

Risk Perception and Adoption of Joint Versus Individual Liability: The Case of Selected Tribes in Tanzania

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Abstract

Perceive risk is an important factor that influences the adoption intention. Perceived risk associated with the use of microfinance institutions lending model may adversely affect borrowers. Researchers had applied the concept of perceived risk with Technology Acceptance Model (TAM) to measure the use of information technology, but overlooked the use of TAM on microfinance institutions lending models. This study integrates TAM with the adoption of joint vs. individual liability. To address these challenges, a study was conducted from four ethnic groups namely, Gogo, Zaramo, Chagga and Kinga borrowed from PRIDE (T) and FINCA (T). Questionnaires were used to collect information. The Structural Equation Modeling was used to perform the analysis.

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Index terms— risk perception, adoption, joint liability, individual liability, tribes, tanzania.

1 Introduction

The microfinance lending models that currently dominate the microfinance industry are joint and the individual lending models (Attanasio et al., 2013). Following the success of the Grameen Bank in Bangladesh, a large number of microfinance institutions all over the world have replicated the "Grameen model" of joint liability lending (Kono, 2006). Therefore, joint liability model is the main lending model used by microfinance institutions to lend to poor people who lack conventional collateral (Maurya, 2011). This lending model allows the poor people to access credit by substituting social capital for physical capital because the joint liability acts as collateral (Barboni et al., 2013). However, despite the many celebrated facets of joint liability lending, some research reveals that joint liability creates excessive social pressure on group members and discourages good clients from borrowing (Giné and Karlan, 2011; Attanasio et al., 2013).

When an individual borrow incurring joint liability, there is spreading of risk i.e. risk is shared amongst a group's members ??Sugden and William, 1983). Therefore, group members are jointly liable for repayment of the loan for each group member (Armendáriz and Morduch, 2010). However, some research reveals that in joint liability borrowing other borrowers does not repay the loan because she believes that another client will pay it for her, and the microfinance institutions are indifferent because they still get their money back (Barboni et al., 2013;Giné and Karlan, 2010). This discourages good clients from borrowing (Wydick et al., 2007). According to Giné and Karlan (2010), the majority of joint borrowers dislike the tension caused by the joint liability model. However, in other cultures, joint liability has been found to be more successful, where a borrower found borrowing partners whom s/he personally trusted (Wydick et al., 2007).

Theorists like Rogers (1983), Meyer and Allen (1997) state that innovations that have a clear and unambiguous advantage or have cost-effectiveness are more easily adopted. Nevertheless, relative advantage alone does not guarantee widespread adoption (Hassan et al., 2010). Some innovations are never adopted at all; others are adopted and subsequently abandoned (Vannoy and Palvia, 2010). In many cases the reason is that there is an issue of perceived risk that influences adoption intention ??Davis et al., 1989). Every technology has some inherent risk ??Davis, 1989). Although there are inherent risks in a technology, nonetheless individuals adopt

4 I. THE FACETS OF PERCEIVED RISK

44 technology when they feel that the benefits provided by the technology outweigh the costs involved in adopting
45 the technology (Ibid). Davis (1989) using Technology Acceptance Model (TAM) found that risk associated
46 with the use of technology may adversely affect the users. TAM has been considered as an excellent model in
47 understanding individual's perception on the use of the particular technology ??Davis et al., 1989; ??eatherman
48 and Pavlou, 2002;Pavlou, 2003) Researchers had applied TAM in other areas such as e-banking (Moga et al.,
49 2012), consumer electronic commerce (Lui Kit and Jamieson, 2010), mobile banking services (Li and Yeh, 2010;
50 Zhihong, 2010) etc. However, researchers have overlooked the use of TAM on microfinance institutions lending
51 models. This study integrates Technology Acceptance Model (TAM) variables by ??avis (1989) i.e. perceived
52 usefulness, and perceived ease of use into the perceived risk, to examine their influence on borrowing decisions
53 incurring joint vs. individual liability. There is theoretically an empirical support for integrating perceived risk
54 with TAM variables. Pavlou (2003) integrated perceived risk with the TAM model. Featherman and ??avlov
55 (2002) integrated perceived risk with TAM variables.

56 According to Gaskell et al. (2004) perceptions for the usefulness and ease of use reduce perceived risk and
57 influence positively the adoption intention. Similarly, Pavlou (2003) found that perceived risk cause potential
58 users to devalue perceived usefulness and perceived ease of use and affects negatively the adoption intention
59 Therefore, this paper seeks to establish the relationship of the coefficient of the explanatory variable, whether the
60 perceived risk associated with borrowing incurring joint liability has a negative effect on the decisions to borrow
61 incurring joint liability or not.

62 2 II.

63 3 Literature Review a) Perceived Risk

64 It appears that there is no universally accepted definition of perceived risk (Jacoby and Kaplan, 1972;Mitchell,
65 1999). Perceived risk seems to emerge within two areas which are;

66 i. Risk and uncertainty (Bauer, 1960) and ii. Consequences (Weber and Bottom, 1989). Perceived risk has been
67 defined differently according to the context of the study. The concept of perceived risk was originally introduced
68 by Bauer in 1960. Thus, Bauer (1960) claims that consumer behavior involves risk, because the consequences of
69 the product usage cannot be anticipated with certainty, and that some consequences of the product usage are
70 likely to be unpleasant. Therefore, he defined perceived risk as the combination of uncertainty plus consequence
71 of outcome. Similarly, Peter and Ryan (1976) conceived perceived risk as an influence on choice decisions and may
72 be defined as the expectation of losses, associated with purchase and acts as an inhibitor to purchase behavior.
73 They also conceptualized perceived risk as composed of two distinct components, the probability of loss and
74 consequence or importance of that loss.

75 According to Gewald et al. (2006), perceived risk is generally defined as the undesired consequence outcome
76 due to uncertainty about the future. As for Bauer (1960), risk is dissimilar to uncertainty because risk has a
77 known probability while uncertainty does not. Similarly, Peter and Ryan (1976) recognized that uncertainty is
78 different from perceived risk. However, Cunningham (1967) and Mitchell (1999) suggest that risk and uncertainty
79 should be perceived as similar and should be acknowledged as risk rather than uncertainty, because buyers are
80 unable to realize the exact probability of consequences.

81 On one hand, other studies suggest that perceived risk should be defined in terms of positive consequences
82 (Arrow, 1965;Stone and Gronhaug, 1993). On the other hand, other studies argue that perceived risk should
83 be defined as an aspect of negative consequences (Kogen and Wallack, 1964;Cox, 1967;Peter and Ryan, 1976).
84 However, others studies defined perceived risk as a combination of positive and negative consequences (Weber
85 and Bottom, 1989).

86 For instance, using the case study of the possibility of a win or loss in a lottery draw, perceived risk is defined
87 as an alternative solution involving both positive (winning) and negative consequences (not winning) (Weber
88 and Bottom, 1989). Defining perceived risk as a combination of positive and negative consequences appears to
89 correspond with a borrower's perception toward risk in general. However, for the purpose of this study, perceived
90 risk can be considered as a negative consequences resulting from borrowing incurring joint liability.

91 4 i. The Facets of Perceived Risk

92 Perceived risk has been typified as having six dimensions: (1) performance risk, (2) financial risk, (3) time risk, (4)
93 privacy risk, (5) social risk, and (6) psychological risk ??Cunningham, 1967). Performance risk is the possibility of
94 unavailable service or the service that cannot satisfy users or services that cannot function as expected (Zhihong,
95 2010). Financial risk refers to the possibility that the product will not be worth the financial price and would have
96 4 been available cheaper elsewhere (Azmi and Kamarulzaman, 2010). Furthermore, time risk is the possibility of
97 the loss of time such as long period of transaction processing etc. (Zhihong, 2010). Privacy risk is the potential
98 loss of control over personal information, such as when information about you is used without your knowledge
99 or permission (Gewald et al., 2006). Social risk is the possibility of users who are not accepted or acknowledged
100 by other people (Zhihong, 2010). Also Azmi and Kamarulzaman (2010) define social risk as an individual's ego
101 and the effect that adoption will have on the opinions of reference groups. Psychological risk is the possibility
102 of mental stress of the users. This spirit pressure may come from the outside world such as the non-recognition
103 of their friends and family, and may also come from themselves such as the irritable mood of financial losses

104 when the response time of a certain type is too long (Azmi and Kamarulzaman, 2010). Overall risk is a measure
105 of perceived risk when all criteria are evaluated together (Featherman and ??avlou, 2002). This study adopted
106 five facets as antecedents of perceived risk in the research model (Figure ???.2) integrated by TAM variables to
107 examine their influence in the adoption of joint vs. individual liability. Social risk was not adopted; the reason is
108 explained in section 3.3 ??avis (1989) i.e. perceived usefulness, and perceived ease of use integrated by perceived
109 risk and its facets as a base theory. TAM has been applied in a more general context to a variety of (acceptance)
110 decisions (Bartholomaus and Mayer, 2010). TAM as illustrated in Figure ??). External variables influence
111 perceived usefulness (PU) and perceived ease of use (PEU). ? Perceived usefulness (PU): Perceived usefulness is
112 defined as the extent to which a person believes the innovation developed is useful and will enhance his or her
113 job performance. ? Perceived ease of use (PEU): Perceived ease of use is the extent to which a person believes
114 that the developed technology will be free of effort. ? Attitudes towards use (A): Attitude towards use is defined
115 as the user's desirability of using the technology developed.

116 ? Perceived usefulness (PU) and perceived ease of use (PEU) are the sole determinants of attitude (A) towards
117 an adoption. Perceived usefulness and perceived ease of use is determined by external variables (EV) and attitudes
118 toward use (A) can therefore be defined as: The theory claims that perceived risk cause potential users to devalue
119 perceived usefulness and perceived ease of use and affects negatively the adoption intention (Pavlou, 2003). TAM
120 has been applied in many other areas (Li and Yeh, 2010; Lui Kit and Jamieson, 2010; Zhihong, 2010; Moga et
121 al., 2012). The question is whether TAM can also be applied in the area of microfinance institutions lending
122 models. Thus the working hypothesis states that: A = PU + PEU + EV ? Behavioral

123 Perceived risk in joint liability mediated by (a) perceived usefulness, (b) perceived ease of use influences
124 negatively the decision to borrow as a group and positively as an individual. 6 III.

125 **5 Methodology a) Study Area Selection Criteria**

126 The study was conducted in four tribes within the country, the Chaga from Kilimanjaro Region, the Zaramo
127 from Coast Region, the Kinga from Njombe Region and the Gogo from Dodoma Region borrowed from PRIDE
128 (T) and FINCA (T). The selection of tribes, microfinance institutions and respondents were based on specific
129 characteristics they possess, that are relevant to the purpose of this study. Therefore, sampling was guided by
130 theoretical statistical sampling. Theoretical sampling means selecting a sample based on a certain characteristics
131 they possess ??Strauss and Cobin, 1998;Thompson, 1999). These tribes were selected for two reasons. The first
132 consideration was the ethnic group where cooperation exists and secondly, the ethnic group where aggressiveness
133 in business exist. Within the literature, the main factor in order for the joint liability model to operate well is
134 the existence of trust associated with cooperation (Bohnet and Frey, 1999). Most of the loans from microfinance
135 institutions are borrowed for business purposes (Moore, 1997). Therefore, differences in cultural values that exist
136 among ethnic groups were the main reason for the selection of these ethnic groups.

137 Kilimanjaro Region which covers an area of 13,250 square kilometres is located in the North Eastern part
138 of Tanzania Mainland. The region had a total population of 1,640,087 (URT, 2012). The first rationale for
139 selecting the Chaga tribe from Kilimanjaro Region is that, the literature search shows that "Chaga people have
140 the culture of cooperation (Conzales, 2005). The second rationale is its aggressiveness in business, as many of
141 them are entrepreneurs (Ibid).

142 The Coast Region is located in the Eastern part of mainland Tanzania, and a large part of it is situated
143 along the Indian Ocean costal belt. The region covers an area of 32,547 square kilometres. The region had a
144 total population of 1,098,688 (URT, 2012). The first rationale for selecting the Zaramo tribe from the Coast
145 Region is cooperation (Mazrui and Shariff, 1994). Zaramo culture has been influenced by the Arab culture which
146 emphasizes safety of the group, (Bryceson, 2010). The second rationale is that the majority are not aggressive
147 in business (Velten, 2002).

148 The Njombe Region which covers an area of 21,347 square kilometres is located in the South Western part of
149 Tanzania Mainland. The region had a total population of 702,097 (URT, 2012). The rationale for selecting the
150 Kinga tribe from Njombe Region is that they are known for their good business skills and cooperation among
151 themselves (Iliffe, 2008). Dodoma Region is located in the Central part of mainland Tanzania. The region covers
152 an area of 41,311 square kilometres. The region had a total population of 2,083,588 (URT, 2012). The rationale
153 for selecting the Gogo tribe from Dodoma Region is that business is less conducted by the majority of Gogo
154 people and cooperation is less among themselves (Narayan, 1997).

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157 **7 C**

158 The study examines whether cooperation still exists for those tribes which have the culture of cooperation
159 and does it make the joint liability an appropriate lending model. For the tribe which literature search shows
160 that cooperation does not exists, the study examines whether joint liability is an appropriate lending model in
161 accordance to their specific cultural settings. PRIDE (T) and FINCA (T) were selected for two reasons; first,
162 they are microfinance institutions which have a wide outreach throughout the country as compared to other 7

12 A) RESPONDENTS' CHARACTERISTICS

163 microfinance institutions. Secondly, they are among the microfinance institutions whose methodology of lending,
164 is based on both group and an individual lending.

165 8 b) Data Collection

166 The researcher met the respondents who borrowed using joint liability lending model at PRIDE (T) and FINCA
167 (T). The selection of respondents, who participated in this study, was conducted using systematic sampling
168 without replacement. The sample size for the study was 480 participants. This study used Structural Equation
169 Modeling for the analysis (SEM). SEM requires a minimum sample size of 200 and above (Joreskog and Sorbom,
170 1993). A cross-sectional survey approach was employed through self-administered questionnaire. Before the
171 actual survey, pre-testing of the questionnaire was done to check its relevance and appropriate modifications were
172 made accordingly.

173 9 c) Quantification of the Variables

174 Perceived risk is the independent variables for this study. Perceived risk was measured in terms of the general
175 risk toward borrowing incurring joint liability with the scale suggested by Miyazaki and Fernandez (2001).
176 Cunningham (1967) typified perceived risk as having six dimensions: (1) performance risk, (2) financial risk, (3)
177 time risk, (4) privacy risk, (5) social risk, and (6) psychological risk. The study used five risk facets to evaluate
178 how perceived risk influenced borrowing decisions of incurring joint vs. an individual liability. The study did
179 not use social risk because in the context of this study, social risk would have been based on people who did not
180 borrow from microfinance institutions because they were unacceptable to join the group.

181 Perceived usefulness and perceived ease of use were the moderating variables for perceived risk measured from
182 the scale adopted from Davis et al., ??1989). Perceived usefulness contained questions measuring beliefs that
183 using a particular system, may improve their business performances. Perceived ease of use contained questions
184 which measured users" beliefs whether joint liability or individual liability was easier to use without difficulty.
185 Joint vs. an individual liability are the dependent variables for this study. These were quantified by asking
186 a question regarding borrowers" willingness to borrow incurring joint vs. an individual liability. Lehmann
187 and Hulbert (1972) point out that if the focus is on individual behavior, five to seven point scales are used.
188 Accordingly, these variables were measured using seven point Likert scale with end points of "strongly agree" (7)
189 and "strongly disagree" (1).

190 10 d) Data Analysis

191 The preliminary data analysis was performed before testing the hypotheses of the study. Preliminary analysis
192 involved factor analysis and models fit test.

193 The final data analysis tested the hypothesis of the study by the use of Structural Equation Modeling (SEM).
194 In estimating the parameters under SEM, AMOS version 20 was used. AMOS was used because it is user friendly
195 in terms of creating the structural models and defining the required statistics (Ame, 2005).

196 Therefore, once the model had attained an acceptable fit to the observed data, the causal path analysis
197 or relationships among variables were determined. Path analysis was employed for studying the relationship
198 between perceived risk and its facets moderating by perceived ease of use and perceived usefulness and the
199 decision to borrow incurring joint vs. an individual liability (see Figure ?? The validity and reliability of all the
200 measures in the study instrument were improved qualitatively. This was done by employing a seven point Likert
201 scale as suggested by Churchill and Peter (1984). Furthermore, the improvement was done by pre-testing the
202 questionnaire and adoption of methods and instruments from past studies.

203 IV.

204 11 Results and Discussion

205 12 a) Respondents' Characteristics

206 The summary of respondents" features is given in Table 1. According to the results, some of the Chagga and
207 Kinga ethnic groups prefer to borrow incurring joint liability, whereby from PRIDE (T), Chagga and Kinga
208 ethnic groups were found to be 27% and 29% out of 93 and 85 9 respondents respectively. For the FINCA (T),
209 Chagga ethnic group were found to be 17% out of 48 respondents while Kinga ethnic group were found to be
210 29% out of 51 respondents. However, for the Zaramo ethnic group none of them prefer to borrow incurring joint
211 liability, from both PRIDE (T) and FINCA (T). For the Gogo ethnic group, out of 56 respondents, only 2%
212 from PRIDE (T) prefers joint liability while for the FINCA (T), all of them prefer an individual liability. This
213 is the challenge to the microfinance institutions because all of these borrowers borrow incurring joint liability.
214 However, the majority of them prefer an individual liability. These findings suggest that joint borrowers perceived
215 borrowing incurring joint liability as risky. C

216 With respect to sex of the respondents, from PRIDE (T), out of 48 male respondents, 8% prefer joint liability
217 while 92% prefer an individual liability. On the other hand, out of 232 female respondents, 20% prefer joint
218 liability while 80% prefer an individual liability. From FINCA (T), out of 15 male respondents, 20% prefer joint
219 liability while 80% prefer an individual liability. Likewise, out of 185 female respondents, 11% prefer joint liability

220 while 89% prefer an individual liability. These findings indicate that regardless of whether the borrower is male
221 or female, the majority prefer borrowing incurring an individual liability. These findings also suggest that the
222 majority of the borrowers from microfinance institutions are women.

223 With respect to the ages of the respondents, from PRIDE (T), for the age group of 26 to 35, out of 57
224 respondents, 11% prefer joint liability while 89% prefer an individual liability. For the age group of 36 to 45, out
225 of 150 respondents, 20% prefer joint liability while 80% prefer an individual liability. For the age group greater
226 than 45 years, out of 73 respondents, 21% prefer joint liability while 79% prefer an individual liability. From
227 FINCA (T), for the age group of 26 to 35, out of 46 respondents, 9% prefer joint liability while 91% prefer an
228 individual liability. For the age group of 36 to 45, out of 113 respondents, 12% prefer joint liability while 88%
229 prefer an individual liability. For the age group greater than 45 years, out of 41 respondents, 12% prefer joint
230 liability while 88% prefer an individual liability. These findings indicate that despite of their differences in the
231 age groups, the majority of the respondents prefer borrowing incurring an individual liability. These findings also
232 suggest that the majority of the borrowers from microfinance institutions were in the 36 to 45 years range. These
233 findings imply that the age groups of 36 to 45 years were dominant participants in the microfinance institutions,
234 since they have reached maturity and have responsibilities in their families and society as a whole.

235 With regard to the level of education attained, from PRIDE (T), out of 23 respondents who have not attained
236 any education, 13% prefer joint liability while 87% prefer an individual liability. For the respondents These
237 findings suggest that despite of their differences in the level of education attained, the majority of the respondents
238 from microfinance institutions prefer borrowing incurring an individual liability. These findings also suggest that
239 the majority of the respondents were less educated people having attended primary school.

240 The results therefore suggest that it was the poorer part of the targeted population that benefited from the
241 microfinance institutions.

242 With respect to marital status, from PRIDE (T), Table 1 has shown out that out of 251 married respondents,
243 18% prefer joint liability while 82% prefer an individual liability. For the divorced, out of 9 respondents, 22% prefer
244 joint liability while 78% prefer an individual liability. For the cohabiting respondents, out of 20 respondents, 25%
245 prefer joint liability while 75% prefer an individual liability. From FINCA (T), out of 177 married respondents,
246 10% prefer joint liability while 90% prefer an individual liability. For the divorced, out of 9 respondents, 33%
247 prefer joint liability while 67% prefer an individual liability. For the widowed, out of 6 respondents, 33% prefer
248 joint liability while 67% prefer an individual liability. For the cohabiting, out of 8 respondents, 100% prefer an
249 individual liability. These findings suggest that 11 despite of their differences in marital status, i.e. whether
250 the borrower is married, divorced, widowed or cohabiting, the majority of the respondents from microfinance
251 institutions prefer an individual liability. These findings also suggest that the majority of the respondents were
252 married people, because they have responsibilities in their families and society as a whole.

253 With regards to other training received, from PRIDE (T), out of 119 respondents who have received vocational
254 training, 18% prefer joint liability while 82% prefer an individual liability. For the respondents who have not
255 received any training, out of 161 respondents, 18% prefer joint liability while 82% prefer an individual liability.
256 From FINCA (T), out of 68 respondents who have received vocational training, 13% prefer joint liability while
257 87% prefer an individual liability. For the respondents who have not received any training, out of 131 respondents,
258 11% prefer joint liability while 89% prefer an individual liability. In addition, only one respondent from FINCA
259 (T) has received professional training and prefers an individual liability. These findings imply that regardless of
260 whether the respondents have received training or not, the majority of the borrowers prefer an individual liability.
261 Moreover, these findings also suggest that the majority of the respondents had not received any training. This
262 is the challenge to the microfinance institutions, because poor people need business skills in order to be effective
263 in expanding their business.

264 As far as the main occupation of the respondents was concerned, all of them were business people (100%).
265 These findings imply that microfinance institutions targeted borrowers who are already engaged in business.

266 **13 b) Preliminary Analysis i. Factor Analysis**

267 For factor analysis, Tinsley and Tinsley (1987) suggest that, the larger the sample, the better. Comrey and Lee
268 (1992) consider a sample of $n \geq 200$ as appropriate for the factor analysis. Hence, $n=280$ from PRIDE (T) and
269 $n=200$ from FINCA (T) were suitable for the analysis. To perform the factor analysis, principal components
270 subjected to Oblimin rotation was used to allow for possible correlations between factors. The number of factors
271 retained were those with initial Eigenvalues >1 (Bryman and Cramer, 2001). The results of the factor loading
272 for PRIDE (T) and FINCA (T) reveal that most of the factors have high values of loadings ranging from 0.6 -0.9
273 suggesting that it is a well-defined structure ??air and colleagues (2005) as shown in Table 2 ii. Model Fit Test
274 A Confirmatory factor analysis that is in the SEM was performed to test whether the data fit the hypothesized
275 models. The intention is to confirm if the models are adequate enough to be used as the basis for testing the
276 research hypotheses. For the findings to indicate that the predicted model is congruent with the observed data,
277 it is recommended for the χ^2 to be nonsignificant ($p > 0.05$), (Hoyle and Panter, 1995), CMIN/DF in the range
278 of 2 to 1 or 3 to 1 indicate acceptable fit between the hypothetical model and the sample data (Kenny, 2012).
279 Furthermore, for the hypothetical model to indicate acceptable fit to the sample data, the fit indices should be
280 as follow; GFI>0.90, AGFI>0.90, CFI>0.90, TLI>0.90, NFI>0.90, IFI>0.90, RFI>0.90, RMR<0.05, RMSEA;
281 good fit (0.00-0.05), fair fit (0.05-0.08), mediocre fit (0.08-0.10), and poor fit (over 0.10), PCLOSE should be >

282 0.05 to conclude close fit of RMSEA (Ibid). The models fit summaries-CMIN, CMIN/DF, RMSEA, GFI, AGFI,
283 RMR, NFI, RFI, IFI, TLI and CFI, all indicate that the models serve as a good fit. The overall results of the
284 models fit are as shown in Table 3 to 6 below.

285 **14 c) Final Analysis**

286 The summaries of the results of testing hypothesis for PRIDE (T) and FINCA (T) with the decision to borrow
287 incurring joint liability are presented in Tables 7 and 8. This study has found out that the path coefficients for
288 perceived risk were negative and significant ($p < 0.05$), stronger in magnitude with $\beta = -1.09$ for PRIDE (T) and
289 $\beta = -0.71$ for FINCA (T). These findings support the hypothesis that perceived risk in joint liability influenced
290 negatively borrowing as a group. These findings imply that high perceived risk associated with borrowing
291 incurring joint liability, drives borrowers negatively to prefer borrowing incurring joint liability. Likewise, the
292 results reveal significance path coefficients for perceived risk and their measured variables ($p < 0.05$) for both
293 PRIDE (T) and FINCA (T), supporting the hypothesis that they influence negatively borrowing incurring joint
294 liability. However, the path coefficients between perceived risk and time risk were not significant ($p > 0.05$)
295 for both PRIDE (T) and FINCA (T) implying that time risk is not a problem to the borrowing incurring joint
296 liability.

297 According to Pavlou (2003) perceived risk drives an individual negatively in their adoption intention. These
298 findings are in contrast to a major assumption in theoretical work that emphasize on aggregate welfare gains
299 in microfinance, that potential borrowers are risk neutral and optimize over their expected income regardless of
300 contractual risk associated with joint liability (Ghatak and Guinnane, 1999). The findings of this study suggest
301 that the perceived risk associated with borrowing incurring joint liability matter to the microfinance institutions
302 borrowers.

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304 Volume XV Issue X Version I Year 2015 () With respect to the perceived ease of use as a moderator of a perceived
305 risk and borrowing incurring joint liability, the findings reveal that the path coefficients were significant ($p < 0.05$)
306 with $\beta = -0.64$ for PRIDE (T) and $\beta = -0.66$ for FINCA (T). The findings support the hypothesis that perceived
307 risk moderated by perceived ease of use influence negatively borrowing as a group. These findings imply that
308 high perceive risk associated with borrowing incurring joint liability, cause the potential users to perceive joint
309 liability lending model as not easy to use, which influences negatively the decision to borrow incurring joint
310 liability. These findings are in line with the theory of TAM (Davis et al., 1989). They found out that high
311 perceived risk causes the potential users to devalue perceived ease of use, which affects negatively the adoption
312 intention as in this case the joint liability lending model.

313 With respect to the perceived usefulness and borrowing incurring joint liability, the path coefficients for
314 perceived usefulness were negative and significant ($p < 0.05$), with $\beta = -0.31$ for PRIDE (T) and $\beta = -0.80$ for
315 FINCA (T). These findings support the hypothesis that perceived risk of joint liability moderated by perceived
316 usefulness influenced negatively the decision to borrow incurring joint liability. These findings imply that high
317 perceived risk associated with borrowing incurring joint liability, caused borrowers to perceive the loans obtained
318 incurring joint liability as not useful in helping them, to expand their business and meet other consumption
319 needs.

320 With respect to the financial risk as a facet of perceived risk and its influence in borrowing incurring joint
321 liability, the path were significant ($p < 0.05$) and negative with $\beta = -0.46$ from PRIDE (T) and $\beta = -0.35$ from
322 FINCA (T). These findings imply that risk of paying for the defaulters increase the financial risk associated with
323 borrowing incurring joint liability.

324 With respect to psychological risk as a facet of perceived risk and its influence in borrowing incurring joint
325 liability, the path were significant ($p < 0.05$) and negative with $\beta = -0.24$ for PRIDE (T) and $\beta = -0.64$
326 for FINCA (T). Psychological risk in this study encompasses a mental stress to the joint borrowers because of
327 partners' failure to repay the loans and a mental stress, caused by losing future access to credit in case group
328 members fail to repay the defaulted loans of other group members. These findings suggest that the high risk of
329 non-payers in joint liability, associated with not able to access future loans in case the group members failed to
330 pay the defaulted loans, psychologically influences negatively borrowing incurring joint liability. With respect
331 to performance risk as facet of perceived risk and its influence in borrowing incurring joint liability, the path
332 coefficients were significant ($p < 0.05$) with a $\beta = -0.48$ for PRIDE (T) and $\beta = -0.45$ for FINCA (T). According to
333 Barboni et al. (2013), joint liability lending model has diminished its popularity because, some joint borrowers'
334 free ride on their partners to bear their costs in case they fail to repay their loans. These findings imply that
335 because of the high risk associated with borrowing incurring joint liability, especially the risk of partners' failure
336 to repay the loans, borrowers perceive that joint liability lending model may not perform well in future.

337 With respect to privacy risk as facet of perceived risk and its influence in borrowing incurring joint liability,
338 the path coefficients were found to be negative and significant ($p < 0.05$) but weaker in magnitude with $\beta = -0.06$
339 for PRIDE (T) and $\beta = -0.05$ for FINCA (T). These findings indicate that privacy risk had a little influence on
340 the decision to borrow incurring joint liability. The weak magnitude for privacy risk suggests that privacy risk
341 to the joint liability borrowers was not a big issue. These findings are inconsistent with the study conducted by

342 Harper (2007) who reveals that joint borrowers may suffer from reduced privacy. Thus, it is possible to say that
343 different cultures perceive risk associated with borrowing incurring joint liability differently.

344 With respect to time risk as facet of perceived risk and its influence in borrowing incurring joint liability,
345 the path coefficients were found to have insignificant influence on borrowing incurring joint liability ($p > 0.05$)
346 for both PRIDE (T) and FINCA (T). These findings imply that joint borrowers perceive that time spent on
347 attending group meetings, pressuring group members to repay the loans and finding a partner is not a problem.
348 These findings are inconsistent with other studies which found that borrowers incur some disutility such as time
349 spent on attending group meetings, repayment pressure and finding a partner (Montgomery, 1996; Zeitinger,
350 1996; Armendáriz and Morduch, 2000).

351 With respect to the overall risk and borrowing incurring joint liability, the path coefficients were negative,
352 stronger in magnitude and significant ($p < 0.05$) with $\beta = -0.71$ for PRIDE (T) and $\beta = -0.80$ for FINCA
353 (T). These findings indicate that in overall, the perceived risk of joint liability influenced negatively borrowing
354 incurring joint liability.

355 With regards to the perceived risk associated with joint liability and the decision to borrow incurring individual
356 liability, the summaries of the results of testing hypothesis for PRIDE (T) and FINCA (T) are presented in Tables
357 9 and 10. The path coefficients for perceived risk were positive, stronger in magnitude and significant ($p < 0.05$)
358 with $\beta = 0.87$ for PRIDE (T) and $\beta = 1.05$ for FINCA (T). These findings support the hypothesis that perceived
359 risk associated with joint liability influenced positively borrowing as an individual. Likewise, the results reveal
360 significance path coefficients for perceived risk of joint liability and their measured variables ($p < 0.05$) for
361 both PRIDE (T) and FINCA (T), supporting the hypothesis that they influence positively borrowing incurring
362 individual liability. However, the path coefficients between perceived risk and time risk were also not significant
363 ($p > 0.05$) for both PRIDE (T) and FINCA (T).

364 Risk Perception and Adoption of Joint Versus Individual Liability: The Case of Selected Tribes in Tanzania
365 Similarly, the path coefficients for the perceived ease of use and the decision to borrow incurring an individual
366 liability were positive and significant ($p < 0.05$) with $\beta = 0.34$ for PRIDE (T) and $\beta = 0.21$ for FINCA (T).
367 These findings suggest that the high perceive risk associated with borrowing incurring joint liability, cause joint
368 borrowers to prefer borrowing incurring an individual liability.

369 Likewise, the path coefficients for perceived usefulness and the decision to borrow incurring an individual
370 liability were found to be positive and significant ($p < 0.05$) with $\beta = 0.25$ for PRIDE (T) and $\beta = 0.27$ for
371 FINCA (T). These findings suggest that borrowers perceive the loans obtained incurring an individual liability,
372 as useful in helping them to expand their businesses and meet other consumption needs.

373 The findings also reveal that the path coefficients for financial risk and the decision to borrow incurring an
374 individual liability were positive and significant ($p < 0.05$) with $\beta = 0.35$ for PRIDE (T) and $\beta = 0.22$ for FINCA
375 (T). These findings imply that the risk of paying for the defaulters drives joint borrowers to prefer borrowing
376 incurring an individual liability.

377 In addition, the path coefficients for the psychological risk and the decision to borrow incurring an individual
378 liability were positive and significant ($p < 0.05$) with $\beta = 0.17$ for PRIDE (T) and $\beta = 0.37$ for FINCA (T).
379 These findings suggest that the high risk of non-payers in joint liability, associated with not able to access future
380 loans in case the group members failed to pay the defaulted loans, psychologically influences positively preference
381 for an individual liability.

382 With respect to performance risk and the decision to borrow incurring an individual liability, the path
383 coefficients were positive and significant ($p < 0.05$) with $\beta = 0.39$ for PRIDE (T) and $\beta = 0.37$ for FINCA
384 (T). These findings suggest that because of the high risk especially the risk of partners' failure to repay the loans
385 With regards to privacy risk and the decision to borrow incurring an individual liability, the path coefficients
386 were positive and significant ($p < 0.05$) but weaker in magnitude with $\beta = 0.12$ for PRIDE (T) and $\beta = 0.06$ for
387 FINCA (T). These findings imply that privacy risk had a little influence in borrowing decision between incurring
388 joint vs. an individual liability.

389 With respect to overall risk and the decision to borrow incurring an individual liability, the path coefficients
390 were positive and significant ($p < 0.05$) with $\beta = 0.37$ for PRIDE (T) and $\beta = 0.46$ for FINCA (T). These
391 findings imply that when all measures of perceived risk were evaluated together, the microfinance institutions
392 borrowers perceive borrowing incurring joint liability as very risky and prefer borrowing incurring an individual
393 liability.

394 16 V. Conclusion and Recommendations

395 Based on the findings of this study it is concluded that the high perceived risk associated with borrowing incurring
396 joint liability, especially the risk of non-payers causes the joint liability borrowers to devalue perceived usefulness
397 and the ease of use of the joint liability lending model. As a consequence, borrowers perceive borrowing incurring
398 joint liability as not useful in helping them to expand their businesses. This paper bridges the gap between
399 theory and empirical studies particularly, by integrating TAM and borrowing decisions incurring joint versus an
400 individual liability. The findings of this study provides evidence, on the appropriateness of measuring the adoption
401 of microfinance institutions lending model using TAM. The findings of this study suggest emphasis should be
402 put on developing risk reduction strategies and improving the microfinance institutions lending models in order

403 to encourage the majority of low income people to borrow from microfinance institutions, thereby improving the
404 chances for the achievement of the goal of poverty alleviation.

405 **17 VI.**

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Figure 1: Figure 2 . 2 :

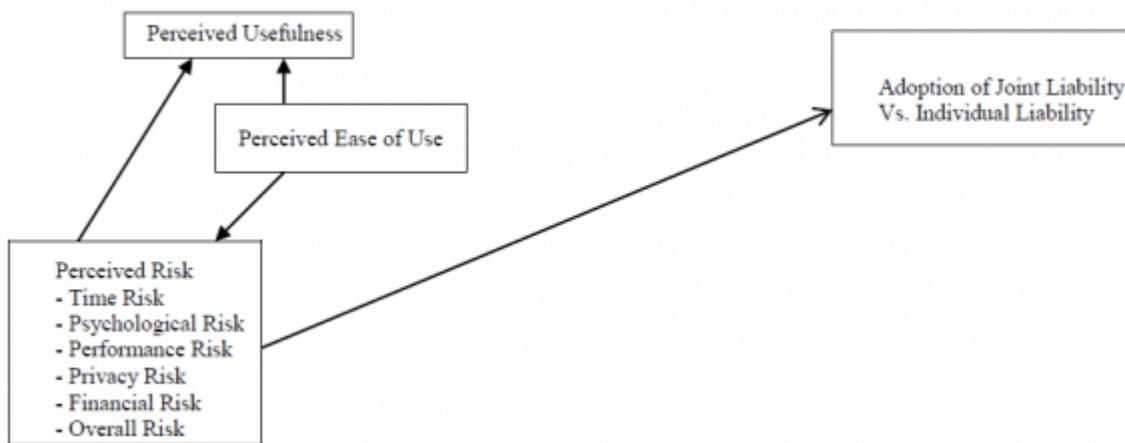


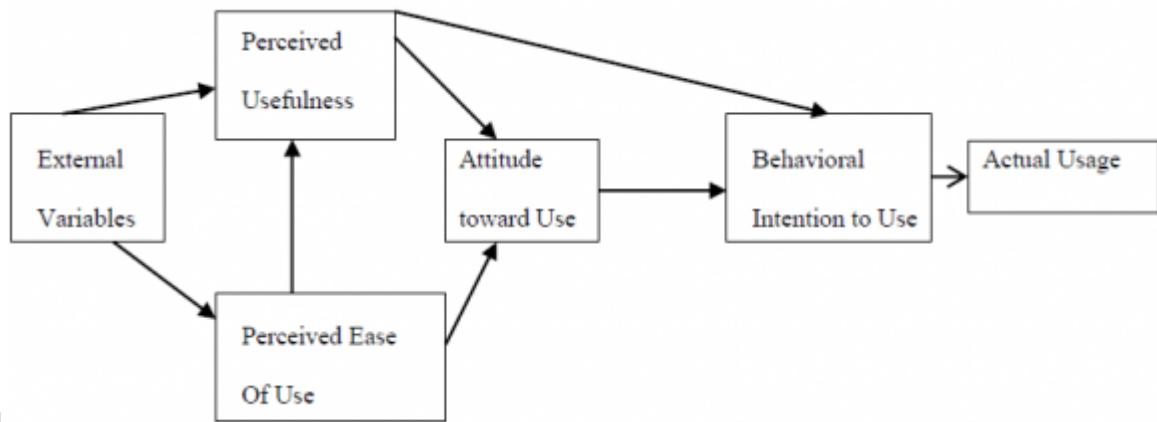
Figure 2:

407 1 2 3

¹© 2015 Global Journals Inc. (US)

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³()C



21

Figure 3: CFigure 2 . 1 :

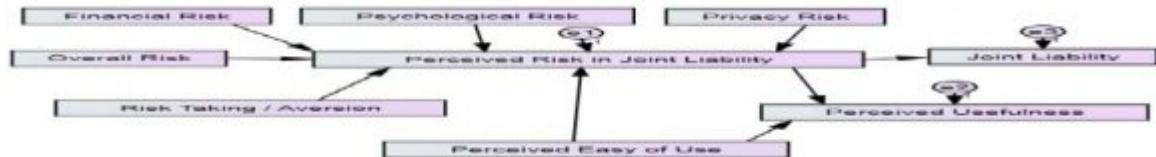
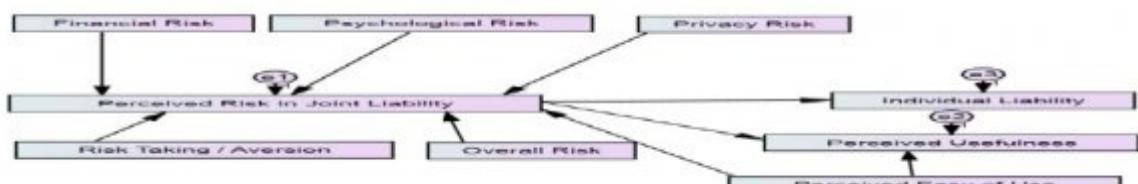


Figure 4:



3132

Figure 5: Figure 3 . 1 :CFigure 3 . 2 :

1

Year	44	Volume	PRIDE (T)	FINCA (T)
Issue	XV	X Ver-		
sion				
I				
()				
			Joint Liability	Individual Liability
				JL+Joint Liability
				IL
Global	Tribe	Chagga	(JL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
Jour-	Sex	Zaramo	(JL) Freq.	Freq. % (JL) 93
nal of	Age	Kinga Gogo	(IL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
Man-	High-	Total Male	(JL) Freq.	Freq. % (JL) 93
age-	est	Female Total	(IL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
ment	Ed-	26-35 36-45	(JL) Freq.	Freq. % (JL) 93
and	uca-	Greater than	(IL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
Busi-	tion	45 years	(JL) Freq.	Freq. % (JL) 93
ness		Total None	(IL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
Re-		Primary	(JL) Freq.	Freq. % (JL) 93
search		School	(IL) Freq.	Freq. % (IL) 25 27 68 73 0 0 46 100 46
	Attained	Q" Level	0	0 0
		Total	51	229 280 23
		Married	44	18 207 251 18 10
	Marita	Divorced	2	22 7 78 9 3 33
	Status	Widowed	0	0 0 0 0 2 33
		Cohabiting	5	25 15 75 20 0 0
		Total	51	229 280 23

Figure 6: Table 1 :

Risk

Figure 7:

2

S/N	Dimensions	PRIDE (T)		FINCA (T)	
		1	2	Component	1
1	Perceived Risk	-0.707	0.344	-0.723	0.224
2	Time Risk	-0.030	0.803	-0.313	0.628
3	Financial Risk	-0.896	0.135	-0.939	0.076
4	Performance Risk	0.922	0.113	-0.948	0.030
5	Psychological Risk	-0.912	0.085	-0.941	0.008
6	Privacy Risk	0.103	0.781	-0.130	0.756
7	Perceived Usefulness	0.258	0.695	0.463	-0.60
8	Perceived Ease of Use	0.857	-0.080	0.912	-0.025
9	Overall Risk	-0.894	0.144	-0.924	0.068

Figure 8: Table 2 :

3

Year	()	CMIN	RMR	GFI	AGFNFI	RFIIFI	TLICFI	RMSEA
Model		13.335						0.049
Modifie								
d Model		DF 8, P = 0.101 ? 2 /df = 1.667	0.049	0.990	0.941	0.995	0.976	0.998 0.990 0.998 PCLOSE = 0. 460

[Note: C]

Figure 9: Table 3 :

4

Figure 10: Table 4 :

5

Model	CMIN	RMR	GFI	AGFNFI	RFIIFI	TLICFI	RMSEA
Model	8.460						0.017
Modifie							
d Model	DF 8, P = 0.390	0.059	0.991	0.948	0.995	0.979	1.000 0.999 1.000 PCLOSE = 0.704
	? 2 /df = 1.058						
Model	CMIN	RMR	GFI	AGFNFI	RFIIFI	TLICFI	RMSEA
Modifie	13.601						0.043
d Model	DF 9, P = 0.137	0.053	0.989	0.947	0.994	0.976	0.998 0.992 0.998 PCLOSE = 0.551
	? 2 /df = 1.511						

Figure 11: Table 5 :

6

Model	CMIN	RMR	GFI	AGFI	NFI	RFI	IFI	TLICFI	RMSEA
Modifie	9.864								0.034
d Model	DF 8, P =	0.057	0.989	0.939	0.994	0.974	0.999	0.995	0.999
	0.275								
	? 2 /df = 1.233								= 0.596

Figure 12: Table 6 :

7

C

Figure 13: Table 7 :

8

	Standardized Regression Weight	Standard Error (S.E)	Critical Ratio (C.R)	P
Perceived Risk <—Perceived Ease of Use	-0.061	0.024	2.542	0.012
Perceived Risk <—Overall Risk	-0.256	0.025	10.240	***
Perceived Risk <—Financial Risk	-0.162	0.026	6.231	***
Perceived Risk <—Psychological Risk	-0.292	0.024	12.167	***
Perceived Risk <—Performance Risk	-1.739	0.032	54.344	***
Perceived Risk <—Time Risk	-0.086	0.045	1.911	0.074
Perceived Risk <—Privacy Risk	-0.086	0.027	3.185	0.002
Perceived	Usefulness	0.151	0.035	4.314
Perceived Ease of Use of Joint liability	Usefulness	0.184	0.066	2.788
Perceived	Usefulness	0.184	0.066	0.005
Perceived Risk				
Standardized Indirect Effect with Joint Liability:				
Perceived Risk = -0.71***				

Figure 14: Table 8 :

9

Year	Perceived Risk <—Perceived Ease of Use	Perceived Risk <—Overall Risk	Perceived Risk <—Financial	Perceived Risk <—Psychological	Standardized Re- gres- sion Weight
50					
Volume	Perceived Risk <—Perceived Ease of Use				
XV		Perceived Risk <—Overall Risk			
Issue			Perceived Risk <—Financial		
X Ver-				Perceived Risk <—Psychological	
sion					
I					
()	Risk Perceived Risk <—Performance				0.166
Global		Risk Perceived Risk <—Time	Risk Perceived Risk <—Privacy	Risk Perceived Risk <—Usefulness	0.208 0.034
Journal of					
Management					
and					
Business					
Research					
	Performance Risk = 0.39***				
	R 2 = 0.71				
	F Value = 172.459***				
	Note: ** p<0.05, ***p=0.000				

[Note: C]

Figure 15: Table 9 :

10

	Standard Regression Weight	Standard Error	Critical Ratio (C.R)	P
Perceived Risk <—Perceived Ease of Use	0.071	0.024	-2.958	0.03
Perceived Risk <—Overall Risk	0.236	0.025	-9.437	***
Perceived Risk <—Financial Risk	0.074	0.027	-2.741	0.007
Perceived Risk <—Psychological Risk	0.198	0.024	-8.252	***
Perceived Risk <—Performance Risk	0.153	0.042	-3.643	***
Perceived Risk <—Time Risk	0.044	0.028	1.571	0.142
Perceived Risk <—Privacy Risk	0.074	0.013	5.692	***
Perceived	Usefulness	0.151	0.035	-4.314
Perceived Ease of Use	Usefulness	0.184	0.076	-2.421
Perceived Risk				
Standardized Indirect Effect with Individual Liability:				
Perceived Risk = 1.05***				
Perceived usefulness = 0.27**				
Perceived Ease of Use = 0.21***				
Financial Risk = 0.22**				
Overall Risk = 0.46***				
Psychological Risk = 0.37**				
Privacy Risk = 0.06**				
Time Risk = 0.08				
Performance Risk = 0.37***				
R ² = 0.70				
F Value = 179.228***				
Note: ** p<0.05, ***p=0.000				

Figure 16: Table 10 :

408 .1 Acknowledgments

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