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EFFECTS OF FINANCIAL INSTITUTIONS' MANAGEMENT EFFECTIVENESS ON FINANCIAL INCLUSION IN MBEYA CITY AND MBEYA RURAL DISTRICT

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ABSTRACT

This study evaluated the impact of financial institutions (FIs) management effectiveness on financial inclusion. This investigation was prompted because only a small portion, approximately 22%, of the Tanzanian population used banking services. To uncover the reasons behind the remaining 78% of individuals being excluded from the financial system, a positivistic research philosophy was adopted, and a causal-effect research design was employed. The study was conducted in both Mbeya City and Mbeya rural district. A sample of 210 respondents was selected from a population of 1,000 financial users and providers using a simple random sampling technique. Data was collected through the use of questionnaires. The collected data was carefully processed and underwent reliability and validity testing. Subsequently, the cleaned data were analyzed using structural equation modelling (SEM) with the assistance of SPSS AMOS version 26. The analysis revealed that FIs' management effectiveness, as measured by customer categorization, financial packaging, and digitization, had a positive and statistically significant impact on financial inclusion. Based on these findings, it is recommended that FIs' management take innovative actions under the central bank's regulation to address the concern that 78% of the Tanzanian population is unbanked.



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I. INTRODUCTION

Financial inclusion has been a topic most development stakeholders worldwide are focused on in ensuring that different types of financial users have access to adequate and affordable financial services and products [1]. [2] revealed on FIs management is the initiator of causing financial users of different kinds with different needs and objectives to be financially included. By being able to categorize financial users based on the differences in their needs [3] inventing financial programs/products diversification [4], and inventing in financial digitization [5] are appropriate and innovative managerial practices towards sustaining financial inclusion.

Categorization of customers, as it was reported by [6] found to be an effective approach to different types of customers being universally accessed and used for financial services and products.

The clusters of customers said as it was put forward by [7], included men and women; informal and formal financial users; SMEs and large-scale firms. This categorization enables different types of customers to become financially included. Harmonization of this nature revealed increased specificity over access to different financial products, such as credits and savings, and access to their adequacy.

This [8] revealed that diversifying financial programs and products increased access to adequate and quality financial products of the need. This was explicitly said by that differentiating financial programs into, say, provision of credits, savings, marketing and training consultancies increase accessibility by different categories of customer. Moreover [9] stipulated that financial credits diversification based on different customer clusters, such as SMEs credit and large-scale enterprise credits, men and women, reveal to enhance accessibility to specific

financial credits the need. Diversified insurance products such as climate change insurance; heavy rainfall and floods insurance, crop insurance, fire outbreaks are revealed to sustain the returns from different investments and businesses such as agriculture. The certainty over the return on investments ensures sustainable access to financial credits and other financial services, given the perpetual trust in financial institutions pear to the needy group [10].

Financial digitization uses sophisticated electronic systems to transact financial services [11]. As it was commented by [12] use of mobile banking, internet banking, and e-money payment creates affordable financial products. Adoption and use of digital systems lead to customer service centrality in which this tiresome behavior is overcome instead of customers traveling long distances to towns visiting the counters. Financial digitization was revealed by [13] to reduce the cost of transacting by 78%, increasing household savings to such a level. Use of mobile financial services in Nigeria as reported by [14] found to increase savings by 46%, which was used to feed families of five children per day.

1.5 billion Asian and African population users revealed by [15] to be financially excluded was reported to be caused by most of this population users are at disadvantageous remote areas where digital financial systems are not enabled. Moreover, the 4% of population users in Columbia being banked was reported by [16] to be caused by most of them being low-income earners. In this situation where financial services providers are risk averse, offering them credits becomes challenging. The reluctance of most financial institutions to categorize customers based on their needs and offering over homogeneous financial products revealed by [17] in Tanzania to be the cause of the majority of population users being financially excluded.

The [12] in Pakistan connoted that women in the area were financially included due to management's influence in inventing on their specific needs. This study revealed that since women were at a disadvantageous side compared to men, identifying them in a specific manner helped them become financially included. The level of financial inclusion with women increased from 21% as it was before to 80% following innovation over customers' categorization. The study by [12] used descriptive design and thematic data analysis methods.

Financial packaging was revealed as an innovative financial institution's managerial practice enabling different types of customers to be financially included in Nigeria [18]. Microenterprises being a group focus revealed that for special needs /objectives to be achieved, diversifying financial products such as over SMEs and large scale firm's credits; consumer and business loans; formal and informal users' credits; men and women credits. The study conducted by [18] was exploratory in nature. It employed a judgmental sampling technique to collect and process data, which was subsequently analyzed using the content analysis method.

As it was reported by [19] in Kenya over, rural population users to access financial products, it was a revelation that rural areas of Kenya were enabled with internet supporting infrastructures for adult rural financial users being easy access to financial products. The facts by [19] were consistent with that by [20] in Tanzania in which it was reported that about 81% of financial accessibility and usability was met, especially with urban users, which is about 34% of the Tanzanian population. These results by [20] indicated that inventions and the use of digital systems in Tanzania overwhelmed users with financial access to such a large extent. The study by [20] was descriptive in that the data analysis tool was also descriptive, where simple frequency tables and graphs were used to present the analysis data.

In contrast to the previous theoretical and empirical reviews mentioned, the primary objective of this study is to comprehensively evaluate the impact of financial institution (FI) management effectiveness and innovation on financial inclusion. Unlike earlier studies that did not consider financial inclusion as an integrated and holistic approach, this research acknowledges the inadequacy of categorizing financial users based on their specific needs. Instead, it emphasizes the importance of financial packaging and financial digitization.

The study draws upon the Traditional Economic Theory proposed by [21] to address this knowledge gap. According to this theory, financial users (customers) can be classified into various clusters: savers and users, small and large-scale firms, rural and urban users, formal and informal users, and financially literate and illiterate individuals. This categorization enables a more effective response to their specific needs and objectives.

Overall, this study highlights the significance of customer categorization in meeting the diverse requirements of different financial users.

However, it is important to note that customer categorization alone is insufficient for achieving financial inclusion, as [22] emphasized. Financial inclusion cannot be attained without the implementation of financial packaging. Similarly, for categorized customers to access affordable financial products/programs, the promotion of financial digitization is necessary [13]. These factors require financial institutions' management innovation and effectiveness, which were the focus of this study.

While the constructs revealed under the Traditional Economic Theory are relevant, the theory does not explicitly address financial inclusion as an integrated and holistic economic perspective. Achieving financial inclusion necessitates interacting and integrating the three main players: the central bank (government), financial institutions, and users. In this context, while FI management effectiveness focuses on inclusive financial programs/products and financial digital systems for financial users, the central bank or government must ensure the sustainability of infrastructures such as strong enforcement of rules and regulations, an enabling internet environment, telecommunication network infrastructure, and a steady supply of electrical energy.

Another point of distinction between those as mentioned above theoretical and empirical background reviews and the present study is the geographical scope. While the study under examination was conducted in Mbeya City and Mbeya rural districts in Tanzania, other studies were conducted in Pakistan, Nigeria, Kenya, and Tanzania. Furthermore, while the reviewed studies were descriptive and exploratory, this study was analytical, utilizing Structural Equation Modeling (SEM) as the data analysis method. Additionally, the study formulated three specific objectives to address the identified research gap. These objectives included assessing the effects of customer categorization and FIs' managerial practices on financial inclusion, analyzing the effects of financial program/product diversification and FIs' management innovation on financial inclusion, and evaluating the contributions of inventing financial digital systems and FIs' managerial practices on financial inclusion.

The relationship between concepts, items, and variables was depicted through a conceptual framework presented in Figure 1. The model considered customer categorization, financial packaging, and financial digitization managerial effective practices as independent variables, while financial inclusion was the dependent variable.

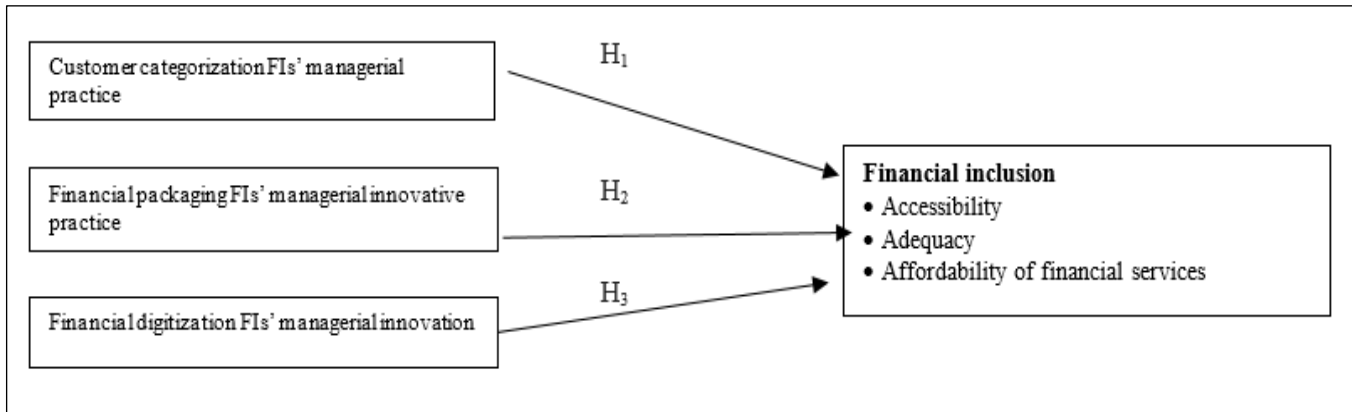


Figure 1: Conceptual framework of the effects of financial institutions' management effectiveness on financial inclusion. Source: [21] [22] and [13].

**II. METHODOLOGY**

The research was conducted in Mbeya City and Mbeya Rural District, selected based on various media and electronic publications highlighting the high percentage of unbanked individuals in Tanzania, estimated to be around 78%. These areas were representative of other regions in Tanzania facing a similar issue. The study employed a causal research design.

A sample size of 210 participants, consisting of financial users and financial service providers, was obtained from a population of 1,000. Financial users included farmers, service providers such as BodaBoda and Mama Lishe, and traders like Machinga, who had accounts with the targeted financial institutions. Financial service providers encompassed banks such as CRDB and NMB, non-banks like Britam Insurance Company, and microfinance institutions. The key informants, financial services providers and customers with accounts in those financial institutions were selected using a simple random sampling technique.

The Cochran formula was used to determine the sample size, with the margin of error ( $\alpha$ ) set at 0.1 and the population (N) set at 1,000. Applying the formula, a sample size 210 was obtained (refer to Table 1).

Table 1: Derivation of sample.

	Population size	Sample
Financial users	700	150
Financial service providers	300	60
Total	1,000	210

Source: Authors, (2021).

Primary data were obtained through the use of questionnaires. Additionally, secondary data were collected through a review of financial institutions' publications, examination of reading postures, access to e-platforms, and analysis of websites belonging to the surveyed financial institutions. The questionnaire was piloted with a sample size of 10 financial users and providers in Mbeya city and Mbeya rural district. The decision to use this sample size was based on [23] recommendation.

Following the completion of the pilot study, exploratory factor analysis was conducted to assess the construct validity and reliability of the questionnaire. The results of the pilot study indicated that Cronbach's alpha reliability values for the following constructs were acceptable, as they exceeded 0.5: customer categorization FI's managerial practice (0.720), financial

programs/products FI's managerial innovation (0.730), financial digitization FI's managerial practice (0.820), and financial inclusion (0.891). Subsequently, the items related to financial inclusion were reviewed to improve their reliability before data collection.

The collected data through questionnaires were subjected to processing before analysis. Data processing involved data screening from which missing values, outliers and normality testing were dealt with. From a dataset, 8 sets were deleted by applying list-wise data deletion. The missing values deleted occupied only 2%, which was insignificant not to cause biased and immaterial analysis data. The 10 extreme cases were screened by computing for Mahalanobis distance values. From this data cleaning, the responses retained were 200. Moreover, normality testing used the coefficient of skewness and kurtosis with the value of +/-2 of spreading.

Data analysis used a quantitative approach through which structural equation modeling (SEM) with the aid of SPSS AMOS 26 was applied while its assumptions were tested. As stipulated above, before actual data analysis, data were cleaned by checking for missing values, extreme data and normality testing. Furthermore, data analysis involved linearity, multi-co linearity and homoscedastic testing. The structural equation model guided the analysis was:

$$FI = \beta_0 + \beta_1 \sum Me_1 + \beta_2 \sum Me_2 + \beta_3 \sum Me_3 + \epsilon (1)$$

Where  $Me_1$  = categorization of customers;  $Me_2$  = Financial programs/products diversification;  $Me_3$  = Financial digitization.

**III. RESULTS AND DISCUSSION**

**III.1 MODEL DEVELOPMENT AND FACTOR ANALYSIS**

The initial factor loadings in Table 2 show all the variables with their loadings. Indicators with low loadings below 0.5, which is the acceptable level of coefficients, were removed, and only loadings greater than 0.5 were retained for measurement. From the analysis, the Keiser-Meyer-Oklin (KMO) measure of sampling adequacy is notably 0.5 low and 0.9 high. Similarly, the Bartlett's test of sphericity is highly significant ( $p < 0.05$ ) [24]. From the rotated component matrix (See Table 2) since the KMO values (factor loadings) were greater than 0.5 given  $p = 0.00 < 0.05$ . This either indicated that measures suggest that factor analysis was an adequate instrument to use. The cumulative variance explained was 57.29%. The results were generally satisfactory.

Table 2: Rotated Component Matrix.

Constructs	Indicators	1	2	3	4
Me <sub>1</sub>	SU	0.772			
	MW	0.810			
	SLF	0.791			
	RU	0.811			
	LIU	0.745			
	FIU	0.743			
Me <sub>2</sub>	FC		0.649		
	FS		0.814		
	FI		0.842		
	FM		0.746		
	FCs		0.698		
Me <sub>3</sub>	MFS			0.794	
	EB			0.841	
	WP			0.867	
FI	AC				0.819
	AD				0.764
	AF				0.821
<b>Eigen values</b>		4.364	3.067	2.041	1.985
<b>Variance explained</b>		21.820	15.335	10.205	9.925
<b>Total variance</b>		57.29			
<b>Reliability of factors</b>		0.720	0.730	0.820	0.891
<b>Reliability of the survey</b>		0.79			

Source: Authors, (2023).

### III.2 RELIABILITY AND VALIDITY TESTING

Reliability testing is aimed at determining the consistency of measurement, while validity is motivated to reveal the measurement instrument's accuracy [25]. Reliability used both Cronbach's alpha ( $\alpha$ ) and composite reliability. The acceptable level for  $\alpha$  is  $\geq 0.7$ , while that of composite reliability is  $\geq 0.8$  [26].

Validity testing employed convergent (using average variance extracted (AVE)) and discriminant validity. To reveal that AVE is adequate or accurate in measurement, then  $AVE \geq 0.5$  (acceptable level) and 0.8 (perfect level) [27]. In assessing discriminant validity, the average variance extracted from the constructs was compared with the square root of the correlations

between the constructs. It is recommended that AVE values should be higher than the squared correlation estimates and that the value of correlations between the constructs should be 1 [28]. Discriminant validity is assessed in two ways: 1) square root of AVE and 2) loadings and cross-loadings matrix. Table 3 presents the results of the calculated square root of AVE, which all fall under the threshold of 0.7, meaning that the discriminant validity was found. Similar results with AVE were 0.504 (low) to 0.632 (high).

Reliability testing results revealed the adequacy in measuring the consistency of the measurement tool since  $\alpha$  values were between 0.720 and 0.891 as it was with composite reliability with its results between 0.808 to 0.884 (See Table 3).

Table 3: Factor loadings, Reliability and Validity testing results (N=200).

Constructs	Indicators	Loadings	Reliability testing		Validity testing		
			Composite reliability	Cronbach's alpha ( $\alpha$ )	Convergent validity (AVE)	Discriminant validity (Factor loadings) $\sqrt{CR}$	Error variance
Me <sub>1</sub>	SU	0.772	0.838	0.720	0.624	0.779	0.162
	MW	0.810					
	SLF	0.791					
	RU	0.811					
	LIU	0.745					
	FIU	0.743					
Me <sub>2</sub>	FC	0.649	0.808	0.730	0.576	0.750	0.192
	FS	0.814					
	FI	0.842					
	FM	0.746					
	FCs	0.698					
Me <sub>3</sub>	MFS	0.794	0.884	0.820	0.632	0.834	0.116
	EB	0.841					
	WP	0.867					
FI	AC	0.819	0.811	0.891	0.504	0.801	0.189
	AD	0.764					
	AF	0.821					

Source: Authors, (2023).

### III.3 TESTING THROUGH STRUCTURAL EQUATION MODELING

With this subtitle, the study was motivated to assess the strength of the relationship between FI's management effectiveness and financial inclusion. In this assessment, the FI management effectiveness is revealed through variables in measurement which were the ability to categorize customers based on their specific

needs, invention over financial programs/products differentiation, and invention on financial digitization. To reveal the goodness of fit of these variables on creating sound financial inclusion, the goodness of fit indices (GFI); Tuller Lewis Fit Index (TLI); Comparative fit index (CFI) and Root Mean Square Estimated Approximation (RMSEA) were applied. The results from the field were as presented in Table 4.

Table 4: Fit Indices Matrix.

Goodness of fit indices	Perfect	Acceptable	Values in the model	Results
Cminf/df	$\leq 2$	$\leq 3$	3	Acceptable
GFI	$\geq 0.95$	$\geq 0.90$	0.94	Acceptable
TLI	$\geq 0.95$	$\geq 0.90$	0.92	Acceptable
CFI	$\geq 0.97$	$\geq 0.95$	0.95	Acceptable
RMSEA	$< 0.05$	$< 0.08$	0.06	Acceptable

Source: Authors, (2023).

Thus with GFI =0.94 at cminf/df= 3 (greater than the acceptable range of 0.90 (See Table 4) showed the variable FI management effectiveness measured by customer categorization (Me<sub>1</sub>); financial packaging, (Me<sub>2</sub>); and financial digitization (Me<sub>3</sub>) fit the model. Consistent results were shown over TLI=0.92>0.90; CFI 0.97>0.95 and RMSEA = 0.06<0.08, the facts which were proposed the same by [29]. More other results about the strength of the relationship between variables (i.e. observed and unobserved variables) were shown in structural model of regression weights in Figure 2.

### III.3.1 Customers categorization FIs' managerial practice and financial inclusion

Here, the study aimed to determine the effects of customers' categorization managerial practice in sustaining financial inclusion. The latent constructs in association included the savers and users (SU), men and women (MW), SMEs (such that small holders' farmers, Bodaboda, MamaLishe and Machinga) and large scale users (SLF), rural and urban areas customers (as it was with financial users in Umalila, and Inyala in Mbeya rural district (RU); and Mbeya City respectively), formal and informal users (FIU), financial literate and illiterate users (LIU). It is through this division or simply categorization in which it was revealed that customer categorization for financial inclusion was enhanced given the following positivistic results of standardized regression weights (SU=0.78; MW=0.69; SLF=0.65; RU=0.74; LIU=0.76; and FIU=0.74). Moreover the positivistic results over S.R.W = 0.76 at  $p = 0.010$  (insignificant); (chi-square= 602, df =200 (acceptable) (See Figure 2 and Table 4) validated that the managerial practice of categorizing customers based on their needs and objectives was an effective approach towards attaining sound financial inclusion. Moreover, categorizing financial users helped increase access to financial services /products of the specialization (AC= 0.74). Furthermore, meeting the specific needs of different type of customers revealed to help being accessed to quality and adequate (AD = 0.75) (See Figure 2) and affordable financial services (AF = 0.80). The fostered indicators of accessibility, adequacy, and affordability showed effective and sound financial inclusion to be attained (See Figure 2).

### III.3.2 Financial packaging FIs' managerial innovation and financial inclusion

With this subtitle, the study aimed to assess the effects of financial packaging FIs' managerial innovation on financial inclusion. The financial packaging or simply financial programs/products diversification was measured through the constructs diversified credits provision (FC), diversified savings(FS) and insurance financial products(FI), financial marketing(FM) and other consultancy services (FCs). Financial differentiation found to have a positivistic relationship with financial inclusion. The results over S.R.W=0.80 at  $p = 0.000$  (non-significant); (chi-square= 602, df =200 (acceptable)) (See Figure 2 and Table 4) showed financial packaging such that over the provision of diversified financial credits ( such as short term and

long term credits; women and men credits; SMEs and large scale firms credits; informal and formal business credits; financial literate and illiterate credits showed to have positivistic impacts in creating sound financial inclusion given FC=0.75. The same results was shown over increasing access (AC= 0.74) to adequate (AD=0.75); and affordable financial services and products (AF=0.54). This is either a fact that the diversified insurance products such as that over climatic change, crop, drought, fire-outbreak, motor, life and health insurance enhanced financial inclusion (FI=0.81). This is from the truth that in case of uncertainties such as drought, fire-outbreak return on investments is sustained by sustainably being accessed to financial products.

The increase in accessibility (AC=0.74) through financial marketing was because financial institutions might be offering many services unknown to the needy group, thus through marketing (in-acted by executing promotion tools in currently e-bill boards, websites, mobile phones and blogs may be used), then customers became aware and therefore created high demand (FM=0.79). That means the accessibility said to be boosted was due to increased demand after being known to the products of the need marketed.

The enabled access to affordable financial products (AF=0.80) positivistic results show that the financial training consultancy services the financial institutions might provide are innovative in creating financial literacy behavior. The financial management skills customers acquired through training revealed positive effects over efficient allocation of financial credits and others to reveal the expected results ( FCs= 0.78). These results were consistent with what [30] said on the effect of financial training, skills in using financial products to realize expected returns and financial adequacy.

### III.3.3 Financial digitization FIs' managerial practice and financial inclusion

With the objective of assessing the impact of managerial innovation in financial institutions (FIs) on financial inclusion, this study aimed to examine the effects of financial packaging on various aspects of financial inclusion. The study measured financial packaging through constructs such as diversified credits provision (FC), diversified savings (FS), insurance financial products (FI), financial marketing (FM), and other consultancy services (FCs). The findings indicated a positive relationship between financial differentiation and financial inclusion. The statistical results, with S.R.W = 0.80 at  $p = 0.000$  (non-significant) and chi-square = 602, df = 200 (acceptable), demonstrated that financial packaging, particularly the provision of diversified financial credits, had a positive impact on promoting financial inclusion (FC = 0.75). The study also revealed positive effects on increasing access (AC = 0.74) to adequate (AD = 0.75) and affordable financial services and products (AF = 0.54). Furthermore, the study found that diversified insurance products, such as those related to climatic change, crop, drought, fire-outbreak, motor, life, and health insurance, contributed to enhanced financial inclusion (FI = 0.81). These insurance products provided a safety net for investments in times of uncertainties, such as drought or fire-outbreak, thereby ensuring sustainable access to financial products.

The study highlighted that increased accessibility (AC = 0.74) through financial marketing was driven by financial institutions offering previously unknown services to the target group. Customers became aware of these services by employing marketing strategies through platforms such as e-billboards, websites, mobile phones, and blogs, resulting in a higher demand

(FM = 0.79). Therefore, the enhanced accessibility was attributed to increased demand after customers became acquainted with the marketed products.

The study also found that the facilitated access to affordable financial products (AF = 0.80) was influenced by financial institutions' innovative financial training and consultancy services. The financial management skills acquired through training were shown to positively impact the efficient allocation of financial credits and other resources (FCs = 0.78). These findings were consistent with the assertions made by [29] regarding the effect of financial training and skills on the appropriate use of financial products and achieving financial adequacy.

Under the subtitle "Financial Digitization FIs' Managerial Practice and Financial Inclusion," the study examined the effects of financial institutions' adoption of digital technologies on financial inclusion. The constructs used to measure financial digitization included mobile financial services (MFS), internet financial transactions (EB), and wire payment (WP). The results showed a significant positive association between these constructs and financial inclusion, with an aggregated S.R.W = 0.65 at  $p = 0.020$  and chi-square = 602,  $df = 200$  (acceptable). These findings indicated that the adoption of sophisticated electronic systems sustained financial inclusion.

The study revealed that using mobile financial services, such as sim banking and mobile banking platforms (MFS = 0.66), reduced transaction costs associated with traveling. [31] also noted that mobile banking reduced transportation costs by eliminating the need for customers to travel long distances to access financial services in urban areas. Additionally, the study found that mobile financial services simplified the process of depositing and withdrawing money, allowing customers to perform these transactions from the comfort of their homes without the need to

visit physical bank branches. The use of mobile financial services or banking increased financial customer centricity in areas like Umalila and Isyonje in Mbeya rural area, enabling transactions without needing to visit counters in Mbeya City and Mbalizi town.

Moreover, the study revealed that internet banking and financial transactions improved accessibility (AC=0.74) to affordable financial products (AF = 0.80). Adopting e-registration systems reduced the paperwork required to open accounts (EB = 0.64). The study found that customers could scan and send documents as attachments through email, eliminating the need for physical document submission. The adoption and invention of e-submission systems also reduced the reliance on manual processes, considered burdensome and a barrier to banking access for unbanked customers.

However, despite the positive results regarding financial digitization and inclusion, the study identified that most customers in the research areas, specifically in Mbeya rural areas such as Inyala, Ndaga, Umalalila, and Swaya, remained unbanked. This highlighted the lack of effective internet connectivity, telecommunication networks, and other necessary infrastructure to provide mobile financial services and e-banking in those areas. Consequently, the study emphasized the importance of an integrative and holistic approach to financial inclusion, requiring government intervention to ensure the availability of necessary infrastructures, including internet access, telecommunication networks, roads, and electricity supply. These factors were crucial for sustaining financial inclusion (AD = 0.75) and increasing access to adequate financial products through innovations in mobile apps, downloadable financial services from app stores, and wire payments (WP = 0.63). Although not the main focus of this study, the issue of safety in using e-float was also mentioned, as discussed by [32].

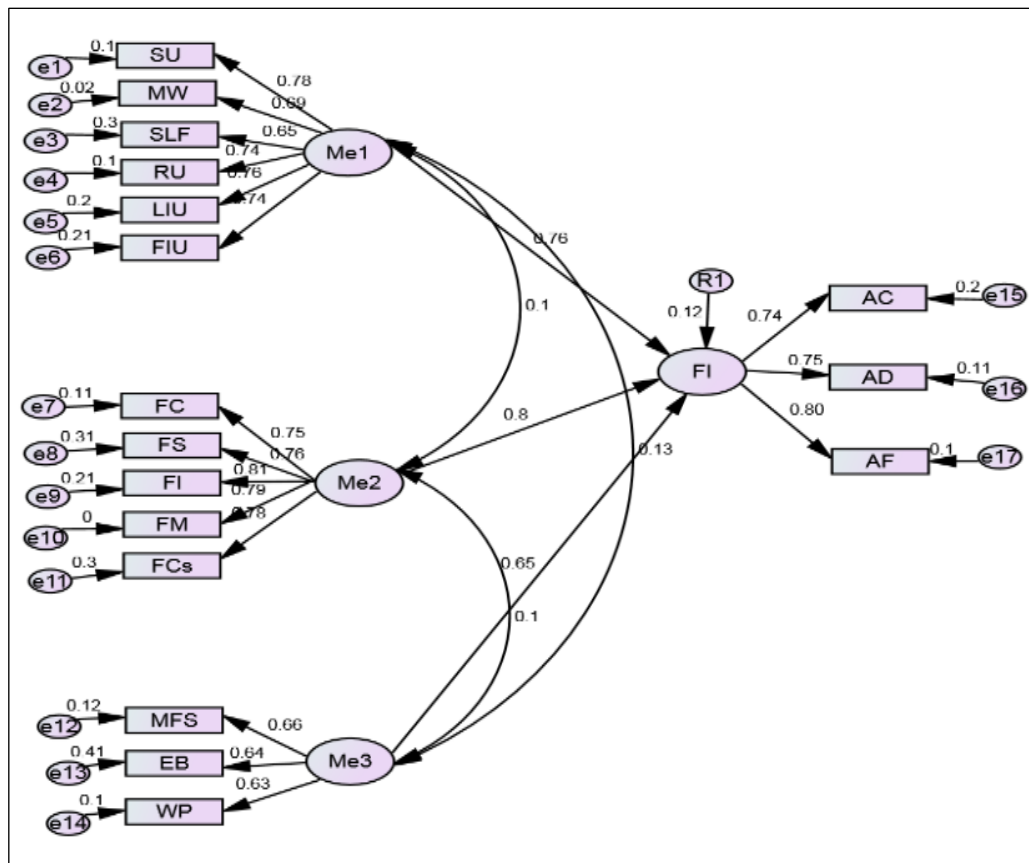


Figure 2: Structural Model.  
Source: Authors, (2023).

### III.4 HYPOTHESIS TESTING

The hypothesis testing was motivated to determine the strength of positivism and the significant effect between variables. In this study, the standardized path coefficient was used to reveal

the extent of determination. With this standardized path coefficient ( $\gamma > 0.2$ ), critical ratio (C.R.  $> 1.96$ ) and its significance,  $p < 0.05$  [33] were applied to determine such strength of association between variables. The results in Table 5 stipulate the reality.

Table 5: Variables in relationships.

Hypothesis	Relationships	Estimate	S.E	C.R	S.R.W	p	Results
H <sub>1</sub>	FI <- - - -Me <sub>1</sub>	0.76	-0.01	1.99	0.21	0.01	Supported
H <sub>2</sub>	FI <- - - -Me <sub>2</sub>	0.80	0.02	2.00	0.24	***	Supported
H <sub>3</sub>	FI <- - - -Me <sub>3</sub>	0.65	0.01	1.97	0.30	0.02	Supported

Source: Authors, (2023).

With  $\gamma = 0.21 > 0.2$ , C.R. = 1.99  $> 1.96$ ;  $p = 0.01 < 0.05$  indicated that FIs management (Me<sub>1</sub>) effectiveness in categorizing financially needy customers indicated to have a positive and significant effect on financial inclusion. These results were consistent with that over FIs management effectiveness (Me<sub>2</sub>) in financial programs/products diversification about financial inclusion given  $\gamma = 0.24$ , C.R. = 2.00 at  $p = 0.08$ . Moreover,  $\gamma = 0.30$  (C.R. = 1.97 at  $p = 0.02$ ) showed that FI management effectiveness (Me<sub>3</sub>) over financial digitization had a most positive and significant effect on financial inclusion.

### IV CONCLUSION AND RECOMMENDATIONS

Financial inclusion refers to the accessibility and usability of financial resources and products. Previous research has identified several factors that significantly contribute to financial inclusion, including financial literacy, accessible financial infrastructures, and formalization of business firms. However, this study highlights the crucial role played by innovative management practices in financial institutions. Specifically, effective customer categorization, financial packaging/diversification, and financial digitization managerial practices were found to have positive and significant effects on financial inclusion.

Based on this study's positive and significant results, several recommendations are put forth for action. Firstly, the government should enforce policies that are fair and economically balanced. These policies should not discourage liberation but should also prevent financial customers from being exploited by service providers. Additionally, financial institutions should adopt innovative and effective practices by embracing the principles of customer categorization, financial packaging, and digital financial systems. These measures will enhance financial inclusion and ensure financial resources are accessible to a wider population.

### V. AUTHOR'S CONTRIBUTION

**Conceptualization:** Kaula Stephen and Gwahula Raphael.

**Methodology:** Eko Naning Sofyanita and Arya Iswara.

**Investigation:** Eko Naning Sofyanita and Arya Iswara.

**Discussion of results:** Eko Naning Sofyanita, Arya Iswara and Ahmad Riadi.

**Writing – Original Draft:** Eko Naning Sofyanita

**Writing – Review and Editing:** Eko Naning Sofyanita and Arya Iswara.

**Resources:** Arya Iswara.

**Supervision:** Arya Iswara and Ahmad Riadi.

**Approval of the final text:** Eko Naning Sofyanita, Arya Iswara and Ahmad Riadi.

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