance institutions (Ghosh, 2013). The core aim is to identify competitive financial products suitable for the people under the poverty line. After 2011, the Indian MFIs concentrated on ROI of financial products; but not on the market penetration (Kruijif, 2013). The micro finance products in India, witnessed less penetration effect among the rural poor people from the year 2004 onwards (Counts, 2003). This leads to the microfinance crisis and closure of twenty one MFIs (Mader, 2013). When such situation happened in developing countries like Poland, Egypt and Kenya, MFIs used rigorous research and introduced new micro-finance products that increased the income level of the rural people (Kelly, 2001). Hence the research design has been adopted from those developing countries and fit into Indian model. This encapsulates the conceptual transformation of product development research from one country to other. As large proportion of the people in developing country people are still depending on the rural economy, we believe that a financial product's penetration to such areas will provide economic viability to the developing economies. The financial inclusion schemes and its coverage is growing; but policy makers find it difficult to identify the potential clients who need finance to improve their occupation. If we integrate the microfinance product with financial inclusion and the policy makers are able to locate the rural people who need the finance, it synergies the penetration for financial products.

5. RESEARCH METHODOLOGY

Flexible project management tools are essential for developing a new product for Microfinance. Hence, the product development research was conducted in three stages. The first stage research design has been established based upon the new product development research conducted in Poland for Micro-finance. The 'access frontier approach' is used to identify the preference of customers towards the Microfinance products. In the second stage the 'supra-market group' has been identified to validate the results of the first stage and to establish product protocol. The research design is established by considering the customer centric approach used by MFIs research in Egypt, which is based on the conceptual value that "poor to be served". Third stage research design is based on the organisational attributes needed for the microfinance products. The SUAVE (Simple, Understood, Accessible, Valuable and Efficient) attributes created by the Munich-de foundation on Micro-insurance has been incorporated to identify the product design (Zollikofen, n.d). Even though the research tools and designs are based on different countries, the research sample has been selected only from India.

The primary data for the first phase have been collected from the MFI's customers in 18 villages spread over South India. The date were collected from the customers of Annapurna Microfinance Pvt Ltd, Asirvad Microfinance Pvt Ltd, Bandhan Financial Services Pvt Ltd, BSS Microfinance Pvt Ltd, ESAF Microfinance and Investments Pvt Ltd, Fusion Microfinance Pvt Ltd, Grama Vidiyal Micro Finance Ltd, Grameen Financial Services Pvt Ltd, Janalakshmi Financial Services Pvt Ltd, Madura Micro Finance Ltd, Suryoday Micro Finance Pvt Ltd, Future Financial Services Ltd, M Power Micro Finance Pvt Ltd, Mahasemam Trust, Margdarshak Financial Services Ltd, Pahal Financial Services Pvt Ltd, Rashtriya Seva Samithi, Samhita Community Development Services, Sanghamitra Rural Financial Services and Village Financial Services Pvt Ltd. The villages having population less than 5000 and having at least 1000 transaction per year are selected. To identify those villages, the secondary data available with eight MFIs are used. We have identified 178 villages. Out of that, 18 villages are selected based on the network accessibility. There are 21,427 MFI's customers in those 18 villages. The villages are located in western part of Tamil nadu, northern part of Kerala, eastern part of Karnataka and southern part of Andhra Pradesh. The confidence interval limit approach of sampling has been used to identify the sample size. The sample size has been fixed as 2225 with the confidence limits of 95%. Interview schedule with twenty-five questions has been used to collect the data. Snow-ball sampling is used to identify the MFI's customers. Even-though, we have gathered data from 2208 customers, only 2004 responses were validated with the reliability test. By using cluster analysis, we have spotted 932 intensive customers of MFIs. Hence for the further study 932 responses were alone considered. The reliability of the data has been measured with Cron-bach alpha value of 0.82; that shows goodness of fit.

In the second phase, MFIs' Customers in the same 18 villages have been identified with the snowball sampling. 1200 customers have been interviewed. However, 1117 responses were validated. Discrete choice analysis is used to establish the most preferred business products in a particular region.

Table-1 displays the input, process and output of the different stages in the research.

Table- 1. Research Design

S.No	Purpose	Input	Process	Output	Product Development Stages
Phase I – Measurement of Product Characteristics					
1	To find out the impressive users of MFIs	Primary data collected from 2004 customers	Cluster Analysis	932 respondents classified as intensive users	Product Line planning – Customers Classification
2	To find out the desirable characteristics of the financial product as expected by the customers	Ratings given by 932 respondents as classified as impressive users	Factor component analysis - Access frontier approach	The five factors evolved are Occupational supply chain, Risk aversion, Interbank mobility, Remittance system and Compliance	Product Line planning – Customer Preference Analysis
3	To find out the most important factor that influence to sustainable growth	Factor scoring variables and growth variables as measured in terms of survival	ANOVA	The variables such as remittance system and risk aversion significantly vary in accordance with the growth rate	Product Line planning – Product Attributes
4	The most preferred variable having sensitivity and specificity.	Factors scoring variables and high values among the growth factors	ROC analysis	Remittance system significantly affects the growth factors among the well-established customers.	Product Strategy Development
Phase II – De-facto Analysis for designing the new product					
5	The justify the findings of the first part by identifying relative importance factors in product designing	Primary data collected from 1117 'supra-market' group	Conjoint analysis	The relative importance for each financial products are - remittance 30%, insurance 24%, savings 21.1%, microcredit 13.6%, commodity 11.3%.	Pilot Study – Product Approval
6	To identify the relative position of the financial products	Primary data	Multi dimension scaling	Two dimensions were established.	Concept Generation
7	To find out the probability of the exceptions	Primary data	Discrete choice analysis	Two combinations were evolved.	Idea Screening
Phase III : Penetrating Factor					
8	To find out the penetrating factor	Review of Micro finance Institution cases	Case study	Penetrating factors for remittance and insurance products are measured.	Demand sensing and implementation

Source: Author's Research Design

6. DESCRIPTIONS OF THE SAMPLE RESPONDENTS IN FIRST TWO PHASES

All the respondents in the sample are the customers of MFIs and they are supported by the business correspondents of respective banks. 92% respondents are members in any one of the Self-help groups. 72% of customers' occupation is agriculture. The agriculture operations of the customers include cultivatable farm and

cattle rearing. 28% of the customers are doing small ventures with agricultural products. On average, they are using banks once in 33 days. The awareness level of the microfinance products by the clients is 73%. The average annual income of the customers in the sample is 172.88 US$ per month.

6.1. Phase I – Measuring the Expectations of the Microfinance Clients

The first stage of the study explores the expectations of the MFIs' customers with respect to the financial products. The outcomes are explored from the responses of the intensive MFI customers.

6.2. Stage I: Identification of Intensive Users

We use cluster analysis to identify the intensive users. Five sets of variables that describe the similarity between objects in terms of MFI customers are selected to formulate the problem. The attitudinal variables are measured in a five point Likert Scale. The attitudinal variables for respondents are frequent users, volume of transaction, growth rates, non-default usage and convergence of transactions. Cluster centroids are used to distinguishing the clusters and a three stage cluster solution was developed. Table -2 shows the cluster group based on the value dispositions.

Table-2. Cluster Centroids of No-frill Account Holders

Sl.no	Derived Cluster Name	Centroid values	No. of Respondents	Percentage
1	Intensive Users of Micro finance	4.18	932	46.5
2	Aspirers of Micro Finance	2.20	640	32.0
3	Deprived users of Micro finance	1.34	432	21.5

Source Primary data

First cluster has relatively high values on four variables such as frequent users, volume of transaction, growth rates and non-default usage. Hence these respondents are labelled as 'intensive users.' Second cluster has second degree low values among three variables such as growth values, non-default usage and convergence of transactions. Hence these respondents are labelled as 'aspirer.' Third cluster has the low level values among all variables. They are labelled as 'deprived users.' Hence for the further study, 932 responses classified as 'intensive users' alone be considered.

6.3. Stage II – What are the Criteria for New Microfinance Products?

We use factor component analysis to find out the criteria essential develop the microfinance products. 932 customers responses towards fifteen questions about their perception towards the financial products in five points Scale ('1' = completely disagree; '5' = completely agree) were considered to establish factors. The data collected were coded to perform factor analysis using SPSS. The null hypothesis, which the universe correlation matrix is the identity matrix, was precluded by the Bartlett's test of sphericity. The value of Kaiser-Meyer-Olkin statistics (0.667) is also higher than 0.5. The chi-square statistics value is 871.815 and it is significant at 95% level of confidence at the degrees of freedom 105. Hence principal component analysis is appropriate for analyzing the correlation matrix of the fifteen variables. The varimax rotation is converged in ten iterations. The number of factors was selected based on the eigenvalue. Five factors having eigenvalue greater than one are selected. The attributes having factor loading less than 0.5 are eliminated from the analysis. All the five factors are accounted for cumulative variance of 57.987%.

Table-3. Rotated Component Matrix of Customers Expectation

Sl.no	Variables	Factor Loading				
		1	2	3	4	5
1	Vocational Values	0.622				
2	Social values	0.572				
3	Professional linkage	0.570				
4	Bank transfers		0.653			
5	Any where banking		0.585			
6	Direct benefit transfer		0.578			
7	Account facilitation		0.507			
8	Scarcer documentation			0.624		
9	Easy to use			0.620		
10	Ex chequer transfers				0.754	
11	Easy Remittance				0.679	
12	Assurance for Work standards					0.768
13	Secured Assessment					0.587

Source: Based on the primary data

The attributes having factor loading less than 0.5 are business networking and technology simulators. The variables such as vocational values, social values and professional linkage are highly correlated and contribute to a single factor which can be called as 'occupational supply chain system.' The variables such as bank transfers, 'anywhere banking', 'direct benefit transfer', and 'account facilitation' are highly correlated and contribute to a single factor which can be called as 'inter-bank mobility'. The variables such as] scarcer documentation' and 'easy to use' are highly correlated and contribute to a single factor which can be called as compliance. The variables such 'ex-chequer transfers' and 'easy remittance' are highly correlated and contribute to a single factor which can be called as 'remittance system.' The variables such as assurance for work standards and secured assessment are highly correlated and contribute to a single factor which can be called as 'risk aversion.'

We conclude that the policy makers considers occupational supply chain system, inter-bank mobility, compliance, remittance system and risk aversion while developing new microfinance products.

6.4. Stage III: - Does The Criteria Scale Up the Financial Inclusion Growth?

We use analysis of variance analysis to justify that whether factors that have been identified in the previous stage attributes to the growth of financial inclusion. Clients' sustainable growth is the core value of establishing the microfinance in India. Past researchers identified that the deposit growth is tool to measure the value of the customers (Cognizant, 2013). Hence, the growth is measured in terms of average deposits retain by the clients with MFIs as on 31st January, 2014, 2013 and 2012. We coded the clients having deposits worth up to 384.61 US$ as '1'; more than 384.61 US$ but less than 769.23 US$ as '2'; and more than 769.23 US$ as '3'. The account holders coming under the third category are converting their no-frill account into a regular scheme. We wish to test the hypothesis that - is there any significant difference among the expected features of the financial product that derived from the factor analysis with the growth rate. We empirically test the relationship based on occupational supply chain, risk aversion, remittance system, compliance and inter-bank mobility with the growth components of the users. The sustainable growth is considered as the independent variable and factor loadings of customer expectations are considered as dependent variables. The hypotheses are tested with the responses that have been collected from the 2004 in the first stage. The results are analysed with F test in table -4.

Table- 4. Variations between Growth factor and Demand Side Factors

Variables	F- Value	Sig.
Compliance Standards	3.483	.031
Remittance system	19.974	.000
Interbank mobility	1.558	.211
Occupational Supply chain Activities	1.094	.335
Risk Aversion	22.474	.000

Source: Primary data

The null hypothesis that the growth factor and preferred variables have no significant variation has been rejected in two cases. There is no significant difference among the views of the different types of clients (based on growth factor) and their expectation towards product features such as occupational conditions, inter-bank mobility and compliance standards. Their opinions are significantly different with respect to remittance services and risk aversion characteristics.

To check the robustness of equality of means of the two significant factor that are extracted from the above stage (ANOVA), we applied the Welch statistics.. The null hypothesis that "the variations among the group as created based on growth is not having equal variations with remittance system and risk aversion" is tested with 95% confidence limits. Since the 'p' value of the Welch statistics (112.42 ; 98.31) is smaller than 'α' (146.34, 126.65) , we reject the null hypothesis. It reflects that - there exists significant variation among the respondents attitude towards remittance system and risk eversion level with respect to the growth rate as measured in terms on deposit values. Since the variables are having equal robustness of equality of means, the mean plot can stand good for decision making. Hence, mean plot graph was drawn to portray the relationship between the remittance system and risk aversion as compared with the deposit rate. Exhibit-1 shows the mean plot of the variables.

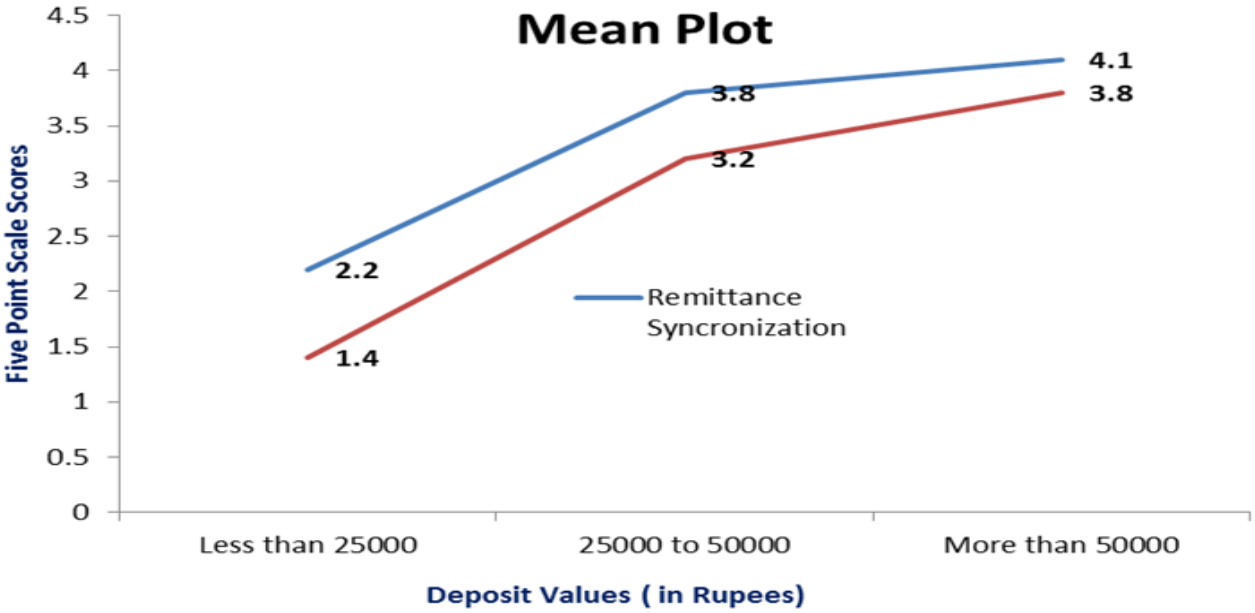

Exhibit-1. Mean Plot Graph of Remittance system and Risk Aversion

Source: Primary data

The exhibit reveals that the clients having high deposits expect a good remittance services as compared to least deposit holders. The risk aversion level is also high for the deposit holders having more than 769.23 US$ in their accounts. Hence, we conclude that remittance system and risk aversion features are essential to pull the clients towards the financial inclusion schemes.

6.5. Stage IV: Diagnostic Test - Which Criteria is Essential One?

Previous stages proved that the 'remittance services, occupational value, inter-bank mobility, compliance standards, insurance and 'risk aversion' features are the essential elements of the financial product. To reveal which of the above features highly influence the growth of the clients, ROC analysis was carried out. Realistic-operating characteristic (ROC) curves were drawn to assess the features of the financial product with sustainable growth. ROC curves explore the precision of diagnostic tests and used to find the best "cut-off" value for impressive and unimpressive cluster test results. A graphical representation of this trade-off is presented in exhibit-1. Setting a low

cut-off yield a very high sensitivity but at the expense of specificity. Setting a high cut-off yield a high specificity at the expense of sensitivity. Table-5 shows the asymptotic significance of ROC analysis.

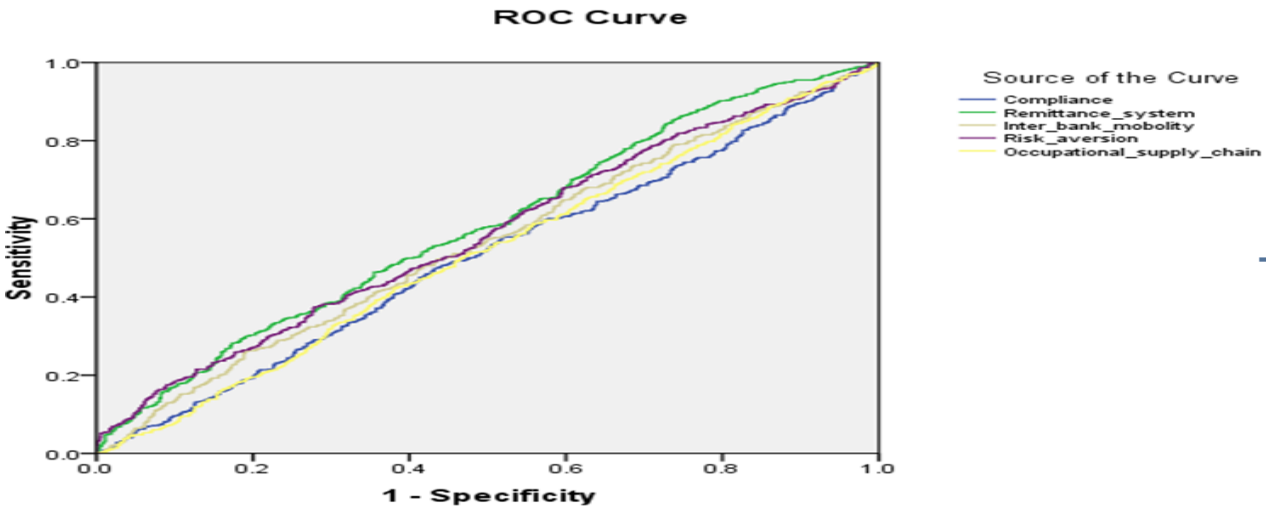

Exhibit-2. Product features ROC curve

Source: Primary data

Table-5. Product features-ROC analysis

Test Result Variable(s)	Area	Std. Error(a)	Asymptotic Sig.(b)	Asymptotic 95% Confidence Interval	
				Lower Bound	Upper Bound
Compliance procedures and standards	.502	.013	.853	0.476	0.529
Remittance services system	.580	.013	.000	0.554	0.605
Inter bank mobility	.535	.013	.008	0.509	0.562
Risk aversion	.558	.013	.000	0.532	0.584
Occupational supply chain	.511	.013	.403	0.485	0.537

Source: Primary data

The area under the variable 'remittance services system occupies maximum in the ROC curve and it is significant at 95% confidence level. Risk aversion follows it. The curve of the variable 'compliance' is occupying minimum level over the cut-off line; whereas 'remittance service system' curve is overlapping the reference level with a high degree of consciousness. As 'remittance service' curve is overlapping the other variables and its upper bound limit is 0.605, we conclude that the remittance services are highly preferred by the MFI clients over the other features.

The first phase of this study concludes that five essential features are needed for a financial instrument. The financial product has to be modified by considering the occupational conditions of a particular area. The MFIs should consider the inter-bank mobility and compliance standards. While considering about the risk aversion and remittance services, the regional customers' preferences should be considered. The depth of the product line is based upon the remittance services available with the financial product.

6.6. Phase II: Ex Post-Facto Research Analysis – New Product Design

Past researches proved that the calibration of existing product with new product would retain the existing customers (Brand, 1998). The addition of new product should satisfy the existing and potential clients (Banco, 1996). Hence after studying the expectations of the microfinance clients, we explore the possibilities of calibration of existing products. We identified five financial products from MFIs such as savings schemes, micro-credit, insurance, commodity derivatives and Money transfer (Remittance). To enable calibration, we study the relative value of the

existing products, the positioning of the products, and found the discrete probability of revamping the products according to expectations of customers as explored in the first stage of the study.

6.7. Stage V: What is the Importance of Microfinance Products at Present?

Conjoint analysis was employed to determine the relative importance of attributes among the five financial products. The attributes used are the five products available for the no-frill account holders. The reliability of employing conjoint analysis was identified by R –square. Since R-square was 0.634, conjoint analysis was an appropriate one. Exhibit-3 shows the relative emphasis on the products.

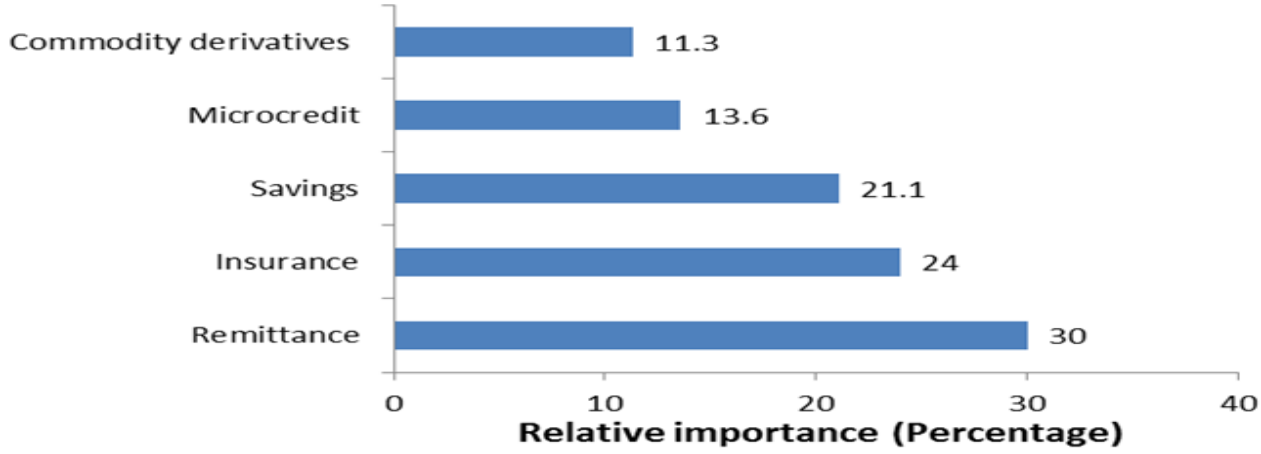

Exhibit-3. Financial product- Relative Importance

Source: Primary data

The results indicate that the remittance services (money transfers) have been more attractive among the 30% of the respondents; followed by insurance products. Hence new product can be conceptualized based on the insurance and remittance system.

To justify the findings, we quote two cases under remittance system and insurance (risk –aversion) to substantiate the features of MFI product.

Case justification for Remittance System: Adhikar, an MFI registered as a cooperative society in Gujarat, provides remittance services to 5 lakh Oriya migrants working in Surat. The total volume of monthly remittances from Surat is estimated to be between 61.5 US$ and 76.9 US$. It was previously done by informal money transfer operators. Adhikar offer service fees one percent cheaper than the local operators. This type of micro-guarantee reduced the total collection cost by 60%. The clients' satisfaction level is more than 4 in five point scale, as the MFI is collecting the dues from the door steps and at the time of cash flows from their occupational employment.

Case justification for Risk Aversion: Mysore Rural Area Development Agency (MYRADA), an MFI promoted rosemary farming to clients and it employed a person to live with the farmers to help them in procuring and selling the products. The MFI entered into a buy-back arrangement with the farmers until they could find alternate markets. The buy – back arrangement is integrated with the MFI products in the form of micro-insurance. As a result, the clients are earning ten times than they used to earn earlier. This reduced to risk level of marketing their products. Based on these cases and the results of the conjoint analysis, we conclude that the mirco-finance product should integrate the remittance system and facilitate the occupational employment that reduces the risk level of bad debts. The good remittance system can be achieved by introducing the micro-guarantee and risk aversion system can be achieved by introducing micro-insurance.

6.8. Stage VI: Positioning Strategy of Existing Products

Rank order scaling was constructed to identify relative positioning of the financial products. The microfinance clients are presented with five options and asked to rank them accordingly. Multidimensional scaling was used to measure the relative magnitude about the financial products. The perceived relationships among the financial products are represented in a spatial map (Exhibit III). The vertical axis was labelled as supply side traits. The horizontal axis represents the demand side traits.

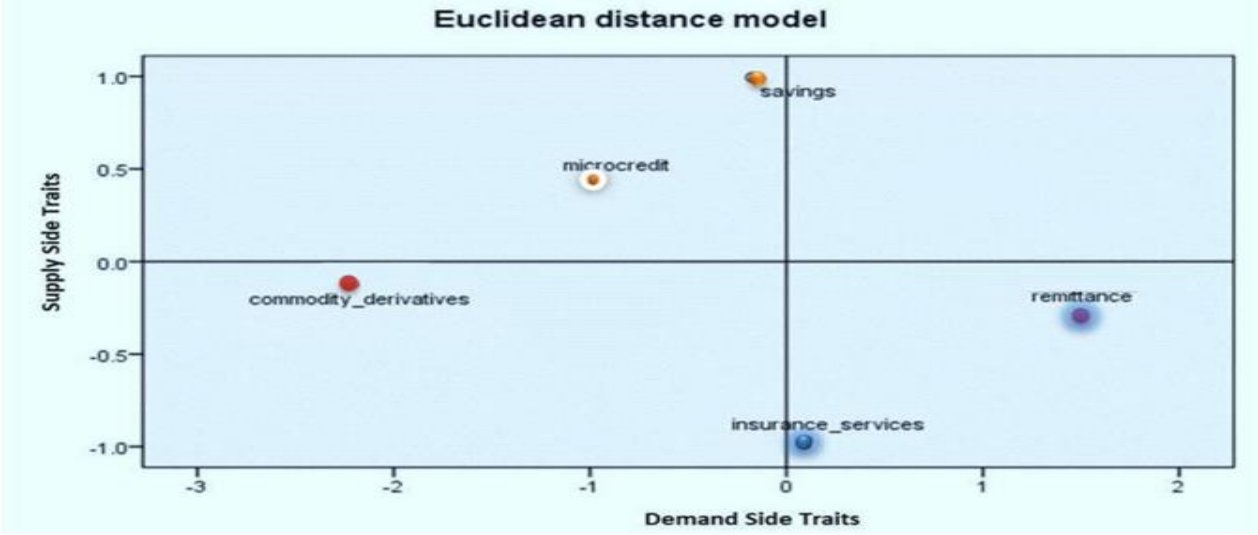

Exhibit-4. III.

Source: Primary data

The results imply that the remittance services and insurance services are most preferred by the customers (demand side effect). Savings and micro-credits are given due weight by the MFIs (supply side effect). Both customers and MFIs least prefers the commodity derivatives.

6.9. Stage VII: How to Integrate the Microfinance Products?

To cannibalise the existing products, we have integrated the customers' expectation and infrastructure available with the MFIs. As customers' expectations are more or less equal to the product availability, we believe that the MFIs are having sufficient hard and soft infrastructure to design new products. We wish to estimate the probability of the choice of products in a group. The causal relationship between microfinance products is studied with discrete choice analysis. The discrete outcome is measured in terms of the probability value, and it goodness of fit is identified with the beta value. The result is summarised in the table-12.The table shows that 1117 observations are read from the input of SAS data set, and all 1117 of them are used in the study. There are as many strata for the combinations of the subject and set variables. In this case, there are five strata. Each stratum must be composed of five alternatives. The results are tabulated from table 6 to 8.

Table-6. Model Fit Statistics

Criterion	Without Covariates	With Covariates
-2 LOG L	2146.17	2124.945
AIC	2146.17	2128.945
SBC	2146.17	2135.541

Source: Primary data

Table-7. Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > Chi-Square
Likelihood Ratio	21.2252	2	<.0001
Score	21.2992	2	<.0001
Wald	21.0071	2	<.0001

Source: Primary data

Table-8. Analysis of Maximum Likelihood Estimates

Variable	DF	Parameter Estimate	Standard Error	Wald Chi-Square
Insurance	1	-0.13308	0.04694	8.0393
Remittance	1	0.18384	0.04743	15.0229
Pr > Hazard				

Source: Primary data

The applicability of the model for goodness of fit has been discussed with beta values. As the Chi-Square statistic is 21.2252 with two degrees of freedom (p<.0001), the null hypothesis that beta is equal to zero has been rejected and the attributes do not influence decision. At common alpha levels such as 0.05 and 0.01, we reject the null hypothesis of no relationship between choice and the attributes. The parameter estimate with the smallest p-value is for commodity derivatives. Hence it can be revamped. The exhibit-4 shows the attribute probability values.

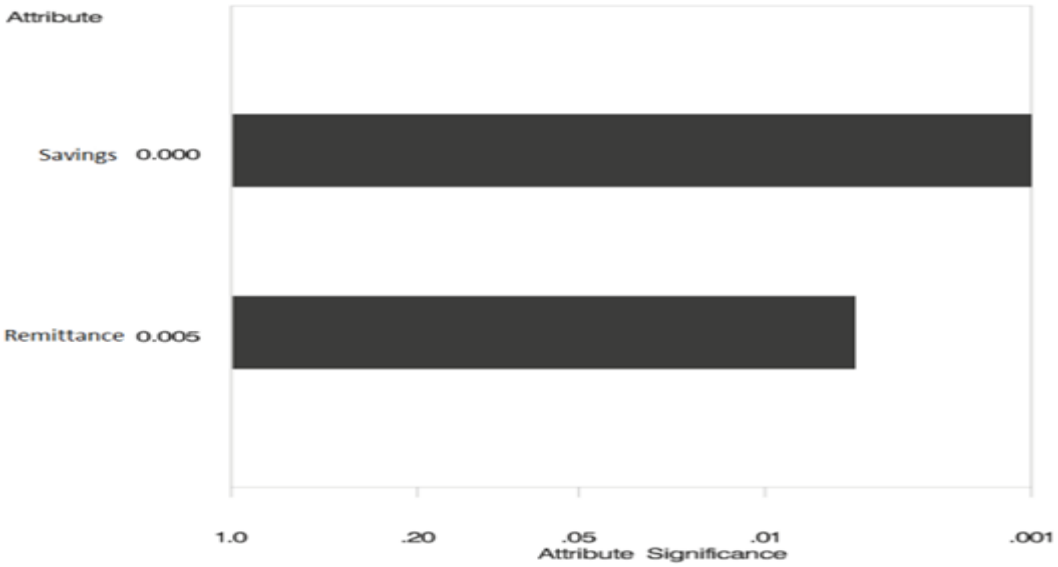

Exhibit-5. Attribute significance

Source: Primary data

Since the parameter estimate for variables is negative, savings is the most preferred variable. The result indicates that the most preferred alternatives are 'savings/ remittance; and savings/remittance/insurance.' The most predicted probability of these values these are 0.246 and 0.349 respectively.

The results of the second phase support the output of the first phase. We conclude that the commodity derivatives are to be revamped fully according to the occupational values. There is no need for changing the micro-credit services schemes of MFIs. The products can be integrated to achieve maximum results.

6.10. Stage VIII: Demand Sensing - Case Studies on Market Penetration

The demand for the two conceptual products ie, micro insurance and micro-guarantee are measured in terms of relative product demand. We identify two relative existing products. The consortium guarantees given by commercial banks in-tie up with MFIs has been identified as a relative product for micro-guarantee. The SEWA

bank's product micro-insurance has been identified as a relative product for micro-insurance, as it satisfies the essential qualities of MFI product as described in this empirical research.

6.10.1. Market Penetration for Micro-Guarantee Product

The ICICI bank has linked the remittance system through its business facilitator PSS. Pragathi Seva Samithi (PSS), an NGO, facilitated by ICICI, covers the poorest parts of the district, and its work covers a wide range of welfare and related activities in the most affected district Warangal in Andhra Pradesh. Over 1000 cotton farmers have committed suicide in Warangal since 1998, because of the load of debts they accumulated through buying ever-increasing quantities of herbicides and pesticides. PSS is one of the smallest of the five MFIs whose SHG customers have received loans from ICICI's partnership model. The consortium guarantee model with SBI, Corporation Bank and ICICI bank penetrates 20,000 customers within eight months of its introduction.

6.10.2. Market Penetration for Micro-Insurance Product

Indian banks introduced the financial product based on the occupation values of the society. SEWA Bank introduced an insurance product for women to cover postnatal and prenatal maternity needs, and disaster relief during cyclones and floods. 215 persons were benefitted within a month when the scheme was introduced (Jaysyree, 1997). The MFIs are integrating the government sponsored schemes with their product. The Government sponsored crop insurance scheme National Agricultural Insurance Scheme (NAIS) covered in twenty four States and two Union Territories. Central and State Governments entitle small and marginal farmers. During the last 25 crop seasons (i.e. from Rabi 1999-2000 to Rabi 2011-12), one thousand nine hundred thirty lakh farmers have been covered over an area of about two thousand nine hundred nineteen lakh hectares insuring a sum amounting to about 393946.15 US$. Claims to the tune of about 3846.15 US$ have been paid/payable against the premium of about 11638.46 US$ benefiting about 518 lakh farmers (up to Rabi 2011-12 season).The scheme targeted the rural people. Within 12 years it reached 1930 lakhs farmers. Hence, if the MFIs linked its products with government schemes, the penetration rate would be high.

7. IMPLICATIONS – HOW TO INTEGRATE?

The research strongly contends that the customised financial products are must for empowering the consumers of MFIs. The product should focus on their occupation, reduce compliance, easy to adopt different types of payment system, inter-bank mobility and safeguard them from abnormal loss. The model used by microfinance institutions are based on supply side factors. MFIs are giving preference to savings and micro-credits products. The MFIs has not considered the demand side factors. Hence, the focus should shift towards demand side products such as insurance and micro-guarantees. The remittance system is to be made easy. Exhibit-5 shows the customised service delivery of the financial products of MFIs based on the findings of this research.

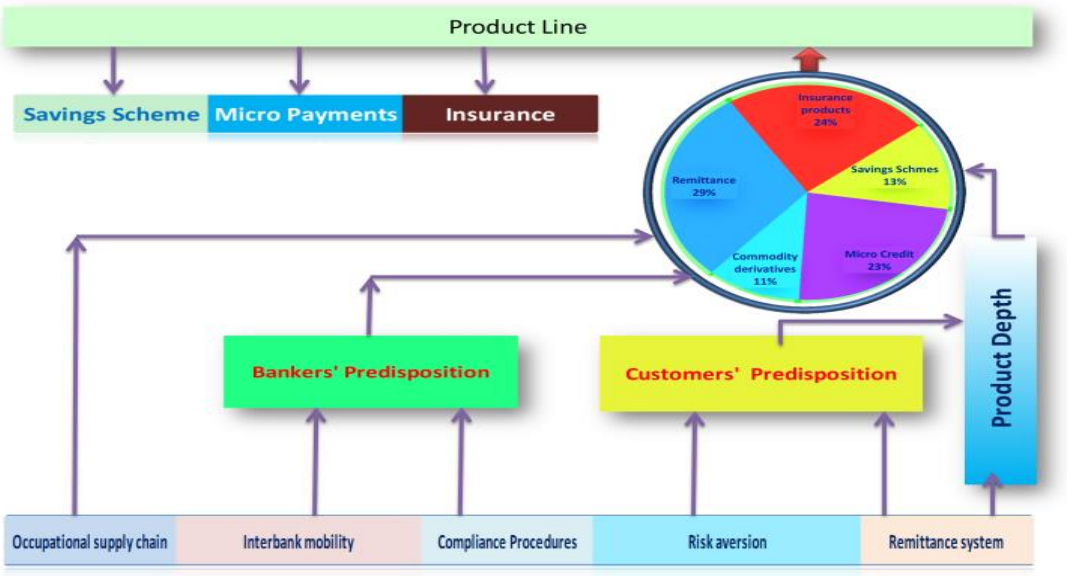

Exhibit-6. Clients' Discrete Choice model

Source: Primary data

The key elements of the financial products as expected by the customers are derived from the output of the factor-component model employed in the second stage of the analysis. The third stage inferred that the risk aversion and remittance system decide the sustainable growth of the customers. The fourth stage revealed that the remittance system is the most favoured factor that decides specificity and sensitivity of the product values. Hence, the product depth depends upon the remittance system. Fifth stage describes the relative importance for each product. Sixth stage revealed that remittance and insurance are the demand side factors. Hence these factors push the product line. Seventh stage of the study revealed that savings schemes, micro-payments schemes and insurance schemes are the discrete choices of the customers. The conceptual products identified are micro-insurance and micro-guarantee. The case study proves that occupation-based insurance schemes and micro-payments have penetration power to achieve MFI's products objectives. Hence, the financial product delivery system should be re-engineered.

From the MFIs perspective, the cost of establishing an innovative and customised product is high. The service delivery cost depends upon the viability of the product in the regional interest of the customers. If the products are developed based on the client's discrete choice model, it can outlast in the high pitched regional market. The self help groups (SHG) can be utilised as an intermediary for marketing the product. As a new product will penetrate the market within short time duration, the pay-back period will be reduced.

The financial instrument having demand side value propositions have a greater impact in the market. When micro-bank guarantee scheme was introduced, it spread to hundred respondents within nine days in the village. Hence, we suggest that new financial products that are bundled with their occupational values are needed.

8. CONCLUSION

The microfinance products are to be re-engineered according to the needs of the region to achieve the financial inclusion goals. The high transaction cost of developing and marketing the products are the hindrance in MFIs. The diaspora of product's image can reduce the cost and narrow down the payback period. The demand side factors essential for micro-finance design include occupational supply chain system, inter-bank mobility, compliance, remittance system and risk aversion. The supply side factors of microfinance product are accountability, addressability, accessibility and affordability. A new product that can include these features will have market penetration power. In developing countries like India, demand and supply side feature of micro-finance are integrated in two products such as micro-insurance (crop) and micro-guarantee. Hence, we strongly recommend to

the policy makers that new microfinance products that provides the occupational values of clients are essential. If it is done, we can integrate the microfinance products with financial inclusion schemes. This in turn uplift the rural poor mass in developing countries.

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