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Effect of Age and Level of Income on Income Tax Compliance Among Small and Medium Enterprises in Soroti District, Uganda

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ABSTRACT

This study, investigated whether or not there is a relationship between age, level of income and income tax compliance among Small and Medium Enterprises in Soroti district in Uganda. The objectives of the study were to; find out the relationship between age of owner/manager on income tax compliance and to determine the relationship between level of income-on-income tax compliance by Small and Medium Enterprises in Soroti District, Uganda. A sample of 384 respondents was selected from a population of 2590 owners/managers of small and medium firms using stratified random sampling technique. A semi-structured questionnaire was used to collect primary data which were coded into Statistical Package for Social Scientists for descriptive analysis. One way Analysis of Variance as well as correlation and logistic regression were carried out. The study findings were that; age of owner manager of the firms have a significant relationship with income tax compliance by the firms. However, the level of income was found not to have a relationship with income tax compliance among the firms. The study concluded that, differences in age significantly explain income tax compliance decisions of owners/managers.

Keywords: Age, Level of income, Income tax compliance and Small and Medium Enterprises

INTRODUCTION

Background of the Study

Income tax compliance is defined as a situation whereby taxpayers carry out their income tax obligations and as well discharge their taxation rights [41]. Income tax compliance continuous to be a significant issue of concern and research area in developed and developing economies, as it helps them raise the much-needed revenue that they use for provision of public goods and services [10]. Despite the income tax compliance concerns, taxes have remained the primary donation of shifting private wealth to public use and thus a revenue source for governments to

finance public expenditure. [16] state that, taxationis regarded to be among the most influential and fundamental concepts in contemporary societies. They further assert that, income tax compliance helps raise an indispensable source of revenue used for financing public goods and services, securing social welfare, public order and national defense. As [17] put it, taxation is among the healthiest types of local resource mobilization used by most governments.

The benefaction of SMEs in developing and in developed economies cannot be overlooked. World over SMEs have been applauded for their role in inducing extensive economic development, creating employment opportunities and stimulating reduction of inequalities in income among world communities [38]. Whereas the contribution of SMEs world over has been appreciated, studies conducted globally to evaluate rates of income tax compliance among SMEs show varying rates of income tax compliance among SMEs in the developed and less developed economies. For instance, income tax compliance rate in North America and West Europe was reported high at a rate of 60-80 percent ([21]; [23]). While studies in theless developed countries show that the rates of income tax compliance among Small Medium Enterprises are still low. According to [2], the income tax compliance rate for SMEs in Nigeria was 26 percent; [28] as well reported a compliance rate for income tax of SMEs of 21 percent in Zimbabwe while [24] reported the income tax compliance rate of SMEs in Uganda at 16 percent.

Many developing countries have adopted a number of tax reforms in an effort to tackle the low rates of income tax compliance among SMEs. [33] states that tax reforms inAnglophone Africa including Uganda, were directed towards revamping voluntary income tax compliance. Despite the tax reforms undertaken by the Uganda government over the last 30 years, Uganda's tax to GDP ratio has on average been about 13 percent between 2004-2019 ([31]; [51]) remaining way below the average in Sub-Saharan Africa estimated to be 20.28 percent [20]. The low rates of income tax compliance among SMEs in developing countries notwithstanding of the reforms adopted by these countries ([11]; [22]) is the motivation behind this study, to investigate to what extent age and level of income account for the low levels of income tax compliance among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

The study took place in Soroti district in the eastern region of Uganda. The study considered Soroti district as its study area, because of the relatively poor performance of its SMEs in income tax compliance in eastern Uganda [50]. The study considered age, level of income and income tax compliance among the SMEs operated as sole proprietor businesses in Soroti district, Uganda for the period 2015-2019. The study focused on this particular period because it is in this period that SMEs in Soroti district performed relatively poor in income tax compliance as compared to other SMEs in the eastern region and nationally ([14]; [50]). The study considered SMEs in the form of sole proprietorship businesses because it is this form of SMEs that have single owners.

The findings of the study will help government in enacting tax laws and be able to make decisions that will furnish a favorable environment that SMEs need in order to expand and hence be able to improve the Gross Domestic Product. Policy makers will gain a superior understanding of age and level of income as indicators of compliance with income tax amongst

SMEs and hence be able to formulate policies and also make necessary policy interventions that will avail an environment that will enable SMEs to operate and grow.

[9] state that income tax compliance is elucidated by; registration for income taxes by qualified taxpayers voluntarily, filing of income tax returns within the stated period, declaration of actual income and allowable deductions, and prompt payment of income taxes assessed/computed. [25] as well define income tax compliance as the taxpayers' ability and keenness to obey their income tax commitments by reporting and submitting their income tax returns and paying their income tax promptly. Income tax compliance remains important in both developing and developed economies as taxes are used to raise revenue required for financing both development and recurrent expenditure [36]. In this study income tax compliance is proxied as filing of income tax returns and prompt payment of income tax.

Statement of the Problem

Despite the importance of income tax compliance, most SMEs in developing economies and also developed economies are still unwilling to fulfill their income tax obligations leading to low rates of income tax compliance. For the case of Uganda, the Gross Domestic Product ratio which is a measure of tax compliance, in Financial Year 2014/2015 stood at 15.11 percent, but remains far below the sub-Saharan average of 18 percent [51]. In Soroti district, income tax compliance of SMEs has comparatively remained a topic of concern. Statistics from the Federation of Small and Medium Enterprises' Annual report of 2020 show that Soroti district had only one SME among a comprehensive list of 1000 top income tax compliant SMEs in Uganda. Studies on the relationship between age, level of income and income tax compliance have resulted into mixed findings in that some studies claim the existence of a significant correlation between age, level of income and income tax compliance while others claim no existence of significant relationship between age, level of income and income tax compliance. The studies fall short of a unified perspective on how precisely age and level of income account for income tax compliance decisions, hence creating a knowledge gap. These inconsistencies present a good justification to carry out an investigation on the relationship between age, level of income and income tax compliance.

Research Objectives

a. To assess the relationship between age of owners/mangers and income tax compliance among SMEsoperated as sole proprietorship businesses in Soroti district, Uganda.
b. To find out the relationship between the level of income of owners/managers and income tax compliance among SMEs operated as sole proprietorship businesses in Soroti District, Uganda.

Study Hypotheses

- **H_{01}**: Age of owners/managers does not have a significant relationship with income tax compliance among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.
- **H_{02}**: Level of income of owners/managers does not have a significant relationship with income tax compliance among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

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LITERATURE REVIEW

Theoretical Review

Deterrence Theory:

The deterrence theory holds that raising the tax rate and penalty rate will improve the taxpayer compliance behaviour [45]. This study uses the deterrence theory as the main theory to anchor the dependent variable of income tax compliance. As put by [40] the deterrence theory represented the economists' main effort to understand income tax compliance. [40] also opines that, the deterrence theory highlights on costs-benefits that are hinged on expected consequences of choices. The author as well states that deterrence theory is orderly with the classical expected utility theory, which states that taxpayers are significantly anticipated to come up with income tax compliance resolutions that should boost their utility.

Fischer's Tax Compliance Model:

Fischer's tax compliance model was advanced by [15]. Fischer's tax compliance model holds that, the eagerness by taxpayer to obey the income tax law is determined by demographic factors [12]. In this study, the Fischer's tax compliance model is discussed to support independent variables (age and level of income). Fischer's tax compliance model is significant in this study in that, it provides intuitions into the significance of demographic factors in explaining income tax compliance. According to the model, demographic variables affect income tax compliance by their influence on noncompliance perceptions, opportunities and attitudes.

Empirical Review

Age of Taxpayers and Income Tax Compliance:

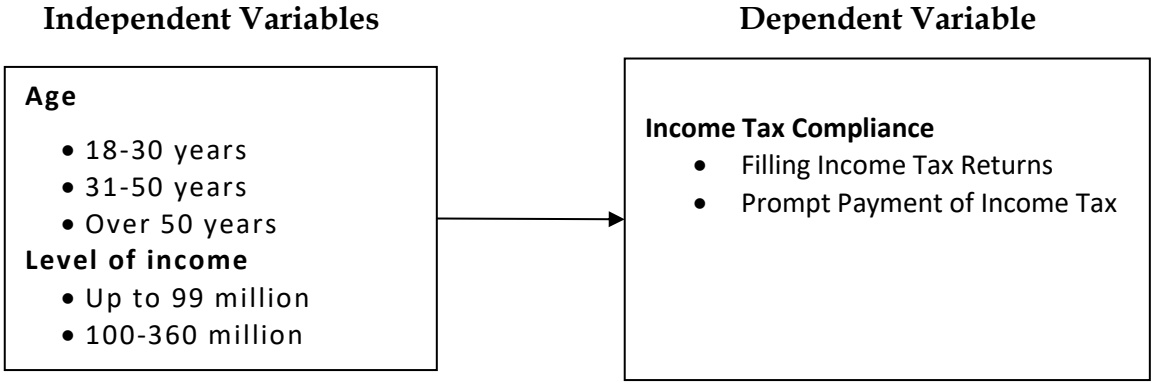
Age, as noted by [35] is a critical factor in decision making. [5] did a study to investigate the factors that determine the levels of tax morale and compliance with tax; evidence from Jordan. Using a survey questionnaire together with a multivariate test procedure, results showed that individual variables play an important part in finding out the tax morale levels. That, the levels of tax morale and the compliance with income tax decisions of individuals are mostly affected by age, gender, religious background, occupational status and educational level. These findings agree with [26] whose findings revealed that age was significant and correlated negatively with income tax compliance ($p<0.01$, $r = -0.151$). On the contrary, findings by [52] who carried out a survey on Taxes and economic behavior, on 426 Swedish adult males using telephone interview questions showed that age relates negatively with income tax compliance, in that it showed taxpayers who were older, were less tax compliant than taxpayers who were younger.

Level of Income of Taxpayers and Income Tax Compliance:

[19] in their study findings reported that taxpayers falling in the low-income level have a lower measure of income tax compliance than taxpayers in the higher income level, in that they always under report their income and/or inflate their claim for expenses, than taxpayers falling in the high-income level. These findings agree with [4] whose study results exhibited that taxpayers having higher levels of income are more income tax compliant than, taxpayers having lower levels of income. Empirical studies above are however inconsistent with [30] whose findings disclosed that poorer taxpayers are more resistant to acts of tax evasion more than the wealthier taxpayers are. That taxpayers with lower income levels tend to possess more compliance attitude towards income tax than, taxpayers in higher income levels. Their

results showed that the number of taxpayers who regarded that income tax noncompliance is all the time not ethical falls as their incomes increase.

CONCEPTUAL FRAMEWORK



RESEARCH METHODOLOGY

The study used descriptive and explanatory research designs to determine the relationship between age, level of income and income tax compliance. Descriptive and explanatory research designs were considered to be the most suitable since the study intended to interrogate the relationship between age, level of income and income tax compliance among SMEs operated as sole proprietorship businesses in Soroti district, Uganda. The study being a binary outcome, the logistic regression model was adopted. Where taxpayers were assumed to be either income tax compliant (Y_i=1, success) or income tax noncompliant (Y_i=0, failure). The target population for this study consisted of 2,590 owners of SMEs operated as sole proprietorship businesses in Soroti district, Uganda. The unit of analysis for the study was SMEs and the unit of inquiry was the owners of SMEs operated as sole proprietorship businesses in Soroti district, Uganda. The study selected the respondents described in the population using proportionate stratified sampling and simple random sampling techniques. The sample size was determined using the [13] formulae as cited by [18].

The formulae according to [13] is given as;

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

- e represents desired level of precision or margin of error,
- p represents the proportion of the population estimated to have the attribute in question,
- q is given as 1 – p
- z value will be determined from the z table depending on the confidence level

In this study, the confidence interval was 95 percent, leaving a precision or margin of error of positive or negative 5 percent. The estimated proportion of the population with the attribute in question is 50 percent, implying that p is 0.5 and hence q which is equal to 1- p is 0.5. From [13] formula, therefore, the sample size is;

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$$((1.96)^2\ (0.5)\ (0.5))\ /\ (0.05)^2 = 384$$

The study then adopted the principle of optimum allocation of samples in strata as provided by [46] and cited by [39] to determine the sample for each as follows;

$$n = (\mathrm{P_i}\ (\mathrm{S}))/N$$

Where;
n = total sample size per strata
P_i = the proportion of the target population which is included in the i^{th} stratum
N = total population
S = total sample size

Data was collected using self-administered questionnaire comprising of both closed and open-ended questions with 3-Likert scale designed on the basis of the study objectives and variables. Data was analyzed using inferential analysis techniques (correlation and logistic regression) with the help of SPSS.

FINDINGS

Multicollinearity Test

Multicollinearity was tested using the Variance Inflation Factor (VIF) or Tolerance. This study considered a threshold of 10 for the Variance Inflation Factor. This is supported by [37] who states that the precept in interpreting Variance Inflation Factor is that, a variable which has Variance Inflation Factor values exceeding 10 may indicate multicollinearity problems. [53] state that rule of thumb in interpreting Tolerance is 0.1, implying that a Tolerance level below 0.1 indicates multicollinearity problems.

The results of the multicollinearity test on the predictor variables and the moderating variable are shown in the table 1 below.

Table 1: Results of Multicollinearity Test

Variable	VIF	Tolerance 1/VIF
Age	1.964	0.509
Experience	1.498	0.668
Gender	4.877	0.205
Level of Income	1.611	0.621
Tax knowledge	7.056	0.142
Mean VIF	**3.401**	

The results in table 1 above indicate that the VIF values for all the variables considered were less than 10 and that the Tolerance values for all the variables were above 0.1, the lowest as 0.142 and the highest as 0.668. This implied that the intercorrelation among the independent variables was within the admissible range which signifies that in this study, there was no threat of multicollinearity.

Correlation Analysis

Table 2: Results of Correlation Analysis

	Income Tax compliance	Age	Level of Income
Income tax compliance	1		
Age	-0.0141 (0.7912)	1	
Level of Income	0.0658 (0.2169)	0.0752(0.1581)	1

*Correlation is significant at p<.05 level of significance

Results in table 2 above show that in correlating age and income tax compliance, the correlation coefficient was -0.0141 while the p-value was 0.7912. This indicates a negative and insignificant association between age and income tax compliance. The finding demonstrates a negative and weak relationship. The implication of this finding is that a unit increase in the age leads to about 2 percent drop in the income tax compliance level. The finding is consistent with [47] who established that age has a negative insignificant association with income tax compliance behaviour. The results are as well accordant with [27] whose findings also indicated that age has a non-significant impact on income tax compliance of taxpayers. The result however, contradicts [48] whose findings revealed that age influences attitude and behaviour as regards to tax approach. The findings as well contradict [43] who established that age is a significant factor for income tax compliance with young taxpayers being less compliant. The results in table 2 stipulate further that correlation between the level of income and income tax compliance is positive and not significant having a coefficient of correlation of 0.0658 and a p-value of 0.2169. The finding demonstrates positive and weak relationship. The implication of this finding is that a unit rise in level of income brings about a 4 percent rise in the level of income tax compliance. The result is accordant with [42] whose findings reported insignificant connection between income level and compliance with income tax. However, the finding is inconsistent with much of the extant empirical literature which has documented significant link between level of income and income tax compliance ([43]; [32]; [1]). The above authors in their respective studies in the different geographical contexts reported positive significant connection between level of income and compliance with income tax practices.

Hypotheses Testing

Table 3: Logistic Regression of Filing of Income Tax Returns on Age and Level of Income

Filling	Coef.	St.Err.	t-value	OR	p-value	Sig
Age	1	.	.	.	.	
31 up to 50 years	.384	.156	-2.36	1.47	.018	**
Over 50 years	1.606	1.046	0.73	4.98	.467	
Level of Income 100 up to 360 million	1.063	.4	0.16	2.90	.872	
Constant	5.48	3.152	2.96	239.85	.003	***
Mean dependent var	0.743		SD dependent var		0.438	
Pseudo r-squared	0.036		Number of obs		354	
Chi-square	14.383		Prob > chi2		0.002	
Akaike crit. (AIC)	397.150		Bayesian crit. (BIC)		412.627	
*** p<.01, ** p<.05, * p<.1						

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Hypothesis 1a

- **H_{01}**: Age of owners/managers does not have a significant relationship with filing of income tax returns among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

The logistic regression findings presented in table 3 above specify that the odds ratio of age for age bracket "31 up to 50 years" is 1.47 and is statistically significant at 5 percent with a p-value of 0.018 and a coefficient of 0.384. These findings show that there was a positive significant relationship between age in the bracket "31 up to 50 years", and income tax compliance measured as filing of income tax returns. These results further indicate that owners/managers in the age bracket "31up to 50 years" have 1.47 chance of filing income tax returns as compared to owners/managers in the unexposed bracket (18 up to 30 years).

The logistic regression results in table 3 also indicate that the odds ratio of the age bracket of "over 50 years" is 4.98 and is statistically insignificant with a p-value of 0.467 and a coefficient of 1.606. These results indicate that there was an insignificant relationship between age bracket of "over 50 years" and income tax compliance measured as filing if income tax returns. These results as well indicate that although there is an insignificant relationship, owners/managers in the age bracket "over 50 years" have 4.98 chance of filing income tax returns as compared to owners/managers in the unexposed bracket (18 up to 30 years).

On the basis of above results, a conclusion is drawn that age has a positive and significant relationship with income tax compliance measured as filing of returns of income tax and that taxpayers who are older are more income tax compliant than taxpayers who are younger. Accordingly, the study rejects the null hypothesis which stated that age of owners/managers does not have a significant relationship with filing of income tax returns among SMEs operated as sole proprietorship businesses in Soroti district, Uganda. These results are consistent with the Fisher's tax compliance model which holds that the taxpayer's willingness to abide by their obligations in regard to income tax is determined by demographic factors [25]. These findings are also consistent with [7] whose findings revealed that there is a significant connection between respondents age and their tax compliance behaviour. However, the findings of this study contradict empirical results obtained by [29] whose findings showed that age has insignificant relationship with income tax compliance behaviour.

Hypothesis 2a

- **H_{02}**: Level of income of owners/managers does not have a significant relationship with filing of income tax returns among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

The logistic regression results as presented in table 3, show that the odds ratio of the owners/managers with level of income in the bracket "100 up to 360 million" is 2.90 and it is statistically insignificant having a p-value value of 0.872 and a coefficient of 1.063. This finding indicates that level of income of owners/managers in the bracket "100 up to 360 million" has a statistically insignificant relationship with income tax compliance measured as filing of income tax returns. The results also show that although there is a statistically insignificant relationship, owners/managers with income falling in the bracket "100 up to 360 million" had 2.90 chance

of filing income tax returns than owners/manages in the unexposed bracket of "up to 99 million".

It can be concluded that level of income of the owners/managers has a statistically insignificant relationship with income tax compliance measured as filing of income tax returns and taxpayers having higher levels of income are additionally income tax compliant than tax payers with lower level of income. In Consequence therefore, the study fails to reject the null hypothesis which states that level of income of owners/managers has no significant relationship with filing of income tax returns among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

This finding is consistent with empirical evidence which has documented insignificant impact of income level on income tax compliance, including [44] whose findings indicted that level of income does not have significant influence on compliance with tax. However, the findings are not similar with other empirical studies [49] and [3] which found a significant influence of level of income, on income tax compliance.

Table 4: Logistic Regression of Prompt Payment of Income Tax on Age and Level of Income

Prompt	Coef.	St.Err.	t-value	OR	p-value	Sig
Age	1	.	.	2.72	.	
31 up to 50 years	.525	.163	-2.08	1.69	.037	**
Over 50 years	.942	.406	-0.14	2.57	.889	
Level of Income 100 up to 360 million	1.078	.341	0.24	2.94	.813	
Constant	1.739	.799	1.20	5.69	.229	
Mean dependent var	0.540	SD dependent var			0.499	
Pseudo r-squared	0.014	Number of obs			354	
Chi-square	6.662	Prob > chi2			0.084	
Akaike crit. (AIC)	489.870	Bayesian crit. (BIC)			505.347	
*** p<.01, ** p<.05, * p<.1						

Hypothesis 1b

- **H_{01}**: Age of owners/managers does not have a significant relationship with prompt payment of income tax among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

The logistic regression findings presented in table 4 show the odds ratio of age bracket "31up to 50" years is 1.67 and is statistically not significant a p-value of 0.037 and a coefficient of 0.525. These results indicate that there was a significant relationship between age bracket "31 up to 50 years" and income tax compliance measured as prompt payment of income tax. The results as well show that although there was an insignificant relationship, the owners/managers in the age bracket "31 up to 50 years" have 1.67 chance of paying income tax promptly as compared to owners/managers in the unexposed bracket (18 up to 30 years).

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The results in table 4 also indicate that the odds ratio of the age bracket of "over 50 years" is 2.57 and is not significant having a p-value of 0.889 and a coefficient of 0.942. These results indicate there was insignificant connection betwixt age in the bracket of "over 50 years" and income tax compliance measured as prompt payment of income tax. The results as well show that although there was an insignificant relationship, the owners/managers in the age bracket "over 50 years" have 2.57 chance of paying income tax promptly as compared to owners/managers in the unexposed bracket (18 up to 30 years).

The findings in table 4 therefore show that age has a significant relationship with income tax compliance measured as prompt payment of income taxes and that taxpayers who are older are more income tax compliant than taxpayers who are younger. The study therefore, rejects the null hypothesis which states that age of owners/managers does not have a significant relationship with prompt payment of income tax among SMEs operated as sole proprietorship businesses in Soroti district, Uganda. These results are consistent with results obtained by [54] who concluded that, age significantly relates with income tax compliance. However, the findings of this study contradict empirical results obtained by [8] whose findings indicated that age is a statistically insignificant factor affecting income tax compliance behavior of taxpayers.

Hypothesis 2b

- **H_{02}**: Level of income of owners/managers does not have a significant relationship with prompt payment of income tax among SMEs operated as sole proprietorship businesses in Soroti district, Uganda.

The logistic regression results as presented in table 4, reveal that the odds ratio of level of income of the owners/managers in the bracket "100 up to 360 million" is 2.94 and it is statistically insignificant with a p-value value of 0.813 and a coefficient of 1.078. These findings show that level of income of the owners/managers in the bracket "100 up to 360 million" has a statistically insignificant relationship with income tax compliance measured as prompt payment of income tax. The results also show that although there is a statistically insignificant relationship, owners/managers whose income falls in the bracket "100 up to 360 million" have 2.94 odds of paying taxes than owners/managers whose level of income falls in the unexposed bracket (up to 99 million).

It can be concluded that level of income of owners/managers has a statistically insignificant relationship with income tax compliance measured as prompt payment of income tax and that taxpayers having higher level of income are more income tax compliant than tax payers with lower level of income. Accordingly, the study fails to reject the null hypothesis that level of income of owners/managers does not have a significant relationship with prompt payment of income tax among SMEs operated as sole proprietorship businesses in Soroti district, Uganda. This finding corroborates with empirical studies of [34] who documented non-significant association between income level and income tax compliance. However, this study findings contradict other empirical studies including [48] whose findings revealed that level of income influences attitudes and behaviours of taxpayers as regards to tax approach.

CONCLUSIONS AND RECOMMENDATIONS

From the findings, it can be concluded that age of owners and/or managers affects the income tax compliance of SMEs operated as sole proprietorship businesses in Soroti district, Uganda, while level of income of owners/managers has no effect on income tax compliance of SMEs operated as sole proprietorship businesses in Soroti district, Uganda. The study therefore concludes that postulation of the deterrence theory which holds that taxpayers inherently wish not to pay tax liability, and are "deterred" from doing so solely by the risk of being audit, detection, and penalty [6] do not apply in the income tax compliance etiquette of owners/managers of SMEs operated as sole proprietorship businesses in Soroti district, Uganda. The study therefore recommends that Uganda's policy makers in particular tax administrators, should pay attention to the age differences of the individual taxpayers as they sensitize the non-compliant taxpayers on the need for compliance and as they map out better strategies towards improving individual income tax compliance etiquette among taxpayers in Uganda.

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