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## The Impact of Using Islamic Microfinance Products on The Mauritanian' Healthcare: Evidence from Nouakchott

VATIMETOU MOKHTAR MAOULOUD<sup>1</sup>, SALINA KASSIM<sup>2</sup>, ANWAR HASAN ABDULLAH OTHMAN<sup>3</sup>

### Abstract

Microfinance is an effective tool to alleviate poverty, among which it improves consumption leading to better health care. Most Mauritians live under severe poverty where no basic needs are fulfilled, including the absence of a proper healthcare system. This study investigates the role of using Islamic microfinance products in healthcare among the beneficiaries of the Islamic microfinance institution (PROCAPEC) in Nouakchott-Mauritania. The data is collected through a questionnaire distributed in a cross-sectional design. The respondents are 381 from the beneficiaries of the PROCAPEC-Nouakchott. The study also uses the structural equation modelling method (SEM) through AMOS 23 to test the hypothesis, and the SPSS 23 is utilised to analyse the descriptive statistics. The results show no statistically significant relationship between the usage of Islamic microfinance products and healthcare. It is highly recommended for policymakers and managers of microfinance to adopt strategies that boost Islamic microfinance products' usage to improve Mauritians' well-being and awareness of health.

**Key words:** Mauritania, Islamic Microfinance, Poverty Alleviation, Structural Equation Modeling.

### 1. Introduction

Poverty is a severe problem that affects third-world countries, and Mauritania is no exception. Poverty can be defined as a situation where people live under 1.9\$ USD per day (Müller-Jung, 2018). The multidimensional concept of poverty shows that poverty can be defined as a lack of education, health care, water, electricity (Farooq, 2008). Therefore, poverty has different dimensions that include health care which is the focus of this current study.

Poverty in Mauritania is increasing enormously. Around 32 per cent of the population live in poverty, and 16 per cent are in severe poverty (Amendola et al., 2016). Besides that, financial inclusion in Mauritania is very low, and the people who have a formal account are only around 20 per cent of the population (World Bank, 2015). Therefore, it is crucial to investigate the role of Islamic microfinance to lessen Mauritians' burdens, especially in terms of healthcare (Maouloud, et al., 2019).

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<sup>1</sup> IIUM Institute of Islamic Banking and Finance, IIBF, International Islamic University of Malaysia. Email: fatismed95@yahoo.fr

<sup>2</sup> IIUM Institute of Islamic Banking and Finance, IIBF, International Islamic University of Malaysia. Email: ksalina@iium.edu.my

<sup>3</sup> IIUM Institute of Islamic Banking and Finance, IIBF, International Islamic University of Malaysia. Email: anwarhasan@iium.edu.my

According to Stiftung (2018), Mauritania is considered among the group of poorest African countries. Poverty in Mauritania can be seen in the citizens' socio-economic factors with a high rate of illiteracy, unemployment, and unhealthy life. The health coverage in Mauritania is limited to about only 10 per cent of the whole population. Also, the health index is just 68.8 per cent in 2018 (UNDP, 2018). Hence, it is indispensable to conduct this study to investigate the effectiveness of using Islamic microfinance on Mauritians healthcare.

Microfinance can be defined as the provision of micro-credit, micro-saving, micro-takaful, micro-remittances (Ahmad & Aslam, 2018; Boateng & Agyei, 2013). Microfinance can reduce financial exclusion, leading to the development of the financial system and poverty alleviation (Lal, 2018). Islamic microfinance leads to financial inclusion (Mohieldin et al., 2011). However, access only does not mean the usage of financial products offered. Without the effective usage of microfinance services, poverty will not be reduced (Shankar, 2013).

This study is among the pioneer in the field of microfinance in the context of Mauritania. Indeed, research is scarce in Mauritania. This research is also a value-added to the international literature to enrich Islamic microfinance and health care discussions. It brings new pieces of evidence to fill up the literature gap on the role of microfinance and health. Since there is no consensus on the effectiveness of microfinance on poverty, this research will contribute to the worldwide controversy.

The primary purpose is to investigate the impact of using Islamic microfinance products on Mauritanian' health care among the beneficiaries of the largest Islamic microfinance institutions (PROCAPEC) in Mauritania. Health care is considered in this article as one of the dimensions of poverty in Mauritania. This institution has been chosen due to several reasons. Firstly, it was the first Islamic microfinance institution in Mauritania. Secondly, it is the largest microfinance institution with more than 37 branches on the whole Mauritanian territory, where 18 of them are in the capital city Nouakchott. Thirdly, it is the most accessible microfinance institution due to physical access and internet access. Unlike other microfinance institutions, PROCAPEC has a website that is frequently updated. Therefore, the research question of this study is elaborated as follow:

**Research Question.** Does the usage of Islamic microfinance products impact Mauritanian's healthcare?

This paper is organised as follows: the first section is about the introduction, which included the problem, gap, and objective. The second section is presenting the theory and different studies that support this research. The following session discusses the data and methodology of the study. Then, the results and analysis are shown in the next session. Finally, the last section is the conclusions and recommendations for further studies as well as the limitation of this current research.

## 2. Literature Review

### a) Social theory of poverty

Following the social theory of poverty, the poor are deprived of access to social institutions which provide basic needs such as health care, education, job, and safety due to systematic barriers (Bradshaw, 2007). These barriers originate from the social, economic, or political perspectives that cause the discrimination of some groups from social well-being. This theory explains that poverty can be decreased only when the poor have access to their fundamental rights and access to some economic, social, and financial opportunities in their life. Poverty can be transmitted from parents to children through social beliefs such as lack of planning for the future, excessive expenditure without valid reasons, and unproductive activities (Sameti et al., 2012).

Social relationships can influence people's culture and behaviour (Bolin et al., 2003). For instance, if the neighborhood and friends are healthy, that might affect adopting and following strategies that lead to the right health conditions. In general, social networks affect positively as well as negatively individuals' habits. People in touch with close connections with bad habits such as smoking tend to get the same practices.

Microfinance institutions are social institutions which are targeting poor and vulnerable individuals, especially women. Those institutions mostly do not require collaterals but social collaterals that are considered a group of people who can guarantee each other to ensure the financing's repayment. So, the group members are usually selective in choosing their friends to be on the safe side of the institution's obligations.

### b) Previous Studies

According to Peachy and Roe (2006), people need to have access to finance due to its Financial inclusion can increase the education level and reduce poverty (Suresh & Kalyanaraman, 2018). When people are financially included in the formal financial system, it will be more comfortable to guarantee their money and invest it properly. Whereas those who deal with the informal sector, such as black markets, are taking a very high financial risk. Those individuals' money does not benefit the country's government because it is outside the financial mainstream.

Microfinance loans have impacted healthcare positively among the beneficiaries (S. Mahmood et al., 2014). When the awareness about health is high, the customers will prioritise using the financing on their own family and children health care more than any other irrelevant matters. People who use microfinance services do not spend financing on health unless critical issues arise. Otherwise, when the financing is high, and the customers are not considered under the poverty line, health expenses can be increased.

Additionally, microfinance's role in poverty alleviation has been exposed in many studies and found to be significant and very relevant (Abdul-Majeed Alaro & Alalubosa, 2018; Khaki & Sangmi, 2017). Those studies demonstrated the potential of reducing poverty and vulnerability among less fortunate people by proposing the usage of microfinance products and services. Even though several studies have focused on microfinance usage,



governments in many countries are only concerned about easing access, not on the real use of financial services.

Microfinance institutions target mostly women due to their high vulnerability level. The impact of microfinance on women's health and education has been proved by various studies (A. Hassan & Saleem, 2017; Murshid, 2018). Microfinance institutions find women more responsible for repaying the financing better than men. The repayment level in Islamic microfinance is higher for women than men due to their fear of accumulating debt (Mohieldin et al., 2011). However, some studies have focused only on microfinance's impact on men's health care and found significant outcomes (Balvanz et al., 2018).

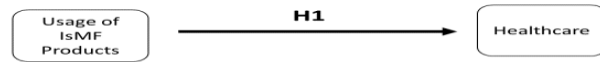
Further, a study conducted by Kasali et al., (2015) found out that the financings taken from microfinance institutions significantly impact the vulnerability among the impoverished population. The effective usage of Islamic microfinance is the most crucial factor in decreasing poverty. Therefore, the usage of access to Islamic microfinance enhances the socio-economic of the customers and reduces financial exclusion among unbanked people (Ahmad, Adeyemi, & Khan, 2017; Khan & Aslam, 2018).

Moreover, Mahmood et al. (2015) examined Islamic microfinance's role in poverty in Pakistan. The study has found that Islamic microfinance improves the poor's lives in several domains, including the health domain. Therefore, the excellent usage of Islamic microfinance products can enhance poverty by improving expenses on health. Rashid studied the role of Islamic microfinance poverty and found that Islamic microfinance positively impacts individuals' well-being, especially their physical and mental health.

However, Hassan and Saleem (2017) have shown that Islamic microfinance improves women's well-being and increases their financial freedom and sense of self-possession. The variables used in the research are women's income, assets possession, awareness of health care and family harmony, children's education. The findings revealed that Islamic microfinance loans positively impact income, assets ownership, and children's education; however, no effects have been seen in health care and family harmony.

Similarly, other studies have shown that the usage of Islamic microfinance services did not impact health care. Rokhman (2013) found that the usage of Islamic microfinance can reduce poverty by increasing income and education; however, there was no significant impact on health care. His study stipulated that health is not a significant dimension of poverty. Based on the theory and empirical studies reviewed above, the following hypothesis is elaborated.

**H1.** Usage of Islamic microfinance products affects the level of Mauritanian health care



**Figure 1.** Conceptual Framework

### 3. Data and Methodology

#### a) Sampling techniques

This study is based on a deductive approach because it is quantitative research. This research's sampling technique is purposive sampling, which is among the non-probability sampling methods. This sampling technique is suitable for this study because it can select respondents based on specific criteria. In this study, there are two main criteria; upon them, the respondents are chosen. Firstly, respondents should possess microenterprises or businesses. Secondly, the respondents should be clients of the Islamic microfinance institution (PROCAPEC) in Nouakchott.

#### b) Data

The data for this study were collected through the questionnaire method. Using a purposive sampling method through a cross-sectional design, 700 copies of the surveys were distributed to the beneficiaries of the Islamic microfinance PROCAPEC-Nouakchott. There were 493 questionnaires returned, which indicates a response rate of 71 per cent. After doing data screening and deleting the outliers, the remaining usable data is 381. This response rate is acceptable because it is above the cut score of 50 per cent (Yun & Trumbo, 2000). This response rate is also due to the nature of the Mauritians who are not familiar with surveys, and most of the respondents were unwilling to answer the questionnaire. After several visits from the researcher to the institutions, enough sample size was achieved.

#### c) Dependent variable

The dependent variable in this study is the health care, which is measured through a five-point Likert scale ranging from 1 (strongly disagree, SDA), 2 (disagree, D), 3 (neutral, N), 4 (agree, A), and 5 (strongly agree, S.A.). This variable has four items with a Cronbach alpha greater than 0.7, indicating higher reliability of items. The variable was adapted with some modifications from different studies. Table 1 shows the items of this variable with the measurement scale. The reliability of the variable is presented in Table3. The Islamic microfinance Institution (IsMFI) in this study is PRCAPEC-Nouakchott.

**Table1:** The Items of the Variable Health

No.	Items	SDA	D	N	A	SA
Health 1	After joining IsMFI, my family and I can get better health care services in the hospitals.					
2	IsMFI increased my ability to settle my medical expenses.					
3	My family and I can receive treatment in private clinics due to IsMFI.					
4	Overall, I am happy with the quality of health care I have since I joined IsMFI.					

**d) Independent variable**

The independent variable of the study is the usage of Islamic microfinance products offered in PROCAPEC-Nouakchott. The variable is self-developed, and it is measured by a four-Linkert scale ranging from 1(never used), 2(rarely used), 3(sometimes used), 4 (frequently used). The products here are four: Murabaha, Qard Hassan, Saving, and Remittance. The variable has a Cronbach alpha greater than 0.7, which indicates the high adequacy and reliability of the items (Hair et al., 2006). Table 2 shows the items of this variable with the measurement scale. The reliability of the variable is presented in Table3.

**Table2:** The Items of The Usage Variable

<i>Products</i>	<i>Never used</i>	<i>Rarely used</i>	<i>Sometimes used</i>	<i>Frequently used</i>
<i>Micro-Murabaha</i>				
<i>Micro-saving</i>				
<i>Micro-remittances</i>				
<i>Qard Hassan</i>				

**Table 3:** Reliability of Constructs

Variable	Number of items	Cronbach's Alpha
Usage	4	.790
Health	4	.997

#### 4. Results and Discussion

In multivariate analysis, normality is considered a crucial issue that needs to be considered, especially when using the SEM model, sensitive to normality.

Chou and Bentler (1995) stipulated that the assumption of normality is met when the values of kurtosis are between  $\pm 7$  and the skewness is between  $\pm 3$ . However, the normality does not affect a larger sample size (more than 200) compared to smaller ones. In this study, there is no major issue of normality.

The following Table 4 and Table 5 show the normality and descriptive statistics of the variables. There is no normality issue in both variables; hence, the Amos software can be used for further analysis. All the values are in the normal range of the rule of thumb.

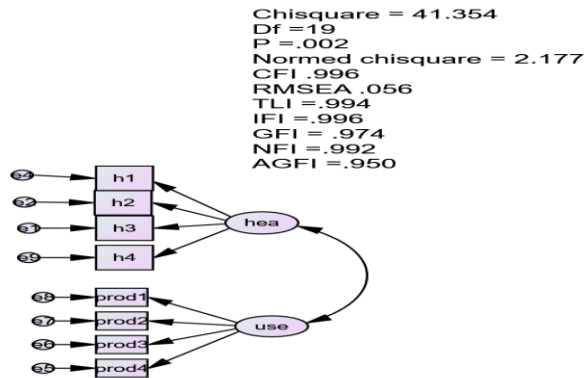
**Table 4:** Descriptive Statistics of Usage

	N	Mini	Max	Mean	Std. Dev	Skewness		Kurtosis	
	Stats	Stats	Stats	Stats	Stats	Stats	Std. E	Stats	Std. E
prod1	381	1	4	1.25	.797	3.004	.125	6.295	.249
prod2	381	1	4	1.28	.833	2.812	.125	6.242	.249
prod3	381	1	4	1.27	.816	2.852	.125	6.458	.249
prod4	381	1	4	1.28	.866	2.797	.125	5.908	.249

**Table 5:** Descriptive Statistics of Health

	N	Mini	Max	Mean	Std. Dev	Skewness		Kurtosis	
	Stats	Stats	Stats	Stats	Stats	Stats	Std. E	Stats	Std. E
h1	381	1	5	3.39	1.492	-.551	.125	-1.241	.249
h2	381	1	5	3.40	1.513	-.570	.125	-1.246	.249
h3	381	1	5	3.41	1.501	-.562	.125	-1.237	.249
h4	381	1	5	3.41	1.539	-.564	.125	-1.279	.249

a) **Measurement model**



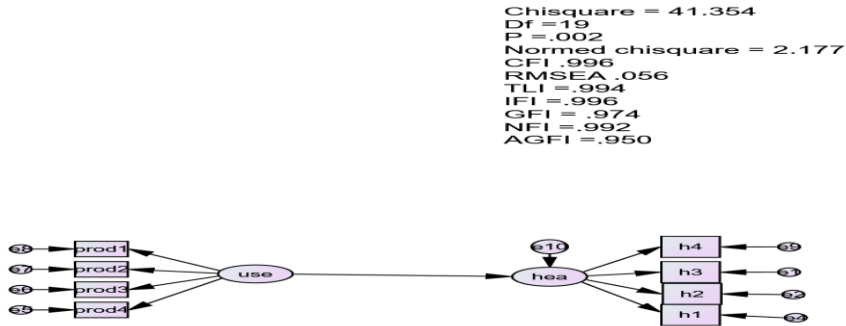
**Figure 2.** Measurement Model

It is clear from Figure 2 that the model is fit because it has excellent indices, which are in line with the SEM assumptions and the rule of thumb made by the experts. The summary of all indexes is presented in Table 6 with the benchmarks.

**Table 6:** Summary of the Hypothesis Model Indices

INDICES	RULE OF THUMB	VALUE IN THE MODEL
<b>NORMED CHI-SQUARE</b>	<5	2.177
<b>P-VALUE</b>	>0.005	.002
<b>CFI</b>	>.90	.996
<b>RMSEA</b>	<.08	.056
<b>IFI</b>	>.90	.996
<b>TLI</b>	>.90	.994
<b>GFI</b>	>.90	.974
<b>NFI</b>	>.90	.992
<b>AGFI</b>	>.90	.950

**b) Hypothesised Model**



**Figure 3.** Hypothesised Model (SEM Model)

The hypothesised model is fit and valid because it has excellent indices. The CFI, RMSEA, and P-value are in the normal range of the values confirmed by experts in SEM assumptions (Tabachnick, Fidell, & Ullman, 2007). Therefore, the process of testing the hypothesis can be continued with no worry about validity and reliability. The results of the hypothesis are presented in the table below (Table 7).

**Table 7:** Regression Weights and hypothesis decision

	Estimate	S.E.	C.R.	P	DECISION
Health <= Use	.008	.142	.059	.953	<b>NOT SUPPORTED</b>

The table above (Table 3) shows that the hypothesis is rejected because the p-value=.953, which is less than 0.05, and the C.R. =.059<1.96. Therefore, the usage of Islamic microfinance products does not significantly impact the variable health care in Nouakchott-Mauritania. This finding is not shocking because it was expected based on previous studies. Several studies have found no significant relationship between the usage of microfinance products and health care (Hassan & Saleem, 2017; Rokhman, 2013).

These findings show that Mauritians who use Islamic microfinance institution products did not increase their health care expenses. This result can be explained that the financing obtained from Islamic microfinance is usually used to enhance microenterprises and microbusiness performance but not for health issues. Also, it can be explained by the coverage of the health of some people who are employed in the public sector. Lack of

awareness about eating healthy food and maintain a healthy shape is another factor that leads to this result.

## **5. Conclusions and Recommendations**

This study has tested the impact of using Islamic microfinance products on health care. The results found no statistically significant relationship between the usage of Islamic microfinance products and health care. Therefore, the hypothesis is rejected. Although this finding contrasts with several literature results, such as (Abdul-Majeed Alaro & Alalubosa, 2018; Khaki & Sangmi, 2017), it is in line with other studies which found that Islamic microfinance does not have an impact on the beneficiaries' health care (Rokhman, 2013). This finding shows that Islamic microfinance did not contribute to the investment in health in Mauritania. Hence, the Mauritians who use Islamic microfinance services did not improve their health care with those products offered.

It is recommended that the policymakers and microfinance operators launch campaigns of awareness on the importance of using Islamic microfinance to enhance people's well-being and improve their health issues. It is also indispensable for microfinance managers to arrange training on how to use the products and services available by the microfinance institutions' customers effectively to impact their lives. Increasing financial education will lead to the decrease of poverty in the country. Therefore, the government should take initiatives to enhance awareness among people about Islamic microfinance products' role in their welfare.

Even though this study has a great value added to the body of knowledge in microfinance and poverty, it has some limitations. Firstly, it is purely quantitative. Future studies can use qualitative methods to enrich the results of the study. This research has focused only on one microfinance institution in Nouakchott. Other studies may include other microfinance institutions or different financial institutions such as takaful institutions or Islamic banks in the Mauritanian context.

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