



## DETERMINANTS OF FINANCIAL INCLUSION IN EGYPT



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### ABSTRACT

#### Article History

Received: 16 September 2019

Revised: 22 October 2019

Accepted: 26 November 2019

Published: 30 December 2019

#### Keywords

Access

Banking services

Financial inclusion

Financial services

Financial knowledge

Financial firms

Determinants.

#### JEL Classification:

B26.

The purpose of the study is to evaluate the determinants of financial inclusion in Egypt. Specifically, the present study seeks to determine whether access to financial services, usage of financial service, and knowledge levels of the financial services have determined financial inclusion in Egypt. The descriptive research design has been adopted while targeting 470 managers in commercial banks operating in Egypt. All questionnaires have been returned fully answered and fit for analysis. Going by the descriptive and inferential statistics on the use of financial services, it is evident that a large number of consumers in Egypt have integrated different financial products and services in their consumption process. In respect to this, the availability of different financial services and products influences the consumption of financial services. The research study further underlines the centrality of religion in influencing consumption of financial services in Egypt. Concerning this point, it is imperative for financial institutions to consider integrating religious principles in designing financial products and services in increasing consumption of financial services amongst consumers. There is also a significant effect of knowledge levels of financial services and consumption. The findings of this study reveal that despite the high rate of uptake of different financial services and products, it is imperative for financial institutions in Egypt to consider diversifying their financial products and services. The study recommends that financial firms should develop diversified financial products in order to align with the customers' needs. Amongst the financial products and services that should be developed relate to banking and insurance products.

**Contribution/ Originality:** The study is critical since banking services are important in national development agenda of Egypt. The paper's primary contribution is finding out the main determinants of financial inclusion and improves a new scale to measure the demand side of financial inclusion in Egypt.

## 1. INTRODUCTION

Financial inclusion, which is defined to include the proportion of consumers (individual and institutional) that uses financial services, has over the past few years become a subject of interest amongst academicians, policymakers, and researchers (Awad and Nada, 2018). Financial inclusion is alternatively defined to include the process through which all consumers enjoy the ease of accessing and utilizing the services offered in the formal financial system (Rajeev and Vani, 2017). Governments across the world are increasingly focusing on promoting financial inclusion as an approach towards promoting sustainable socio-economic growth.

Accessing financial services from financial institutions is, therefore, being considered integral in reducing/eliminating extreme poverty, fostering shared prosperity, and promoting inclusive and sustainable economic growth (Kumar, 2013; Lal, 2018). Opine that being financially included increases the probability of the poor and disadvantaged individuals benefiting from employment opportunities hence increasing their level of income.

In respect to this, world governments continue to make frenzied initiatives to guarantee sustainable economic advancement in order to foster economic development and enhance their citizens' livelihoods. Financial exclusion is not limited to a particular country, but it is a global problem (Naceur *et al.*, 2017). Over 2.5 billion adult consumers do not own an account in formal financial institutions (Awad and Nada, 2018). This depicts the existence of a significantly large gap with respect to financial inclusion.

Over the past century, the Egyptian banking industry has shown enormous size and scope development (Omankhanlen, 2012). Despite major improvements in all fields of financial strength, revenue and competitiveness, much-needed banking services have not reached deprived regions. Efforts are being created in this framework, as financial inclusion could raise the financial situation and living standards of the underprivileged (Lal, 2018). Strong and reliable financial environment sets powerful pillars for economic growth and development. Significant analytical literature has been used along all nations using multiple advanced methods to efficiently justify this argument (Piabuo, 2015). In this context, the current paper aims at scrutinizing the status of financial inclusion in Egypt and reviewing its determinants.

### 1.1. Research Aim and Objectives

The purpose of this research study is to contribute to understanding of the determinants of financial inclusion in Egypt. The pursuit of the research purpose is achieved by pursuing the following objectives.

- i. To examine the individual determinants of financial inclusion in respect to three main financial inclusion indicators that include: ownership of a bank account, savings in a bank account, and using bank credit.
- ii. To examine how religion hinders financial inclusion.
- iii. To understand the determinants of informal saving and informal credits and how personal characteristics influence individuals to own savings and credit accounts.

The paper is included literature review, descriptive statistics of the sample used, and the main estimations.

## 2. LITERATURE REVIEW

Available evidence shows that financial inclusion is influenced by different demand and supply-side factors. On the determinants of financial inclusion in China, Fungacova and Weill (2014) affirm that the demand-side amongst them are greater earnings, quality education, being male and being aged, substantially determine the use of formal accounts and formal credit. Conversely, a study by Tuesta *et al.* (2015) on the study of the determinants of financial inclusion in Argentina showed that supply-side factors are, for example, availability of bank branches and ATMs, determine access to formal financial services. The level of education, earnings and age are identified as a major determinant of the demand-side of financial inclusion.

In a study involving 65,000 individuals from 64 regions, Demirguc-Kunt *et al.* (2013) examined the effect of being a Muslim on official accounts, formal savings, formal loans and financial inclusion obstacles. In their study, the researchers found that Muslims adhere substantially less than non-Muslims to official account ownership and official saving. The study further revealed that the typical categories of those excluded from formal financial systems include the poor, the less educated, women and rural adults. In analyzing the individual features of the determinants of financial inclusion, Allen *et al.* (2012) revealed that the possibility of holding an account and saving in a formal bank is greater for the wealthy, elderly, urban, hired, married or separated persons. As a result, the

possibility of borrowing funds from financial institutions amongst the elderly, educated, wealthy, and married males is increased.

Kostov *et al.* (2015) analyzed South Africa's "Mzansi" accounts to evaluate the role of behavioral decision-making in families. They discovered that aspirations and financial literacy are significant decision-making determinants. Gender also counts to be considered in financial inclusion (Kostov *et al.*, 2015). In their study, Naceur *et al.* (2017) described several financial inclusion determinants. The determinants identified include structural variables, which determine the cost to the population of providing financial services. The second is the variables related to policy, which may generate financial inclusion encouraging environments. In a study by Kumar (10), it was found that establishing a network of branches has a clear positive effect on financial inclusion. The research further highlighted the significance of the socio-economic and environmental set-up of a region in shaping mass banking practice.

Using the 2011 Global index database for a panel of 90 developing and emerging countries, two FI indices composed of both conventional and creative tools have been constructed on a range of explanatory variables, such as natural GDP per capita log, inflation, real interest rate, private-sector bank credit, z-score and economic concentration levels of the financial system. Cross-country regression findings indicate that the incorporation of macroeconomic variables in systemic risk assessment by regulators is a barrier to inclusive funding. The financial inclusion index (FII) depends on Sarma's cross-country approach. Sarma (2008) recorded three significant features of financial inclusion – the penetration of the banking system, the availability, and the use of financial services. The index is aggregative in nature, which for all three parts maintains the same weight.

### 3. METHODOLOGY AND DATA ANALYSIS

The research study is based on a quantitative research design. Descriptive statistics have been employed in analyzing the primary research data collected by a questionnaire, see [Appendix 1](#). Inferential statistics were adopted in establishing the relationship between the variable. Karl Pearson's Correlation coefficients and the regression method were applied. The study's null hypothesis was that: there was no significant relationship between access, use, and knowledge of financial services and financial inclusion in Egypt as depicted by the regression model:

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + e$$

Where:

Y = Dependent variable.

a = Constant.

$x_1 - x_3$  = Independent variables.

$b_1 - b_3$  = regression coefficients associated with the independent variables  $x_1 - x_3$ .

In this case, the model was used to help indicate whether the independent's variables (access, use and level of financial services knowledge) affect the dependent variable of financial inclusion in Egypt.

#### 3.1. Demographic Statistics

The study sought to develop a broad insight into the determinants of financial inclusion in Egypt. As such, the research participants selected were of different demographic characteristics. Thirty-four percent of the respondents are male with 66% of the respondents are female as illustrated in [Figure 1](#).

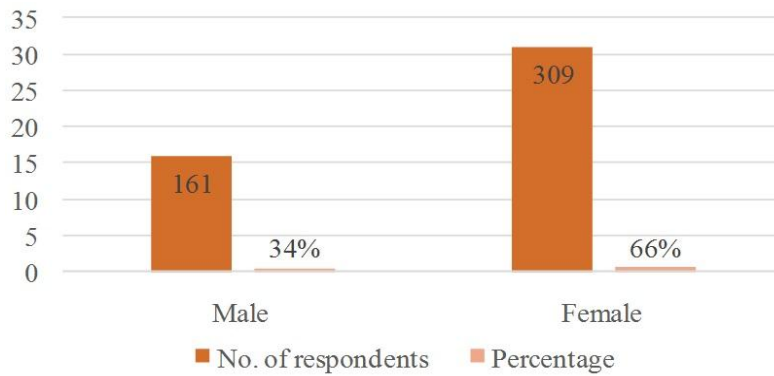


Figure-1. Respondents in gender.

The research participants selected are of different age groups, as illustrated in Figure 2. A sizeable proportion of respondents (79%) are aged less than 30 years and less than 40 years.

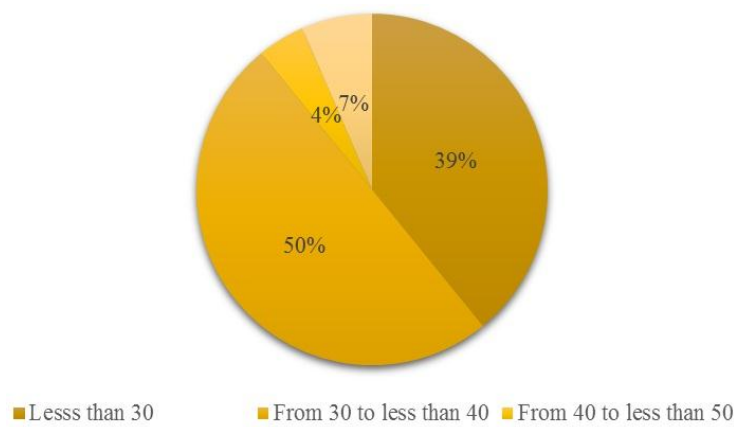


Figure-2. Respondents in age.

The research participants selected held a graduate educational level and above. The selection of graduates as the research participants was informed by their high likelihood of being conversant with the concept of financial inclusion and its determinants. Thus, the probability of gathering credible research data was increased. However, the participants are of majored in different fields, as illustrated in Figure 3.

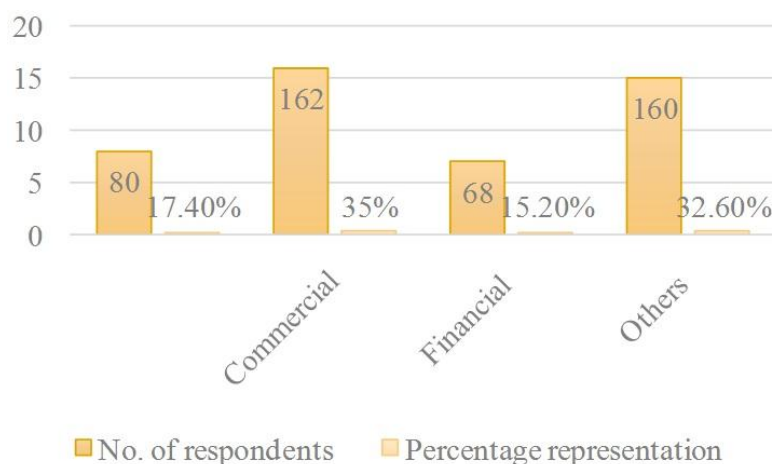


Figure-3. Respondents' education major.

The respondents selected are of different nationalities and residencies, as illustrated in Figure 4 and Figure 5.

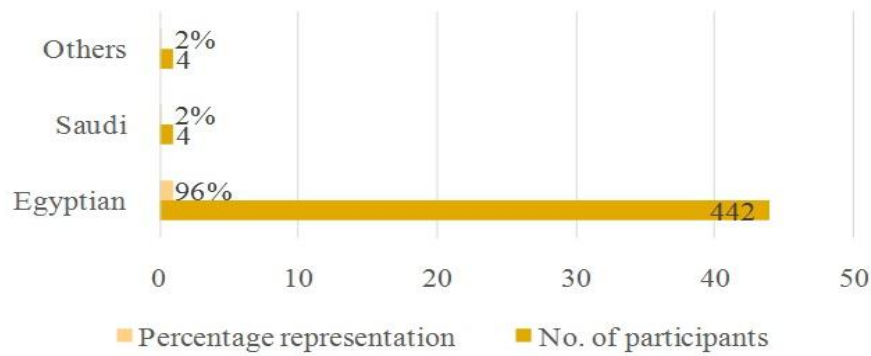


Figure-4. Respondents' nationality.

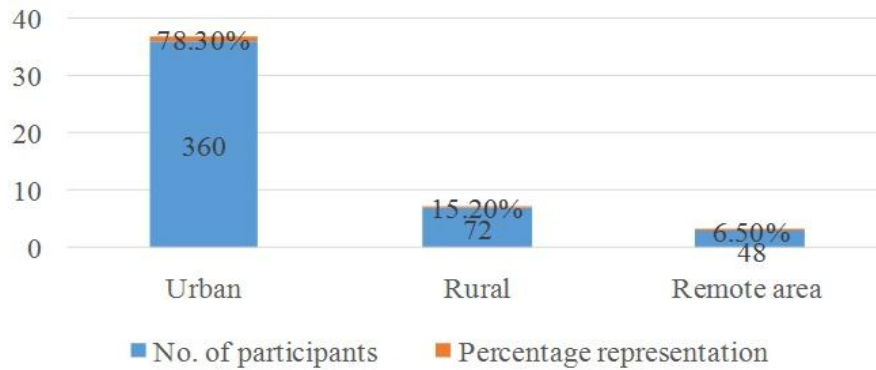


Figure-5. Research participants' residency.

### 3.2. Analysis of the Respondent's Opinion

To understand the determinants of financial inclusion in Egypt, the study was organized into four axes. The analysis of the research findings was based on these axes as analyzed herein. The multiple regression technique was employed in analyzing the research findings. In view of the fact that the data collected was qualitative in nature, the responses obtained were codified. This was achieved by linking assigning values to the responses based on the Likert scale. A scale of 1=totally oppose, 2=oppose, 3=neutral, 4=agree and 5=totally agree.

### 3.3. Access to Financial Services and Products in Egypt

The first axis focused on understanding access to financial services and products in Egypt. First, the respondents were questioned on the accessibility of financial services across geographical regions in Egypt. Accessibility of financial services across all geographical regions in Egypt is considerably low. Ninety-six percent (96%) of the respondents totally oppose on the view that financial services are accessible in all regions in Egypt, while only 4% of the respondents are neutral on the issue as illustrated in Figure 6.

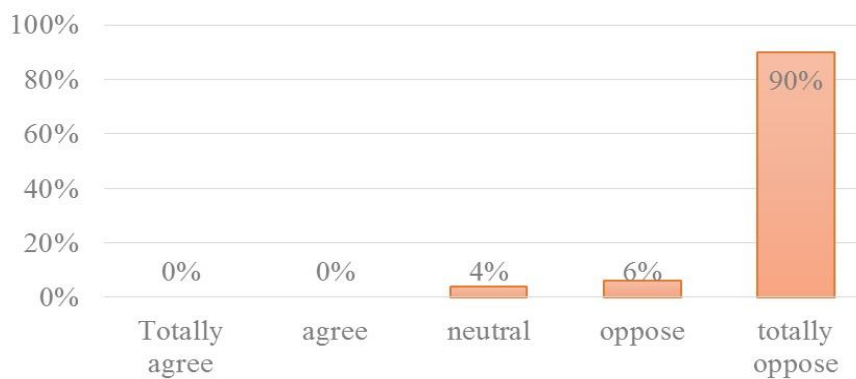


Figure-6. Respondents' opinion on accessibility of financial service in all geographical regions in Egypt.

The value of the Pearson correlation between the independent and dependent variable is greater than 0, that is, 0.75, which indicates the existence of a positive correlation between the availability of financial services in all geographical regions and accessibility of financial services and products.

In Figure 7, the research study shows that financial services are available to a sizeable number of individuals in Egypt, irrespective of their job and profession. Eighty percent (80%) of the respondents affirm that individuals belonging to different occupations and professions can access financial services in the country.

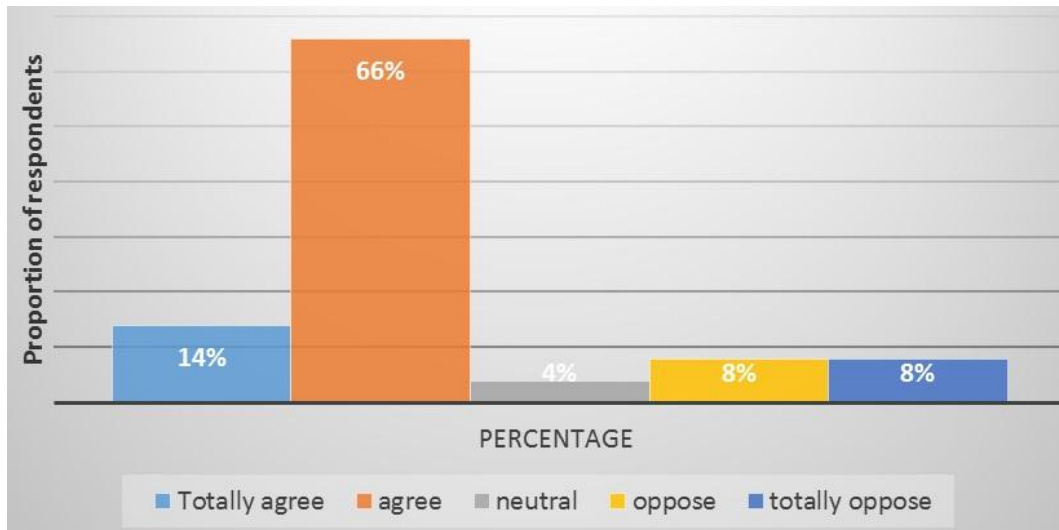


Figure-7. Respondents' opinion on the availability of financial services across different professions and jobs.

In spite of financial services being widely accessible to individuals of different professions and occupations, 94% of the research participants opposed the view that financial services are available for all social classes. Six percent (6%) of the respondents are neutral on the availability of the financial services to consumers belonging to different social classes in Egypt, as illustrated in Figure 8.

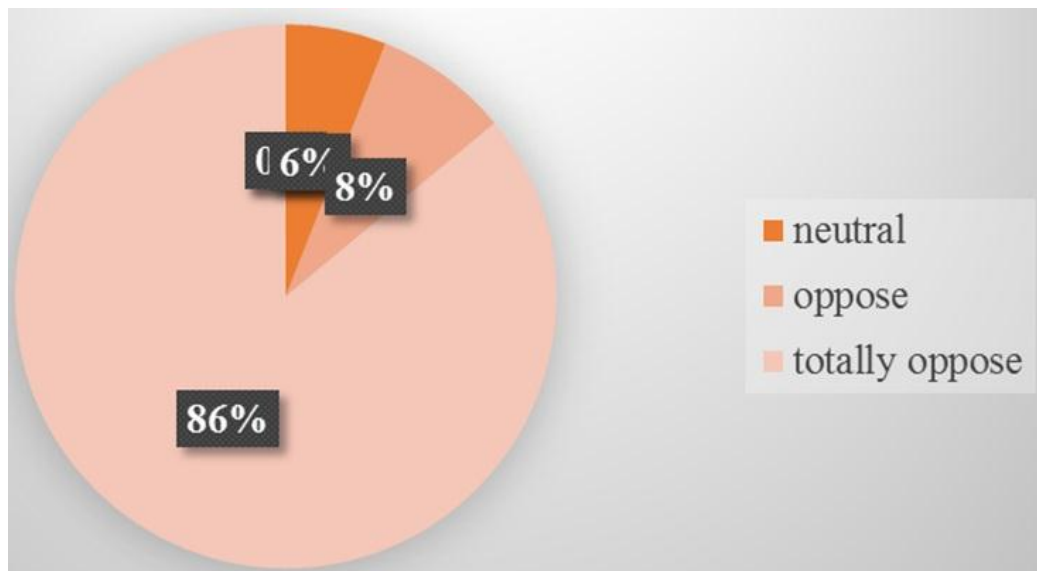


Figure-8. Availability of financial service for all social classes.

The descriptive statistics show that the availability of financial services for all social classes is positively skewed. This highlights that availability of financial services to all social classes is a major determinant of financial inclusion.

In recognition of the central role that technology plays in overcoming geographical barriers to financial inclusion, the study seeks to gain insight into the extent to which financial services are available to consumers over the phone and through online platforms. Eighty-eight (88%) of the respondents refute the claim. Six percent (6%) of the respondents are neutral, while only 6% of them support the view that financial services are available for all consumers in the country as illustrated in Figure 9.

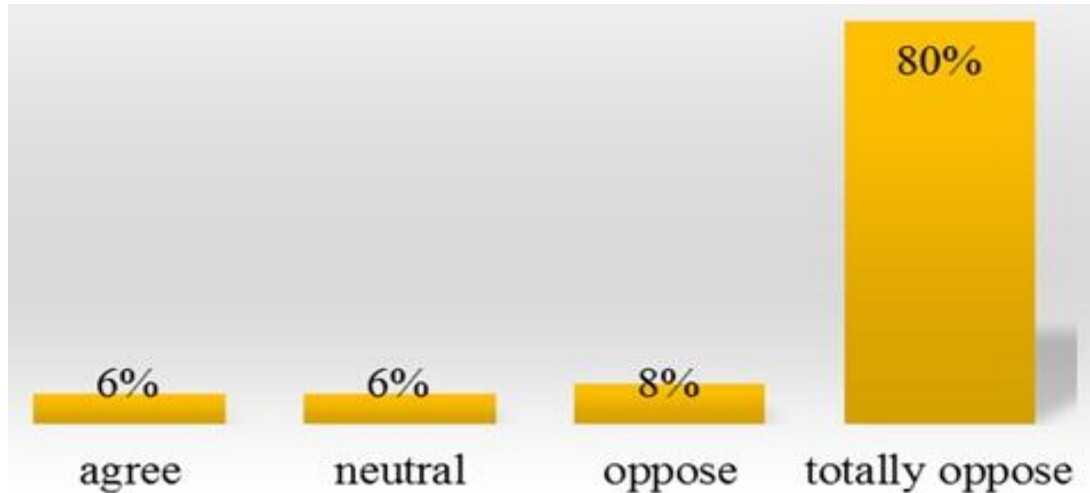


Figure-9. Response opinion on the availability of financial services to all consumers through telephone and online platforms.

In Figure 10, the terms and conditions of the financial services are identified as a major barrier that limits access to financial services and products. Ninety-four percent (94%) of the respondents identify the terms and conditions of financial products and services as a major problem hindering accessibility to financial services.

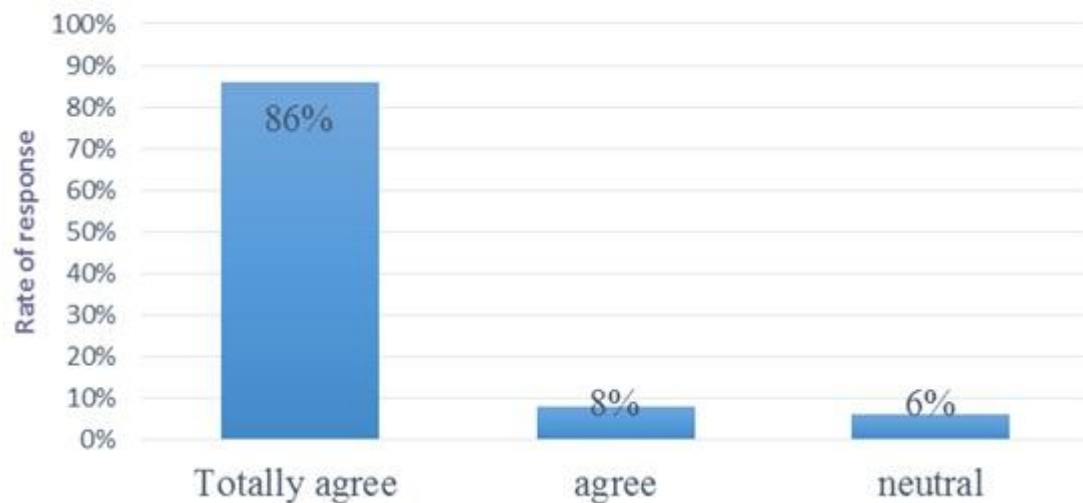


Figure-10. Respondents' opinion on whether terms and condition of financial services prevent some community groups from ascending financial services.

In Figure 11, Ninety-four percent (94%) of the respondents are of the view that financial services in Egypt cover the actual needs of various community groups in the country. Four percent (4%) of the respondents disagree with this view while 2% of them are neutral.

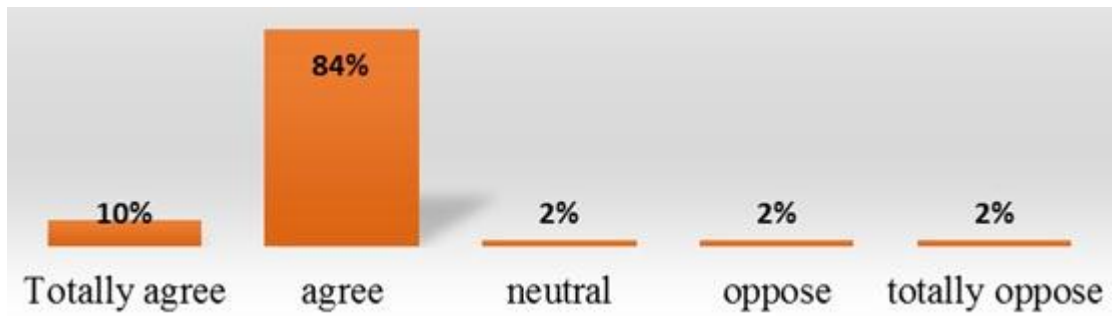


Figure-11. Respondent's opinion on whether financial services cover the actual needs of various community groups.

Ninety percent (90%) of the respondents agree that some community groups in Egypt face difficulty in accessing the financial institution branches. Six percent of the respondents refute this claim, while 4% of the study participants are neutral as illustrated in Figure 12.

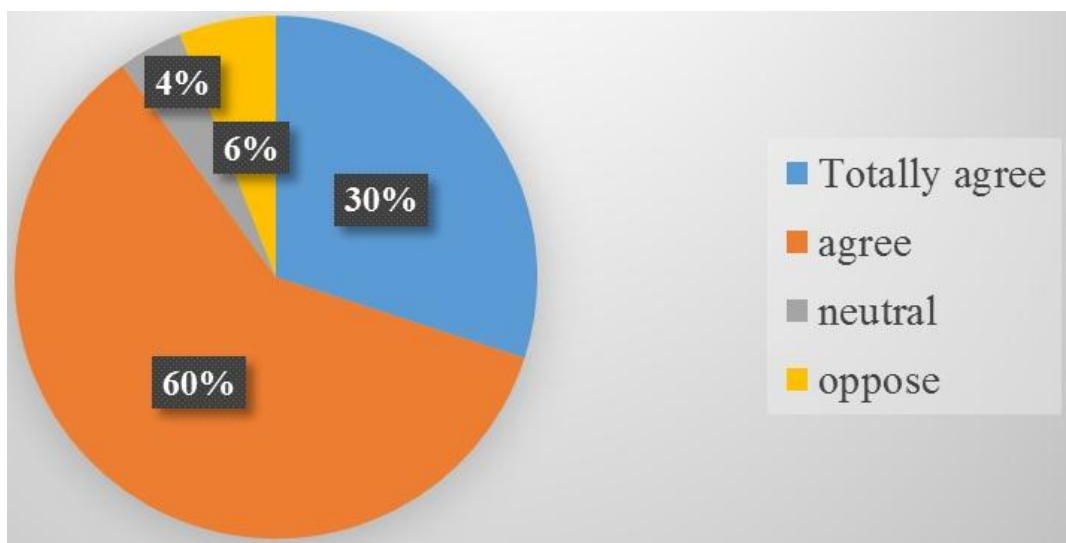


Figure-12. Respondents' opinion on the difficulty of some community groups in accessing financial institution branches.

Sixty percent (60%) of the respondents agree that some community groups do not need financial services. Ten percent (10%) of the respondents oppose this perspective, while 10% of them strongly oppose this view as denoted in Figure 13.

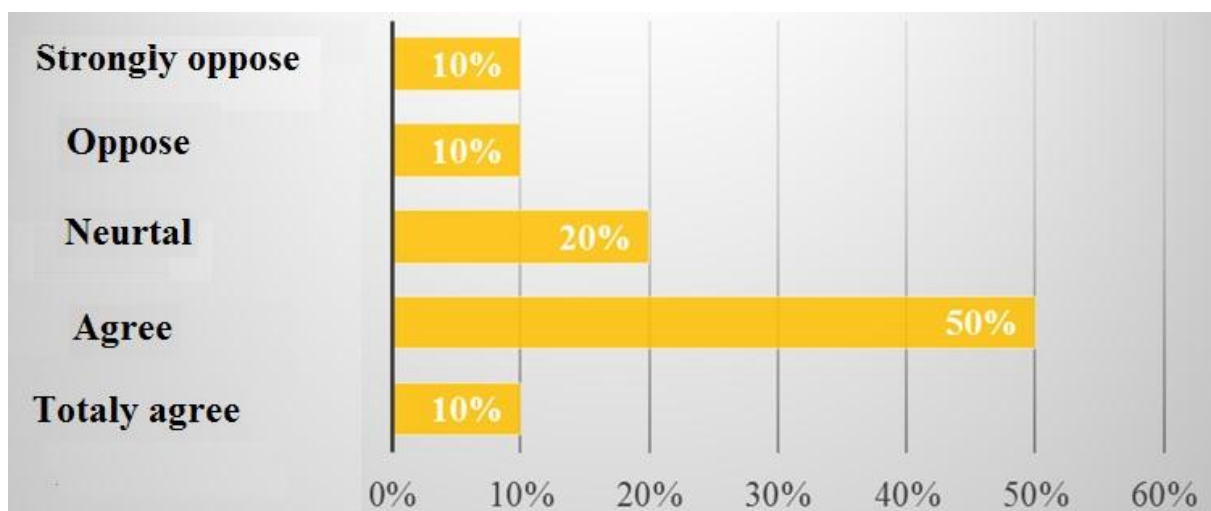


Figure-13. Respondents' opinion on the view that some community groups do not need financial services.



The study shows that financial ignorance is a major factor that hinders some community groups in accessing financial services. This assertion is illustrated by the 84% of respondents who agree with this perspective, as illustrated in Figure 14.

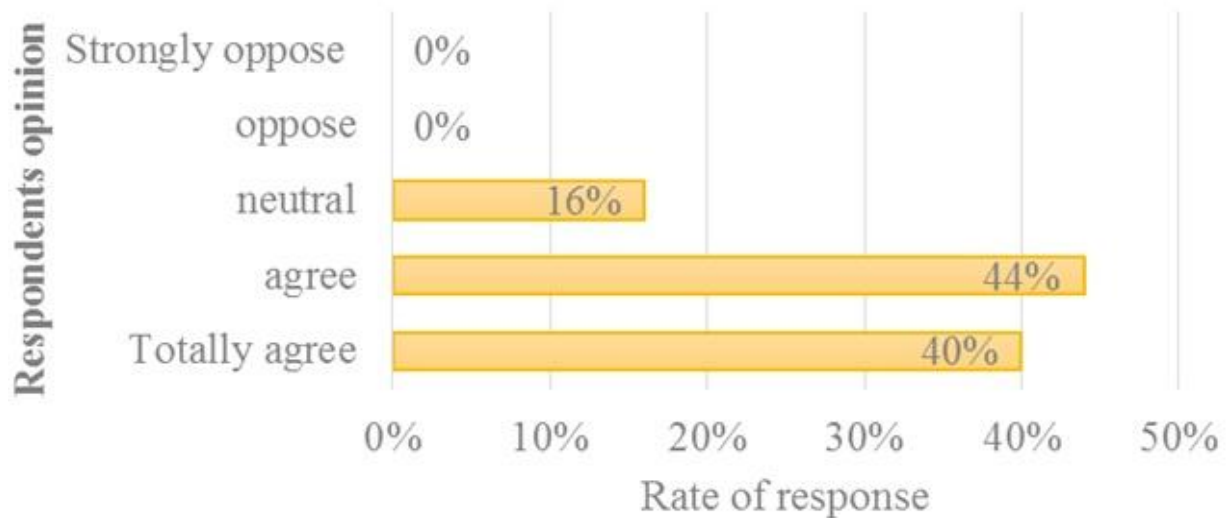


Figure-14. Respondents' opinion on whether financial ignorance prevents some community groups from accessing financial services.

The absence of financial awareness is also identified as a major hindrance to financial inclusion in Egypt. Ninety-two percent (92%) of the respondents agree that the absence of financial awareness prevents some community groups from accessing the financial services. Four percent (4%) of the respondents oppose the claim while 4% of them are neutral as illustrated in Figure 15.

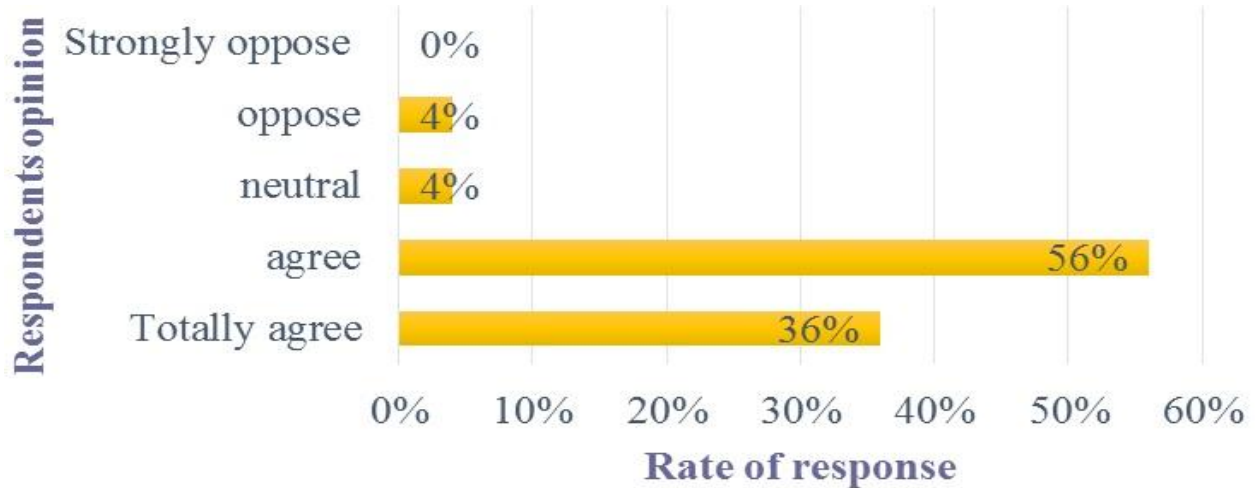


Figure-15. Respondents' opinion on whether absence of financial awareness prevents some community groups from accessing the financial services.

### 3.4. Second Axis: Religious Beliefs and their Impact on the Financial Inclusion

The research study seeks to understand the role of religion in influencing financial inclusion in Egypt. Different issues have been identified in relation to religion. The respondents' opinions in regards to this perspective have varied significantly. Eighteen percent (18%) of them strongly oppose the view that financial institutions should consider Shariah controls while offering financial services, and it is opposed by 20% of the respondents. Conversely, 36% of the respondents while 10% of them strongly agree with this viewpoint. Sixteen percent of the respondents adopt a neutral stance on this perspective. Figure 16 illustrates a summary of the respondent's opinion.

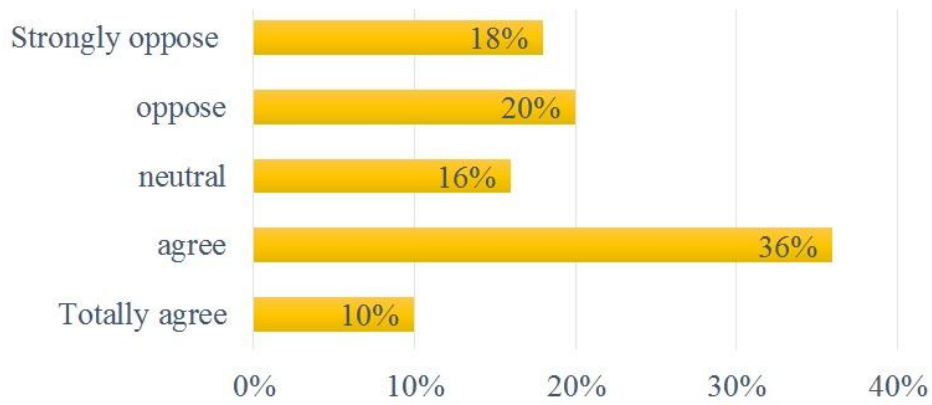


Figure-16. Respondents' opinion on whether financial institutions should consider the Shariah control when offering their services.

Fifty percent (50%) of the respondents refute the claim that the proscribed usury is limited to gold and silver coins and not banknotes. Twenty percent (20%) of these respondents strongly refute this claim. Thirty percent (30%) of the respondents support this view, with 10% of them strongly supporting the claim. Twenty percent (20%) of the respondents adopt a neutral position. Figure 17 illustrates the respondents' opinion in relation to this view.

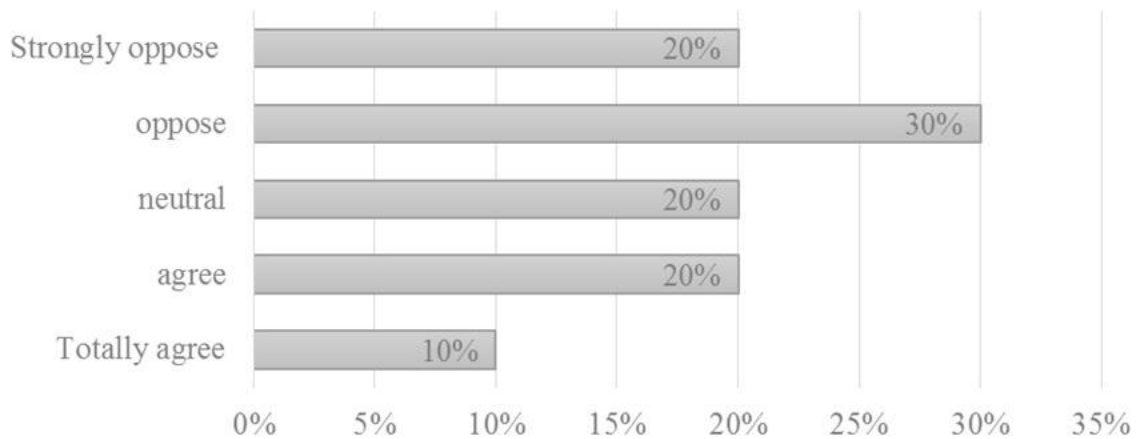


Figure-17. Respondents' opinion on the proscribed usury is limited to (gold and silver coins), and not banknotes.

The respondent's opinion with respect to whether the bank interest rate is novel and irrelevant to the proscribed usury varies. Ten percent of the respondents totally agree with this view while 26% of them generally agree with the view. Twenty-four percent (24%) and 16% of the respondents adopt a strong opposition and general opposition on this claim respectively. However, 24% of them are neutral as illustrated in Figure 18.

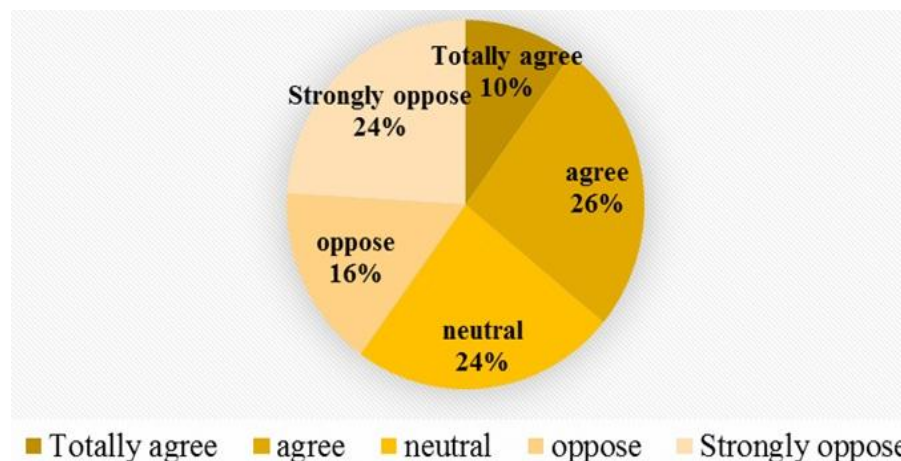


Figure-18. Respondents' opinion on whether bank interest rate is novel and irrelevant to the proscribed usury.

The respondents are of different opinions in reference to whether Islamic banks are totally different from traditional banks. Twelve percent (12%) of the respondents have totally agreed while 28% of them have generally agreed. However, 14% of the respondents have strongly opposed while 20% of them have generally opposed the view. Twenty-six percent (26%) of the respondents are neutral on this perspective as illustrated in Figure 19.

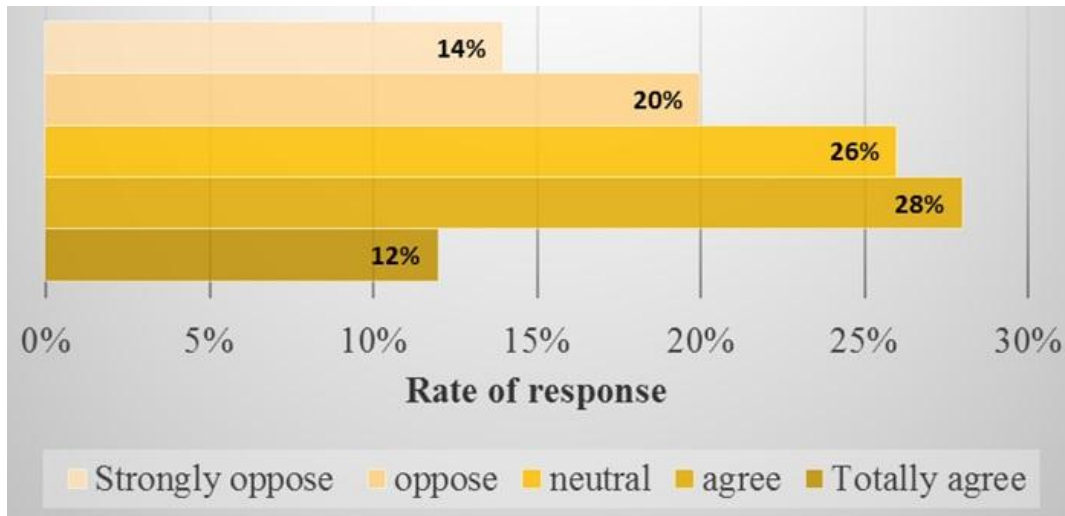


Figure-19. Respondents' opinion on whether Islamic banks are totally different from traditional banks.

In Figure 20, Opinion on whether religious verdict is essential for consumers to deal with the financial services and products is different with 40% of the respondents being in support of this perspective while 40% of them have opposed this perspective. Twenty percent (20%) of the respondents are neutral in relation to this aspect.

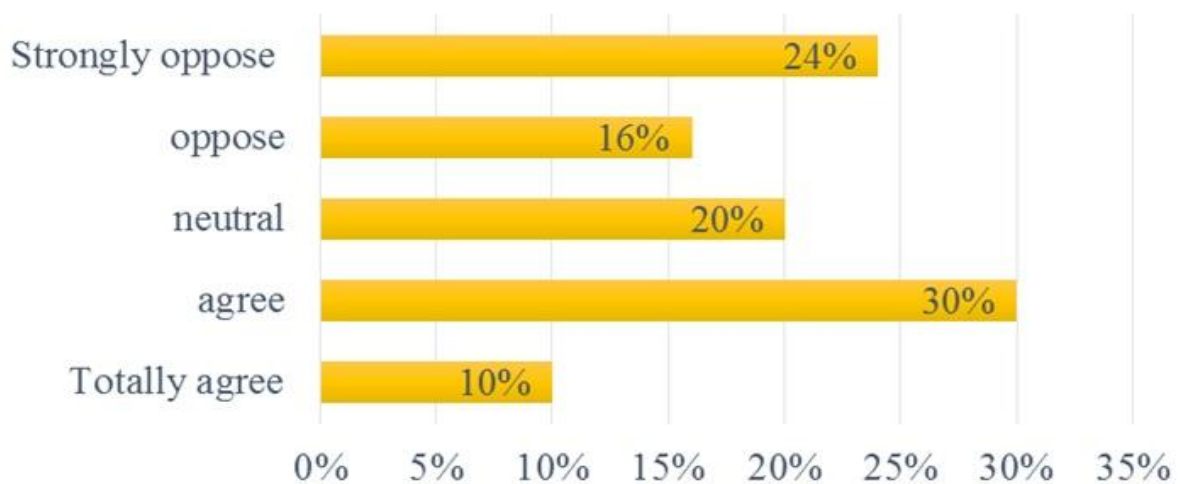


Figure-20. Respondents' opinion on whether religious verdict is essential for consumer to deal with the financial services and products.

In spite of the difference in level of support on whether life insurances are a method to social solidarity, 58% of the respondents have supported the centrality of life insurance. On the other hand, 22% of the respondents have refuted the claim, while 20% of the respondents are neutral as illustrated in Figure 21.

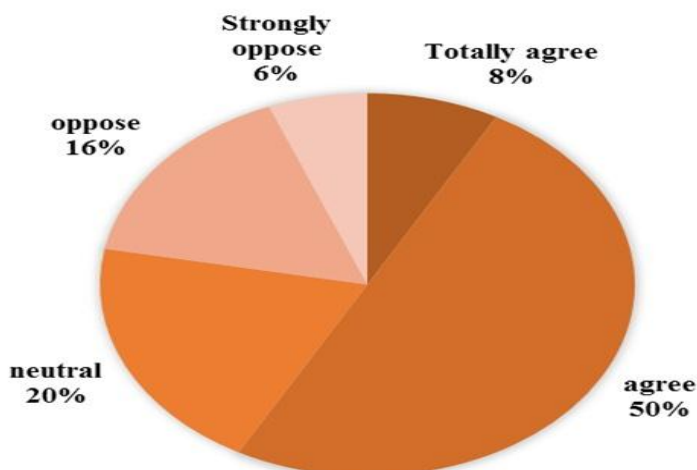


Figure-21. Respondents' opinion whether life insurances are a method to social solidarity.

### 3.5. The Use of Financial Services and Products

The research study seeks to understand the consumers' behavior with regards to utilization of financial services and products. In spite of variance in the rate of usage of bank accounts, 96% of the respondents have confirmed that they occasionally, rarely and always use bank accounts as illustrated in the below graph. Only 4% of the respondents have affirmed that they rarely use the bank account as illustrated in Figure 22.

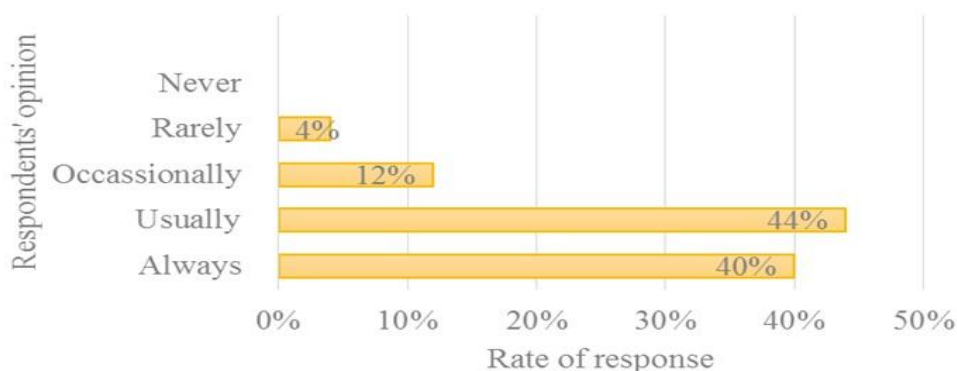


Figure-22. Respondents' usage of bank accounts (saving and current account).

In Figure 23, the degree of individual usage of bank deposit services in Egypt varies substantially, Forty-two percent (42%) of the respondents have affirmed that they usually use bank deposit services while 20% and 18% of them argue that they always and occasionally use bank deposit services, respectively. However, 12% of the respondents have affirmed that they rarely use the service, while 8% of them have affirmed that they never use the service.

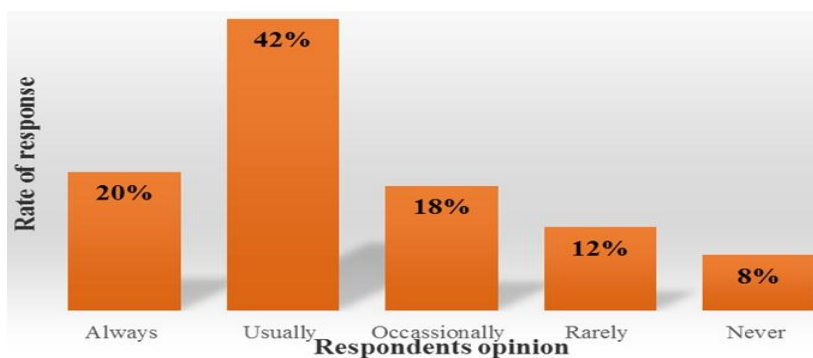


Figure-23. Respondents' opinion on their usage of bank deposit services.

A significant proportion of the respondents (90%) affirm their usage of credit financial services in spite of the variation in the frequency of usage. Nevertheless, 6% of them have argued that they rarely use the service, while 4% of them never use the service. Figure 24 illustrates the respondent's opinion on this perspective.

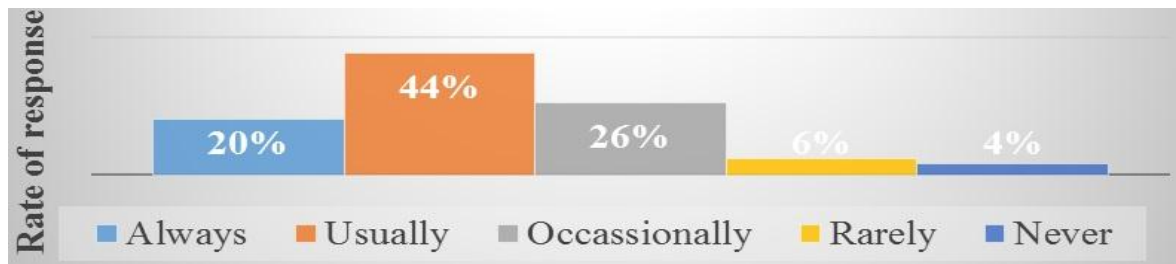


Figure-24. Respondents' opinion on the use of bank credit services.

The consumers' usage on electronic methods in paying bills and expenses is relatively high, with 78% of the respondents affirming their usage of electronic methods. The frequency of usage varies from occasional to always, as illustrated in Figure 25. Nevertheless, 14% of the respondents have affirmed that they rarely use the service, while 8% of the respondents have affirmed that they never use electronic payments methods.

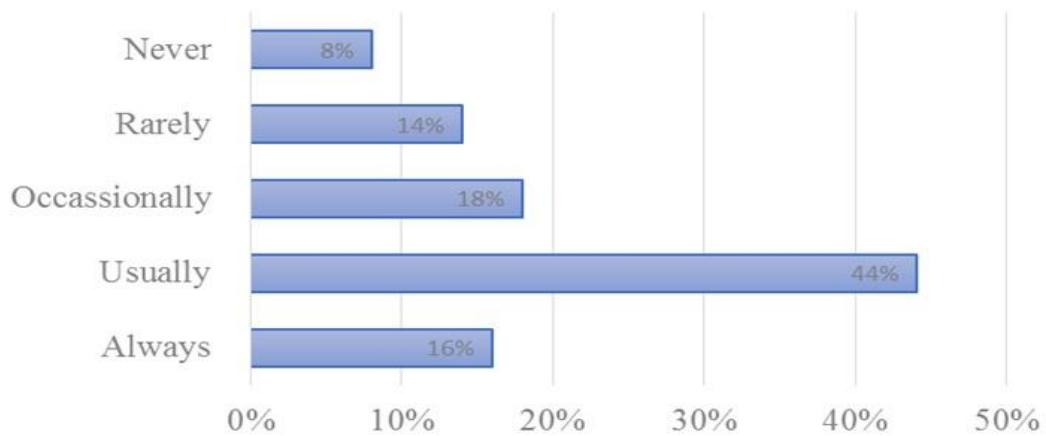


Figure-25. Respondents' opinion on their usage of electronic methods in paying bills and expenses.

The rate of usage of ATMs amongst the respondents is considerably high as illustrated by the proportion of the respondents who confirms that they occasionally to always use ATMs. Only four percent of the respondents have affirmed that they rarely or have never used ATMs as a financial service, as illustrated in Figure 26.

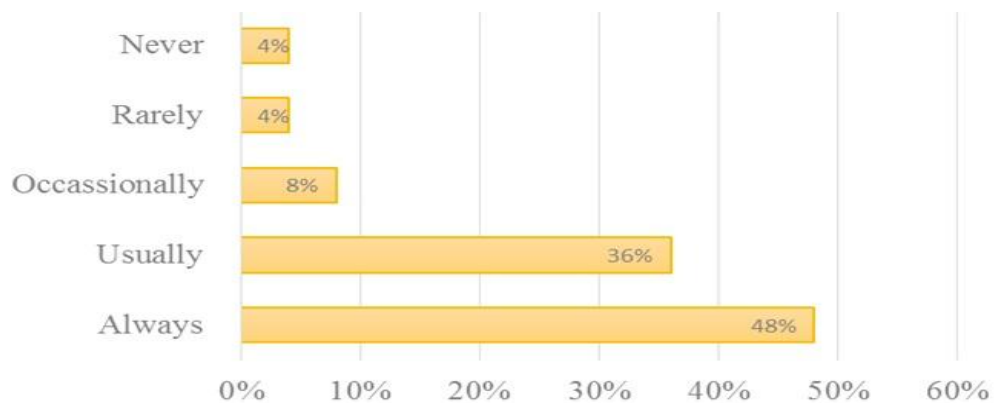


Figure-26. Respondents' opinion on use of ATMs.

The use of financial products and services online and over the cellphone is supported by a significant proportion of respondents as illustrated in Figure 27 in spite of the varying degree of usage. However, 12% of the respondents have opined that they never use financial services online and over the phone.

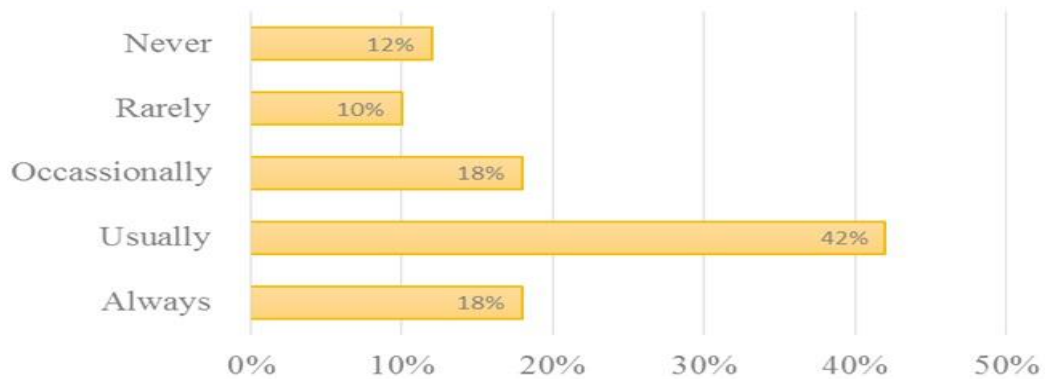


Figure-27. Respondents' opinion on use of financial services and products online and over the cell phone.

The use of credit cards was identified to be extensively high as illustrated by the large number of respondents who affirmed that they occasionally, usually and always use the card. With a mean value of 6.75 and a mode of 2, the research findings show that the usage of credit card in Egypt is positively skewed. This shows that a significant proportion of consumers in Egypt have appreciated the use of debit and credit card in consumer financial services and products. Figure 28 illustrates the descriptive statistics in relation to the use of debit and credit cards in the country.

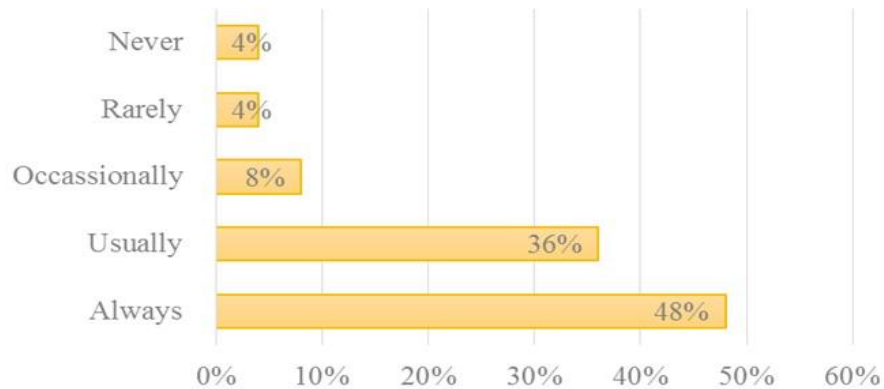


Figure-28. Respondents' opinion on use of credit and debit cards.

### 3.6. Fourth Axis: Measurement of Basic Financial Knowledge

The research study further seeks to gain insight into the level of financial knowledge amongst consumers. In respect to this, different aspects of financial knowledge have been examined. Seventy percent of the respondents affirm that their personal financial planning process includes drawing up plans regarding their future financial needs and ends. However, 30% of the respondents have claimed that they do not take this approach. This shows the adoption of a relatively high level of financial planning amongst the respondents. It is also revealed that 74% of the respondents rely on their basic financial knowledge in their spending. This highlights that a sizeable number of consumers in Egypt have integrated financial knowledge in their consumption process.

The research study further seeks to understand investment behavior amongst Egyptians. The findings show that a sizeable number of consumers are knowledgeable about different investment vehicles. Eighty percent (80%) of the respondents affirm of their knowledge on the high level of liquidity associated with investing in a certificate of deposit when compared to money invested in the current account. The high level of consumer knowledge has

also been evidenced by the high number of respondents who are knowledgeable that personal net wealth does not include the difference between one's income and expenses. Figure 29 illustrates the respondents' opinion with respect to these aspects.

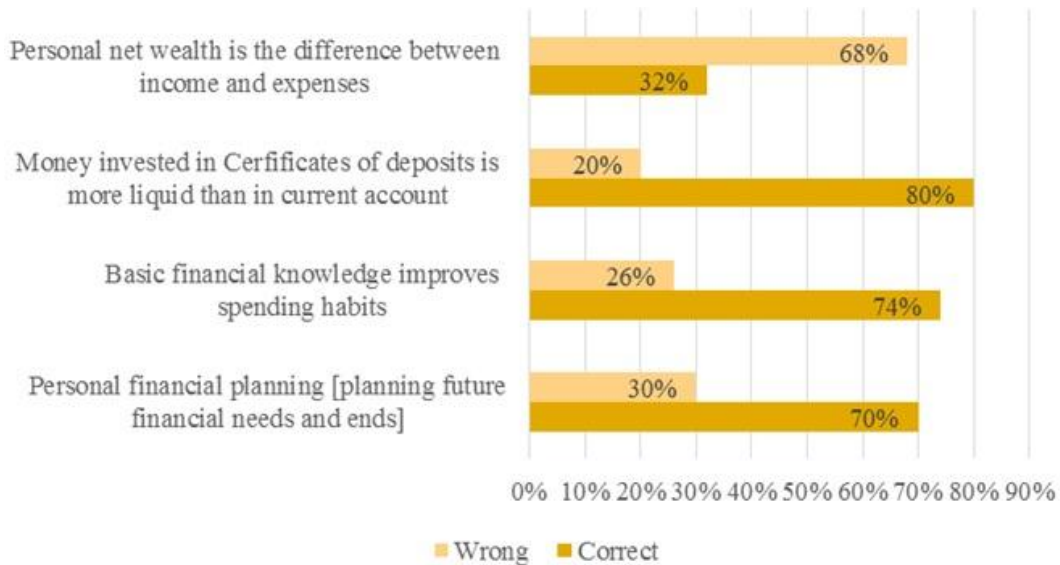


Figure-29. Different in respondents' level of financial knowledge.

All the respondents were adequately informed of the Central Banks role in guaranteeing saving accounts in commercial banks. Seventy-six percent (76%) of the respondents supported the view that a thousand-pound deposit increases on a monthly compound interest when compared to a quarterly interest rate. Twenty-four percent (24%) of them refuted this assertion. Interest rate on credit card considered to be higher by 76% of the respondents than the rate of return from certificate of deposit. However, 24% of the respondents refuted this assertion. The high level of financial knowledge amongst consumers is also underlined by their understanding that a person's credit record is basically obtained from the commercial bank. This viewpoint is supported by 96% of the respondents who have disagreed with it. Figure 30 illustrates a summary of the respondents' opinion with respect to the central bank's role, the rate of interest, and source of the consumers' knowledge.

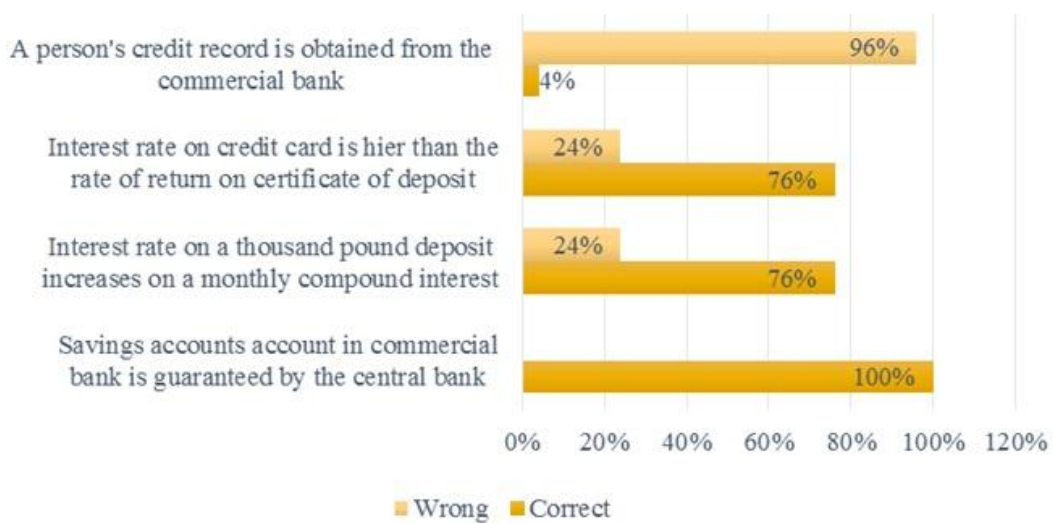


Figure-30. Comparison of respondents financial knowledge.

Seventy-six percent (76%) of the respondents affirmed that the key purpose of purchasing insurance cover is to protect from risk exposure. Moreover, ninety-six percent (96%) of the respondents affirmed that the type and period

of insurance policy determine the insurance installments that one is required to pay. Seventy-eight (78%) of the respondents disagreed with the view that a house insurance policy covers risks associated with floods, wars and earthquakes. Conversely, 74% of the respondents concurred with the perspective that the term insurance policy is less costly than a whole life insurance policy. From the respondents claim it is evident that a significant proportion of the respondents are knowledgeable about insurance as a financial service. Figure 31 illustrates a summary of the respondents' opinion with respect to the insurance aspects evaluated.

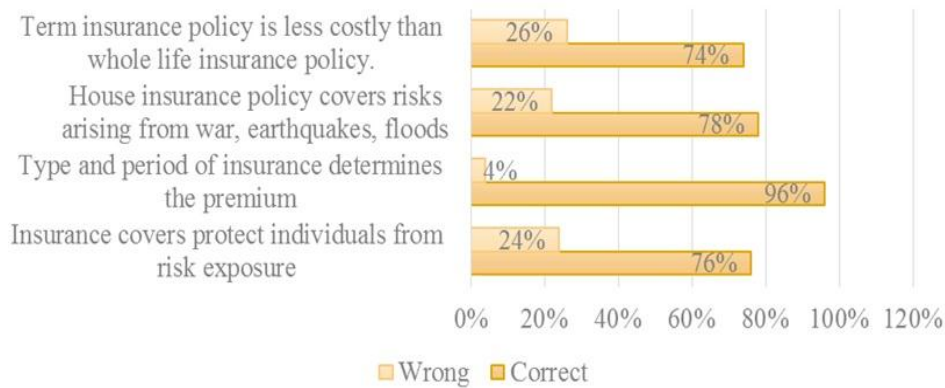


Figure-31. Comparison of respondents knowledge of insurance services.

The research findings indicate the existence of a significantly high level of knowledge with regard to investment. First, the respondents have acknowledged the appropriateness of young families investing in high-risk revenue investment strategy when compared to the aged and retired families. The level of knowledge on the positive correlation between interest rate and bond prices is revealed as illustrated by the 90% of the respondents who support the claim that high-interest rate increases bond prices. Investing in one share as opposed to investing in an investment instrument has been considered safe by only 4% of respondents. This indicates the respondents' appreciation of the need for diversification in constructing an investment portfolio. Ninety-two percent (92%) of the respondents are knowledgeable of the investment fund to be comprised of a diversified portfolio of securities uses as an investment tool. Figure 32 illustrates a summary of the respondents' opinion in reference to investment.

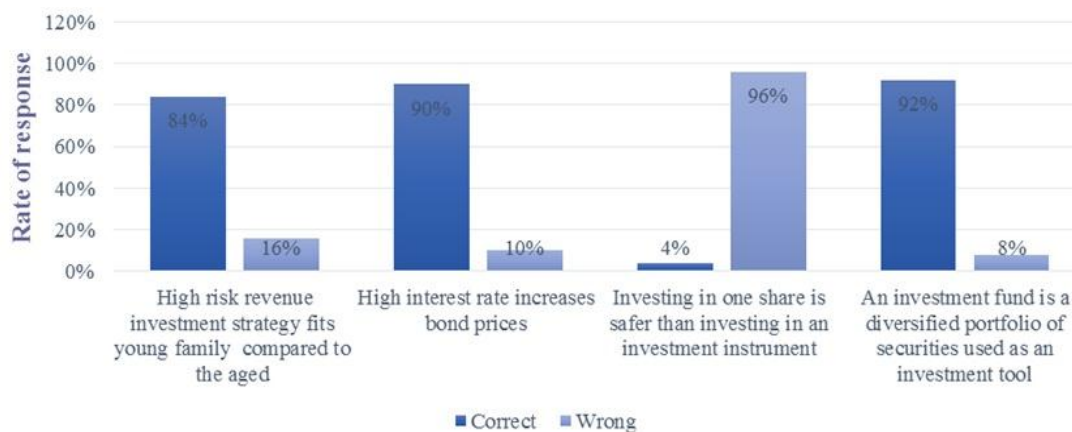


Figure-32. Comparison of respondents knowledge of investment.

## 4. INFERENCE STATISTICS

### 4.1. Correlation Analysis

Upon descriptive data analysis, the study undertook inferential statistics to establish the relationship between the variables. Karl Persons Correlation analysis was applied to test the relationship between the independent



variables; with the confidence level (95%, 0.05) was used to establish the significance of the relationships. The results are as stipulated in Table 1.

Table-1. Correlation analysis.

Variables	Access to financial services	Use of financial services	Financial knowledge
Access to financial services		.013*	.021
Use of financial services	.013*		.001
Financial knowledge	.022*	.001	

Results in the table above show the relationship between the variables. It is evident that there are positive relations between the study's three independent variables (access to financial services, use of financial services and the knowledge levels on financial services).

#### 4.2. Regression Analysis

Regressions analysis was thereafter applied to test the study's hypothesis of whether there was a relationship between the independent and dependent variables. This study applied ordinal regression in testing the relationship with the independent variables and financial inclusion in Egypt. The ordinal regression was used because all the variables were categorical variables.

#### 4.3. Normality Test

Thorough screening of data was conducted through diagnostic tests in ensuring data sets met the general assumptions for conducting the regression analysis, a key analytical model that the study must develop. Normality test results indicate that the data is normal since the significance is not greater than 0.05, as shown in Table 2.

Table-2. Normality test.

Shapiro-Wilk test		
Static	df	Sig
0.8551	68	.031

The regression implication of independent variables is shown and results are as stipulated in Table 3.

Table-3. Model fit results.

Model fitting information				
Model	-4 Log likelihood	Chi-Square	F	Sig.
Intercept only	132.231			
Final	86.841	44.277	11	0.0401

The results show that the independent variables are significant (0.0401) in the study. Further tests are conducted, and the summary of fitness model is stipulated in Table 4.

Table-4. Model summary of independent variables.

Pseudo R-Square	R <sup>2</sup>
Cox and Snell	0.512
Nagelkerke	0.548

The model shows two different results for the R<sup>2</sup>, as it is the case on ordinal regression outputs. In the selection of R<sup>2</sup> value, the researcher's judgment is critical based on the correlation to select R<sup>2</sup> value for the model. Due to three independent values being significant, the researchers have selected 0.512 as the R<sup>2</sup> value for the model Table

4. The model shows that R square of 0.512 meaning 51.2% of the outcome is predicted by the independent variables. This means that the model cannot explain 48.8% of the remainder. Thus, guided by Seber and Lee (2012) it is concluded that at least one of the variables under assessment are useful predictors of financial inclusion.

#### 4.4. ANOVA Test

The current study sought to establish the determinants of financial inclusion in Egypt. ANOVA was used to test the null hypothesis  $H_0$ - there is no significant relationship between personal demographics and financial inclusion in Egypt.

Table-5. Anova test results.

ANOVA <sup>a</sup>						
	Model	Sum of squares	Df	Mean Square	F	Sig.
1	Regression	66.381	11	5.595	7.67	.000 <sup>b</sup>
	Residual	244.739	255	.825		
	Total	333.121	57			

a. Dependent variable: Financial Inclusion.

b. Predictors: (Constant) Access, Usage and Knowledge of financial services.

The results of ANOVA in Table 5 reveals that the entire model is significant with the F ratio = 7.67 at p-value  $0.000 < 0.05$ .

#### 4.5. Regression Coefficients

Table-6. Coefficients of the regression model.

Parameter estimates	( $\beta$ ) Std.er	Wald		Df	Sig.
(Constant)	.663	1.215		-.546	.587
Access to financial services	.021	.188	.021	.112	.011
Use of financial services	.445	.096	.474	4.620	.009
Financial Knowledge	.351	.141	.2□□	2.489	.015

The coefficients analysis gives  $\beta_0$  (Beta) at 0.663,  $\beta_1$  at 0.21,  $\beta_2$  at 0.445,  $\beta_3$  at 0.351 a Table 6. Where  $\beta_0$  is the constant,  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  are parameter for estimation of the independent variables; access to financial services, use of financial services and knowledge levels of financial services towards financial inclusion in Egypt. Resultant regression equation of the model is thus:

$$Y = 0.663 + 0.21X_1 + 0.445X_2 + 0.351X_3 + \varepsilon$$

It is evident from the above regression model that if all factors were to be held constant, including, changes in financial inclusion would be at 0.663 of a unit. There was a positive relationship between the independent and dependent variable, and as such: a change in personal characteristics would lead to .21 changes in financial inclusion. A unit change in religion would lead to .445 changes in financial inclusion, while a unit change in informal savings and credit would lead to .351 change in financial inclusion.

Correlation between the variables was undertaken at 95% confidence level (sig., .05). The resultant coefficients for the three independent variables showed a significant relationship with dependent variable: personal characteristics (sig 0.019 < .05), religion (sig 0.009 < .05) and informal savings and credit stewardship (sig 0.015 < .05). Thus, the three variables significantly influence the financial inclusion in Egypt. The study results affirm prior findings by Lal (2018) that despite major improvements in all fields of financial strength, revenue and competitiveness, much-needed banking services have not reached deprived regions in Egypt.

The descriptive statistics show that Egypt is characterized by a significantly high rate of growth in regards to financial inclusion. The high growth rate in financial inclusion is further supported by findings of a 2005 report by the World Bank, which shows that the country has experienced remarkable financial development from the 1980s. A descriptive analysis of the data reveals a number of factors that influence financial inclusion in Egypt. The

positive skewness in relation to different aspects related to the accessibility of financial services underlines the existence of a positive correlation between accessibility and financial inclusion.

Datta and Singh (2019) affirm that the lack of access to finance, coupled with the high cost of financial products and services are identified as one of the major hindrances to financial inclusion. This subsequently impacts a country's economic growth and development. In spite of the high rate of accessibility of financial services by all consumers across the country, financial inclusion in the country is hindered by the limited accessibility of financial services across all geographical regions in Egypt. The study further highlights the existence of significant disparity in regards to the accessibility of financial services and products on the basis of the consumers' social classes. The low rate of accessibility of financial services is also hindered by the limited adoption of technology in consumer financial services.

Despite the fact that financial services in Egypt cover the needs of various community groups, improving accessibility of financial services requires the financial institutions to implement effective terms and conditions for their products and services. In light of this, the terms and conditions should be aligned with the needs of different community groups (Fungacova and Weill, 2014). Through this approach, Egypt will gain an edge in fostering consumption of financial services even amongst communities that do not necessarily need financial services.

The research findings further underline the central role of religious beliefs in influencing financial inclusion. The importance of financial institutions designing financial services in line with the Sharia controls is supported by a sizeable number of respondents. Financial institutions should further integrate religious concepts and principles in determining the rates of interest. Promoting financial inclusion requires stakeholders to be conscious of the impact of religion on the consumption of financial services. One of the fundamental areas of concern in promoting financial inclusion includes applying the concept of Islamic finance (Demirguc-Kunt *et al.*, 2013). The research data underlines the significance of financial knowledge as a determinant of financial inclusion. In spite of the high level of financial knowledge in Egypt, it is important for the Egyptian government to invest in promoting financial literacy amongst the populace. This move will promote the uptake of financial products and services.

The research study further shows the existence of significant understanding of the correlation between financial inclusion and the consumers' level of financial literacy (Rajeev and Vani, 2017). It also affirms that promoting financial inclusion in a country demands a country to invest in fostering financial knowledge. Creating financial knowledge increases the extent to which the consumers make informed decisions on financial products and services. The study's findings show that lack of knowledge is a major hindrance to financial inclusion in the country.

## 5. LIMITATIONS OF THE STUDY

The following study was faced with several limitations. First, the researcher was unable to reach out to as many respondents as they would have liked. This limitation came about due to the short time allocated for the completion of the study. Another limitation of the study was that the researcher found it increasingly harder to identify past research relating to the study in question. As such, it was time-consuming to search for limited information and develop in-depth literature on the topic of discussion.

## 6. CONCLUSION

In respect to this, it is important for Egypt to enhance inclusivity in the provision of financial services. In promoting accessibility of financial services, the Egyptian government, businesses and non-government organizations should focus on eliminating discriminative practices in the provision of financial services on the basis of the consumers demographic, for example, 'social, and profession/occupation characteristics. Investing in financial technology is also a critical determinant in promoting financial inclusivity. Going by the descriptive statistics on the use of financial services, it is evident that a large number of consumers in Egypt have integrated different

financial products and services in their consumption process. In respect to this, the availability of different financial services and products influences the consumption of financial services. The research study further underlines the centrality of religion in influencing consumption of financial services in Egypt. In respect to this, it is imperative for financial institutions to consider integrating religious principles in designing financial products and services. This move will play a remarkable role in increasing consumption of financial services amongst consumers.

Despite the high rate of uptake of different financial services and products, it is imperative for financial institutions in Egypt to consider diversifying their financial products and services. This requires the firm to develop diversified financial products in order to align with the customers' needs. Amongst the financial products and services that should be developed relate to banking and insurance products.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Acknowledgement:** Both authors contributed equally to the conception and design of the study.

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## APPENDIX

In the framework of carrying out a research regarding the cultural and demographical determinants of the financial inclusion- contrastive analysis

Kindly complete this questionnaire on the following axes:

First axis: the access to the financial services and products.

Second axis: the religious beliefs and their impact on the financial inclusion.

Third axis: the use of the financial services and products.

Fourth axis: the measurement of the basic financial knowledge.

"With much appreciation, respect and thanks"

The demographic determinants

Gender: Male (---) Female (---)

Age: less than 30 years (---), from 30 to less than 40 years (---), from 40 to less than 50 years (---), from 50 to less than 60 years (---), 60 years or more (---)

Education level:

Secondary school or less (---), undergraduate (---), graduate and above (---)

Education major: Financial, commercial, administrative or economics (---), others (---)

Nationality: Egyptian (---), Saudi (---), others (---) mention here \_\_\_\_\_

Residency: urban (---), rural (---) or remote area (---)

Appendix-1. Kindly tick (√) to choose the degree of your approval on the following statements.

Statements	Totally agree	Agree	Neutral	Oppose	Totally oppose
The first axis: The access to the financial services and products					
1. The financial services are available in all geographical areas					
2. The financial services are available for all jobs and professions					
3. The financial services are available for all social classes					
4. The online and over the phone financial services are available for everyone					
5. Terms and conditions of the financial services prevent some community groups from access (*)					
6. The financial services cover the actual needs of various community groups					
7. Some community groups face difficulty accessing the financial institution branches (*)					
8. Some community groups do not need financial services (*)					
9. Financial ignorance prevents some community groups from accessing the financial services (*)					
10. The absence of financial awareness prevents some community groups from accessing the financial services (*)					
The second axis: The religious beliefs and their impact on the financial inclusion					
1. The financial institutions should consider the Shari'ah controls when offering their services					
2. The proscribed usury is limited to (gold and silver) coins, not bank notes (*)					
3. Bank interest rate system is novel and irrelevant to the proscribed usury (*)					
4. Islamic banks are totally different than traditional banks					
5. A religious verdict is essential for me to deal with the financial services and products					

6. life insurances are a method to social solidarity					
The third axis: The use of the financial services and products	Always	Usually	Occasionally	Rarely	Never
1. I use bank accounts such as (savings account and current account)					
2. I use bank deposit services					
3. I use bank credit services					
4. I use electronic payment means to pay my bills and expenses					
5. I use ATMs					
6. I use the financial services and products online and over the cell phone					
7. I use credit and debit cards					
8. I use inclusive insurance services against car accidents or public liability insurance services					
9. I use life insurance services					
The fourth axis: The Measurement of the basic financial knowledge	Correct	Wrong			
1. The personal financial planning process includes drawing up plans regarding the future financial needs and ends					
2. The basic financial knowledge leads to sound spending habits					
3. Money invested in certificate of deposit is more liquid than in the current account					
4. The personal wealth net is the difference between the income and the expenses					
5. Savings accounts in commercial banks are guaranteed by the Central Bank					
6. A thousand pound deposit increases on a monthly compound interest comparing to quarterly compound interest					
7. The interest rate on credit cards is higher than the rate of the return from certificates of deposit					
8. The credit record of the person is obtained from the commercial bank					
9. The key purpose of purchasing insurance coverage is protection from a recent danger inflicted on the person					
10. Period and type of insurance policy is a determinant of insurance installments					
11. House insurance policy covers hazards such as wars, floods and earthquakes					
12. Term insurance policy is less costly than whole life insurance policy					
13. Highly risk, revenue investment strategy fits a young family comparing to a family at the age of retirement					
14. In case of higher interest rates, bond prices will increase					
15. Investing in one share is safer than investing in an investment instrument					
16. An investment fund is a diversified portfolio of securities that are used as an investment tool					

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