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Factors Affecting the Applicability of Group Lending As Innovation Strategy for Loan Borrowing and Repayment in Bungoma County

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Abstract: **One innovation to extend credit to the poor that simultaneously addresses the asymmetric information problem and enforcement concerns lies in group lending. However, Group lending as an innovation is faced with some challenges in its practice. The purpose of this study is to find out factors affecting the applicability of group lending as innovation strategy for loan borrowing and repayment. The study specifically established the effects of joint liability and its applicability to group performance. This study adopted an explanatory and exploratory design. The target population was members of Women Organization from 779 groups. Simple random sampling technique was used to select 344 members drawn from 174 groups. The primary data for the study was obtained using structured questionnaires. Analysis of data was done using descriptive statistics specifically mean and standard deviation. Inferential statistics applied are Pearson correlation coefficient and multiple regression analysis. Correlations results in table 4.9 showed that joint liability was positively and significantly correlated with loan repayment ($r=0.857$, $\rho<0.01$). It is therefore prudent for group members to monitor and enforce the commitment to each other.**

Keywords: **Applicability, Asymmetric, Credit, Enforcement, Innovation, joint liability, Lending.**

1. INTRODUCTION

One innovation to extend credit to the poor that simultaneously addresses the asymmetric information problem and enforcement concerns lies in group lending; lending to self-selected groups of entrepreneurs who are jointly liable for a loan. Groups form voluntarily, and, while loans are made to individual in the group, all members of the group are held responsible for loan repayment by the entire group. Many theoretical papers have stressed group lending's informational and enforcement advantages over individual lending. Since group members are jointly liable for loan repayment, group lending can achieve better screening to dilute adverse selection, induces peer monitoring to contend moral hazard and provides group members with incentives to enforce loan repayments (Ghatak and Guinnane 1999). Group-based lending minimizes both asymmetrical information, that is, when lenders know little about borrowers, and moral hazard, that is, the danger that, because a borrower does not bear the downside risk of his/her actions, he/she will undertake riskier projects, making it less likely that the loan will be repaid (Hung, 2004). Thus, group liability solves the typical asymmetric information problems of adverse selection and moral hazard, resulting in high repayment rates. The underlying rationale is that there are efficiency gains from group formation that compensate for information asymmetries, since group members know each other well. Moreover, they have the ability to impose non-pecuniary punishments on fellow group members that the lending institution is incapable of doing (Chatterjee and Sarangi, 2004). Group lending achieves self-

selection of borrowers and because co-borrowers act as guarantors, they screen and monitor each other and in so doing, reduce agency problems between the microfinance institution and its borrowers (Attanasio et al., 2011; Ghatak, 2000). Even if borrowers do not know each other's type, group lending may be feasible due to lower interest rates as a result of cross subsidization of borrowers (Armendariz de Aghion and Gollier, 2000). Group lending has a disciplining effect: joint liability may deter borrowers from using loans for non-investment purposes. Attanasio et al. (2011) found from results of informal transfers in Mongolia that borrowers in group-lending villages were less likely to make informal transfers to families and friends, while borrowers in individual-lending villages were more likely to do so.

Statement of the Problem:

According to State of the Microcredit Summit Campaign Report (2005), MFIs extend credit to poor household through innovative use of information that potential borrowers may have about each other resulting in high repayment rates. One innovation to extend credit to the poor that simultaneously addresses the asymmetric information problem and enforcement concerns lies in group lending; lending to self-selected groups of entrepreneurs who are jointly liable for a loan However, Group lending as an innovations is faced with some challenges in its practice. Some of the challenges include: covariance risks, increased transaction costs to borrowers, high set up costs, poor records and lack of contract enforcement (sometimes covering other member's debts in case of default might be difficult to enforce, control by elites of the flow of services to their benefit or control by one powerful leader, weakening of the group if the group leader departs, and repayment problems could cause a domino effect i.e. all borrowers will default, group methodology might not fit heterogeneous group, limited loan sizes often do not respond to the increasing needs of borrowers and requirement for regular meetings are very time consuming resulting to higher number of groups being declared as loan defaulters. Few studies in Kenya have addressed the determinants of successful group lending practices among rural entrepreneurs hence creating a dearth gap on adoption of group lending and its applicability.

Objective of the study:

To determine the factors that affect applicability of group lending as innovation strategy for loan borrowing and repayment in Bungoma County.

Specific Objective:

To find out the effect of joint liability on applicability of group lending as innovation strategy for loan borrowing and repayment in Bungoma County

Hypothesis of the study:

Ho_1: Joint liability has significant effect on applicability of group lending as innovation strategy for loan borrowing and repayment in Bungoma County

2. LITERATURE REVIEW

Diffusion of Innovation Theory- by Everett Rogers (1995):

The diffusion theory, also known as the diffusion of innovation theory, is a theory concerning the spread of innovation, ideas, and technology through a culture or cultures. The theory has been extensively studied by sociologists, psychologists, and anthropologists. Diffusion theory states that there are many qualities in different people that cause them to accept or not to accept an innovation. There are also many qualities of innovation that can cause people to readily accept them or to resist them. According to diffusion theory, there are five stages to the process of adopting an innovation. The first stage is knowledge, in which an individual becomes aware of an innovation but has no information about it. Next is persuasion, in which the individual becomes actively interested in seeking knowledge about the innovation. In the third stage, decision, the individual weighs the advantages and disadvantages of the innovation and decides whether or not to adopt it. After the decision comes the implementation, in which the individual actually does adopt and use the innovation. Confirmation is the final stage. After adopting the innovation, the individual makes a final decision about whether or not to continue using it based on his own personal experience with it. These same stages apply, to varying degrees, to groups of people in addition to individuals. There are many factors of innovation themselves that determine how likely people are to adopt them and how quickly people will adopt them. Generally speaking, if an innovation is better than whatever

standard preceded it, it will eventually be adapted. However, if the innovation goes against the moral values of the people, they will be less likely to adapt it. The ability to try the innovation without committing to it right away also influences the likelihood of people adopting the innovation. Simplicity of use is also a major factor in the adoption of innovation. No matter how good an innovation is people will be hesitant to adopt it if it is difficult to use and to learn. When people begin to see the good that the innovation is doing for them and for their neighbors, they will find it difficult to resist the temptation to adopt it. These qualities of the innovation are of the utmost importance to diffusion theory. Diffusion theory is also concerned with the rate at which innovation spread. Some people adopt the innovation immediately, while others hold out for a long time and continue using older methods. The rate of adoption depends on many factors. If, for example, a highly respected member of a community adopts an innovation, many more people are likely to follow. If many people give innovation poor reviews, people are likely to be slow to adopt it.

Conceptual Framework:

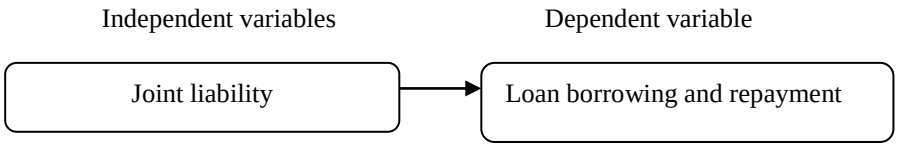

Figure.1: Conceptual Framework

Concept of Innovation:

According to Drucker, (2002) innovation is change that creates a new dimension of performance. All nonprofit organizations must be governed by performance, not merely good intentions... In the social sector, as in business and government, performance is the ultimate test of an organization. Every nonprofit organization exists for the sake of performance in changing people and society. In the years ahead, America's nonprofits will become even more important. As government retrenches, Americans will look increasingly to the nonprofits to tackle the problems of a fast-changing society. These challenges will demand innovation. Innovation can be defined as all the scientific, technological, organizational, financial, and commercial activities necessary to create, implement, and market new or improved products or processes (Kunt, 2007). Innovation is about helping organizations grow. Growth is often measured in terms of turnover and profit, but can also occur in knowledge, in human experience, and in efficiency and quality. Innovation is the process of making changes to something established by introducing something new. As such, it can be radical or incremental, and it can be applied to products, processes, or services and in any organization. It can happen at all levels in an organization, from management teams to departments and even to the level of the individual. (Damanpour, 2006)

Concept of Group lending:

Townsend, (2003) in his study argues that group lending refers to the practice of working with clients in small groups typically comprised of three to seven neighbors. Loans are made to individuals, but the group as a whole is held jointly liable should repayment difficulties arise. Economic theorists have been particularly interested in group lending, and nearly all of the economic work on microfinance focuses on the incentives induced by joint liability in group lending contracts, building on lending models pioneered by microfinance leaders. These models have found considerable success in serving clients that are just starting small businesses typically with no employees but themselves. But the programs tend to impose limits on wealthier borrowers. As a result, both banks and microfinance institutions have abandoned group lending for their wealthier and most-established borrowers, and this turn toward individual lender. (Gollier, 2000).According to the model, borrowers sort themselves into groups of five. First two members of the five-person group get loans. If they repay on time, the next two get loans, and finally the fifth gets a loan. The process continues in turn as long as performance is satisfactory, but in principle when a member defaults, all five are barred from borrowing in the future. In principle, this mechanism can allow microfinance programs to generate high repayment rates, even from clients that had traditionally been thought to be too risky and that are too poor to offer collateral. (Salanie, 2000)

Effect of Joint Liability has on Applicability of Group Lending as Innovation strategy for Loan Borrowing and Repayment:

Joint Liability Lending (JLL) is celebrated as a contractual innovation in group lending that has achieved the apparent miracle of enabling previously marginalized borrowers to lift themselves up by their own bootstraps by creating social

collateral to replace the missing physical collateral that excluded them from access to more traditional forms of finance Joint liability increases the viability of group lending since they are able to collect their debt appropriately. (Conning 2000). Nevertheless, the problem with joint liability in innovation lending programs is that the poor are given access to credit without collateral, and in the event of default, they cannot be punished beyond a mere denial of future access to credit hence affecting the process of group lending. This form of limited liability can induce borrowers to take risky decisions thus derailing the process of improving innovation in group lending. In an effort to fully explain the success of JLL in improving innovation in group lending and enhancing repayment, theorists have proposed models that attempt to explain how this is possible. (Ahlin, 2003)

3. METHODOLOGY

This study adopted an explanatory and exploratory design. The target populations are the members of Women Organization from 779 groups. The study used Nassiuma, (2000) sample size formula to get a sample size of 344 respondents. The primary data for the study was obtained using structured questionnaires. Analysis of data was done using descriptive statistics specifically mean and standard deviation. Multiple regression analysis was carried out to show the relationship between one dependent variable to independent variable.

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF THE FINDINGS

Table.4.1: Group Characteristics

		Frequency	Percent
Group Size	5-10	55	17.6
	15-20	186	59.4
	20-30	72	23
	Total	313	100
Members Tenure	less than 1yr	59	18.8
	1-4yrs	179	57.2
	4-7yrs	42	13.4
	7-10yrs	22	7
	above 10yrs	11	3.5
	Total	313	100

Table.4.2: Association between Group Size and Study Variable

		Mean	Std. Deviation	F	Sig.
Joint Liability	Fewer Than 5	4.7143	0.71714	9.225	0
	5-10	3.8514	0.65625		
	15-20	4.0299	0.7055		
	20-30	3.759	0.45464		
	30-45	4.24	0.50596		
	Total	3.9883	0.6921		

Joint Liability on Loan Repayment:

The researcher sought to establish the effect of joint liability on loan repayment. The results are as presented in table 4.3.From the table, 72.2% (226) of the respondents agreed that they have a strong relationship with their members (mean = 4.21, SD = 0.485).In regards to trust, 69.3% (217) of the respondents affirmed that they trust each other (mean = 3.94, SD = 0.551). Also, 50.2% (157) of the respondents agreed that they are jointly liable for the entire amount of the loan (mean = 3.96, SD = 0.887). Also, 48.2% (151) of the respondents strongly agreed that group members can put pressure on potential defaulters when their own interests are at stake (mean = 4.19, SD = 1.073).Moreover, 53.7% (168) of the respondents agreed that the group jointly guarantees all loans or simply furnishes information about individual participants (mean = 3.84, SD = 1.143).In a nutshell, there is strong relationship and trust in the group. There is also joint liability for the entire loanable amount. As well, the group guarantees or furnishes information and puts pressure on the defaulters.

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Table.4.3: Joint Liability on Loan repayment

		SD	D	N	A	SA	Mean	Std. Deviation	Skewness
we have a strong relationship with our members	Freq.	0	0	11	226	76	4.21	0.485	0.463
	%	0	0	3.5	72.2	24.3			
we trust each other	Freq.	0	0	58	217	38	3.94	0.551	-0.03
	%	0	0	18.5	69.3	12.1			
we are jointly liable for the entire amount of the loan	Freq.	0	30	39	157	87	3.96	0.887	-0.76
	%		9.6	12.5	50.2	27.8			
group jointly guarantees all loans or simply furnishes information about individual participants	Freq.	30	10	22	168	83	3.84	1.143	-1.38
	%	9.6	3.2	7	53.7	26.5			
group members can put pressure on potential defaulters when their own interests are at stake	Freq.	11	30		121	151	4.19	1.073	-1.53
	%	3.5	9.6		38.7	48.2			

GROUP CREATION OR FORMATION:

This section of the analysis sought to establish the effect of group education on loan repayment. The results of the analysis are as presented in table 4.4. Based on the results in the table, 41.9% (131) of the respondents doubt whether most of the members are married women (mean = 3.41, SD = 0.97).On the same note, 33.5% (105) of the respondents are not sure if there are more members than expected (mean = 3.33, SD = 1.13). Further, 21.4% (67) of the respondents are not certain if every time they meet, there is increase in the number of members joining the group (mean = 3.19, SD = 1.19).Similarly, 47.6% (149) of the respondents are not sure if the groups were formed with their challenges (mean = 3, SD = 0.8).In light of the foregoing, there is doubt whether most members are married, if there are more members than expected and if the group was formed with the members' challenges.

Table.4.4: Group Creation on Loan Repayment

		SD	D	N	A	SD	Mean	Std. Deviation	Skewness
Our group was formed with our challenges	Freq.	12	64	149	88	313	3	0.8	-0.5
	%	3.8	20.4	47.6	28.1	100			
Most of the members are married women	Freq.	7	41	131	86	48	3.41	0.97	-0
	%	2.2	13.1	41.9	27.5	15.3			
We have more members than expected	Freq.	12	65	105	69	62	3.33	1.13	-0
	%	3.8	20.8	33.5	22	19.8			
Every time we meet there is increase in number of members joining the group	Freq.	25	78	67	100	43	3.19	1.19	-0.2
	%	8	24.9	21.4	31.9	13.7			

Loan Repayment Status:

This section of the analysis presents the results on loan repayment status. Table 4.5 illustrates the results. When the respondents were asked whether they have ever delayed in paying their loan,7% (22) of them strongly agreed,46.3% (145) agreed,24.9% (78) were neutral while 12.8% (40) of the respondents disagreed(mean=3.3, SD = 1.07).Additionally,23.6% (74) of the respondents agreed that they have received a letter reminding them pay their loan,39% (122) of the respondents were neutral while 13.7% (43) of them strongly disagreed (mean = 3.09).Besides,42.2% (132) of the

respondents agreed that they pay their loan in time,36.4% (114) of them were not sure while 13.7% (43) strongly disagreed (mean = 3.07, SD = 1.023).Also,23.6% (74) of the respondents agreed that they fear the consequences of not paying their loan on time,10.9% (34) of the respondents were not sure on the same,29.7% (93) disagreed and 26.5% (83) of the respondents strongly disagreed (mean = 2.59, SD = 1.344).

Table.4.5: Loan Repayment Status

		SD	D	N	A	SA	Mean	Std. Deviation	Skewness
We pay our loan in time	Freq.	43	24	114	132		3.07	1.023	-0.92
	%	13.7	7.7	36.4	42.2				
We have never delayed in paying our loan	Freq.	28	40	78	145	22	3.3	1.07	-0.71
	%	8.9	12.8	24.9	46.3	7			
We have received a letter reminding to pay our loan	Freq.	43	36	122	74	38	3.09	1.176	-0.23
	%	13.7	11.5	39	23.6	12.1			
we fear the consequences of not paying our loan on time	Freq.	83	93	34	74	29	2.59	1.344	0.34
	%	26.5	29.7	10.9	23.6	9.3			

Correlation Analysis:

Pearson's product moment correlation analysis was used to assess the relationship between the variables. Correlation results are presented in table 4.12. Correlations results in table 4.6 showed that joint liability was positively and significantly correlated with loan repayment ($r=0.857$, $\rho<0.01$). Further, group creation was positively associated with loan repayment ($r=0.686$, $\rho<0.01$).However, social culture was negatively and significantly correlated with loan repayment ($r=-0.283$, $\rho<0.01$).Additionally, group location exhibited a positive and insignificant correlation with loan repayment ($r=0.007$, $\rho>0.01$).From the foregoing, other than group location, all the factors were significantly correlated with loan repayment.

Table.4.6: Correlation Analysis

	loan repayment	Joint liability
loan repayment	1	
Joint liability	.857**	1

** Correlation is significant at the 0.01 level (2-tailed).

Model Summary:

Table 4.7 illustrates the model summary for the regression model. The independent variables that were studied, explain 85.2% of the variation in loan repayment as represented by the R^2

Table.4.7: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.923a	0.852	0.85	0.26314	1.894

a Predictors: (Constant), social culture, group location , joint liability, group creation
b Dependent Variable: loan repayment

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Hypothesis Testing:

Hypothesis testing is based on standardized coefficients beta and p-value to test whether the hypotheses are rejected or not.

The results of multiple regressions, as presented in table 4.8 revealed that joint liability has a positive and significant effect on loan repayment with a betavalue of $\beta 1 = 0.704$ (p-value = 0.000 which is less than $\alpha = 0.05$). Therefore, the researcher rejects the null hypothesis and it is accepted that for each unit increase in joint liability, there is 0.704 unit increase in loan repayment. Also, the effect of joint liability was stated by the t-test value = 25.966 which implies that the standard error associated with the parameter is less than the effect of the parameter.

Table.4.8: Coefficient of Estimate

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0.146	0.189		0.772	0.441		
Joint liability	0.549	0.021	0.704	25.966	0	0.655	1.527

a Dependent Variable: loan Repayment

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings:

The results of the regression model showed that joint liability has a positive and significant effect on loan repayment based on $\beta 1 = 0.704$ (p-value = 0.000 which is less than $\alpha = 0.05$).This is corroborated by Ahlin& Townsend (2007) who posit that joint liability has been better functioning when group members are highly familiar with each other and also ready to punish the member on default. This in turn heightens loan repayment. Similarly, Laffont (2003) notes that the lender would be able to make optimum level of returns only if the group credit is provided and there is information flow among the members. Besides, Laffont& Rey (2003) argue that group credit would perform better if the group effectively monitors and enforces repayments. On a different angle, Karlan (2005) argues that present of insurance for the loan portfolio would encourage clients to be less concerned towards the repayment of the loans.

Conclusion:

Joint liability of group members has a positive influence on loan repayments. Joint liability is characterized by trust and highly familiarity of group members. Nevertheless, the collusion between group members may adversely affect the performance of the loan. Similarly, the lender is at a great risk of losing the portfolio if group members default despite being monitored. It can therefore be inferred that high commitment of group members together with trust and highly familiarity among positively impacts on loan repayment.

Recommendation:

It is evident from the results that joint liability of group members has a positive and significant effect on the loan repayment. It is therefore prudent for group members to monitor and enforce the commitment to each other. As well, there is need for strong relationship and trust in the group. Moreover, the group needs to jointly share the credit liability and put pressure on defaulters in order to enhance repayment of loans. It would also be beneficial for lenders to charge their interest rates depending on the riskiness of the group.

Recommendation for Further Studies:

This research takes exception to the fact that the findings of the study were generalized to Bungoma County. The researcher therefore suggested that the study be conducted on a wider perspective to determine other factors that influence loan repayment among low income households.

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