

Influence of Learners' Involvement in Informal Cross Border Trading Activities on School Internal Efficiency

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ABSTRACT

This study examined the influence of informal cross-border trade (ICBT) activities on school internal efficiency in public senior secondary schools in Busia County, Kenya, where increasing learner involvement in border-related economic activities has raised concerns about educational outcomes. The study specifically investigated the effects of learner involvement in trading activities, household dependence on informal cross-border trade, time demands associated with trading, and parental education support practices on school internal efficiency. Guided by Human Capital Theory, Opportunity Cost Theory, and the Push-Pull Theory of Child Labour, the study adopted a convergent parallel mixed methods research design. The target population comprised principals, directors of studies, class teachers, learners and chiefs with data collected using questionnaires, interviews, observation schedules, and document analysis. Quantitative data were analyzed using Statistical Package for Social Sciences (SPSS) version 27 through descriptive and inferential statistics, while qualitative data were analyzed thematically. The study achieved a 96% response rate, with 365 valid questionnaires analyzed. Findings revealed that learner involvement in trading activities had a significant negative effect on school internal efficiency ($\beta = 0.616$, $p < 0.05$), contributing to absenteeism, truancy, poor concentration, and declining academic performance.

INTRODUCTION

Background of The Study

Informal cross-border traders move processed or non-processed merchandise which may be legal imports or exports on one side of the border and illicit on the other side (Afrika and Ajumbo, 2012). ICBT is a global phenomenon that is most common in developing countries.

In Africa ICBT manifests in various forms and scales. it encompasses the movement of goods and services between countries outside formal trade procedures and channels, often with limited documentations and with informal customs procedure (Machacha & Middleton, 2024).

In Kenya, ICBT is carried at the 24 border stations including Lwakhakha, Malaba and Busia along Kenya Uganda border, Isebania, Namanga, Lungalunga, Taveta and Shimoni along Kenya Tanzania border, Lamu, Rhamu and Mandera along Kenya Somalia border, Mandera and Moyale along Kenya Ethiopia border and Lokichoggio, Nandapal and Kapweta along Kenya Sudan border. ICBT Between Kenya and her neighbors is significant, involving transactions of large amounts of both agricultural and industrial products. In western Kenya, Busia County is majorly affected by informal cross border trade as its large population engage in it. It is a significant economic activity particularly for women and children, involving the exchange of goods like agriculture products, textiles and manufactured items and provision of both legal and illegal services between Kenya and Uganda. While it boosts livelihoods and regional integration, it is also characterized by challenges such as corruption, insecurity and limited access to finance. According to the Busia County integrated development of 2023-2027, education is adversely affected by high dropout rates which affect their internal efficiency as a county. According to Omweno et al 2021, 52% of secondary school learners engage in informal

cross border trade activities. some attend to it in the morning before school, in the evening and at night after school while others do it during school hours hence missing school and eventually dropping out of school.

In schools along Busia border and especially urban schools most students participate in ICBT due to the economic conditions of their parents which forces students to come in and help them out. Some of the parents look at the opportunity cost of education and therefore temper with education or rather school attendance of their children. When students participate in such trade they may either drop out of schools or truancy. This in turn affects internal efficiency. This study seeks to identify the impact of informal cross border trade activities on school internal efficiency which is very essential to education stakeholders in Busia County as they are facing high rate of students' dropouts as learners participate in this trade instead of engaging themselves in education.

Qualitative findings further confirmed that frequent learner engagement in border trade disrupted school attendance patterns and increased dropout rates. The study concluded that informal cross-border trading activities significantly undermine school internal efficiency by negatively affecting attendance, retention, academic achievement, and timely completion. The study recommends strengthening policies restricting child involvement in trade, enhancing parental sensitization on the value of education, improving school attendance monitoring systems, and establishing economic support interventions for vulnerable households to minimize learner participation in informal trade activities.

LITERATURE REVIEW

The Concept of Informal Cross Border Trade Activities

According to UNCTAD, informal cross-border trade occurs between neighboring countries and is conducted by vulnerable, small, unregistered traders. Typically, it is proximity trade involving the move of produce between markets close to the border. The informal part refers to the condition of the trader (unregistered), not necessarily to the trade itself (captured or unrecorded by the official customs system). A study done by Afrika and Ajumbo argues that despite being a source of income for about 43 percent of population of Africa, informal cross-border trade is broadly considered as the illegal merchandization of cross-border activities (Afrika & Ajumbo, 2012). It can have positive mega-social and economic consequences. For example, creating jobs and food security for rural communities that oftentimes are excluded from social benefits. Most baseline surveys indicate that the majority of informal cross-border traders are women. According to the United Nations Development Fund for Women (UNDFW), females form approximately 70 percent of the ICBT traders. In the SADC region, Women constitute nearly 60 percent of informal traders in western and central parts of Africa. Traders engage in ICBT as a source of income and economic activity. Most traders have no education and no bank accounts. They do not have assets that banks can procure for loans. They can also be formally registered firms evading regulations and taxes or aiming to avoid border crossing posts.

Informal Cross-Border Trade in the World

ICBT is a global phenomenon that is most common in developing countries. In Bangladesh, India, and Nepal, this trade is integral to the local economies and has broader economic and development impacts. According to kamar et al (2023), Informal trade is carried out in very different ways across the Bangladesh–India and India–Nepal borders.

The Blackias who participate in this trade in these countries don't pay much attention to education and their children leave school early to engage in the trade.in India, the middlemen have become a generational activity as its passed on from one generation to the other hence learners end up dropping out of school as they have alternatives. (Kamar et al, 2023)

In Europe informal cross-border trade manifests as undeclared work and small-scale, unregistered exchanges, particularly concentrated along the East – West axis due to wage disparities and in sectors like construction and agriculture. This includes mobile workers moving from countries like Poland, Bulgaria and Slovakia to western Europe. (European Commission, 2020)

Informal Cross-Border Trade in Africa

This type of trade is more promiscuous in the eastern part of Africa than in other parts. Countries such as Uganda, Tanzania, Ethiopia, and Somalia are generally known as sources of non-processed tradable items consumed in Kenya and South Sudan. Kenya is a significant source of manufactured goods sold informally in the region. About unprocessed goods, food items are the most traded to meet the enormous demand in the Horn of Africa and to mitigate ecological variations. In Africa, all countries except South Sudan trade in re-exports in most sectors.

The Case on the Kenya- Uganda Border in Busia County

Legal commodities like foodstuffs and illegal commodities like drugs characterize cross-border trade activities at the Busia border Kenya between Kenya and Uganda.

The Concept of Efficiency and Schools

Efficiency is about optimally using resources/inputs to produce educational system outputs. It refers to reaching an end goal with little effort. Thus, to be efficient, one must achieve results by using resources in the best way possible. Economics is concerned with scarce resources to maximize productivity, output, or social outcomes in a broader sense. Education inputs include teachers, learners, infrastructures, software, and hardware. Efficiency in education revolves around the choice of inputs, the choice of outputs, the transformation process, and the policy implications.

Internal Efficiency

Internal (micro) efficiency refers to the potency with which an education system meets its internally set objectives. It is usually measured by the flow of students through the system with minimum waste. Richard Plate found out that the internal efficiency of the education system is revealed by the promotion, repetition, and dropout rates (Richard, 2012). Production function studies have been used extensively to identify factors that produce good learning outcomes. These factors include hardware, software, management and institutional structures, and teacher and contextual factors.

Student's retention

Student retention is a measurement. it reflects the number of students that successfully complete their academic programs, making it to graduation. Retention of students is the ability of a learning institution to keep students enrolled and progressing towards graduation or program completion. It is the most important factor for evaluating an institutions success and can be influenced by various contextual factors such as learning environment, home environment, academic support and student's individual characteristics.

Dropouts and Truancy

The term dropout is defined as leaving a school before completion of a given stage of education or some intermediate or non-terminal point in the level of education (United Nations Educational, Scientific and Cultural Organization, 1998). Factors like readiness and attitude of the student, health problems, and malnutrition are examples of dropout theory, which considers students' characteristics as factors for dropping out of school. Employment opportunities are a major pull-out factor that attracts students to drop out. This is called survival of the fittest, which means one has to fight to survive or continue being in school with no uniforms, fees, books, or other essentials. Also, the family context, in particular the relationship of the child with other members of the household and the child's responsibilities, may be important determinants of school dropout (Muthaa & Misheck, 2013).

At a micro level, family income determines the schools that the children may attend. If all schools available are not affordable, they may not attend school (Birdstall et al, 2005). If children attend school, changes in parents' poor financial situation may push some children out of school.

Learning Outcomes of an Education System

A system is a collection of elements or actors, each with its objectives, and a collection of feedback loops connecting the elements/actors. The feedback loops provide information to elements and actors based on which their actions or behavior can change, conditional on their actions, and information on their success relative to their objectives, which can also change their actions. A dynamic system also has feedback loops in which elements/actors may disappear from the system. Learning outcomes measure the abilities, skills, values, and knowledge that learners demonstrate after completing a sequence, course, or level. They need to be SMART: specific, measurable, attainable, realistic, and time-bound. These outcomes can only be attained if favorable environmental factors in the education system and its environs are available to enable it. When students do not attend schools or repeat classes because they are involved in cross-border trade activities, education systems are attaining low internal efficiency.

Learner involvement in trading activities and school internal efficiency

Employment opportunities are a major pull-out factor that attracts students to drop out. This is called survival of the fittest, which means one has to fight to survive or continue being in school with no uniforms, fees, books, or other essentials. Also, the family context, in particular the relationship of the child with other members of the household and the child's responsibilities, may be important determinants of school dropout (Muthaa & Misheck, 2013). In many poor countries, children combine school with work to satisfy household needs (Birdstall et al, 2005). Not all forms of child labor are compatible with the school calendar. At any border between two countries, informal trade activities are the order of the day, from criminal operations such as drug smuggling to legal activities such as selling legal foodstuffs. These trade activities are engaging and make learners fully engage themselves in them; hence, they may drop out of school. According to the UN Special Task Force on Education and gender equality in low-middle-income countries, completion rates are extremely low for children from poor households, and less than half of the poorest children complete even the first year of school (Birdstall et al, 2005). At a micro level, family income determines the schools that the children may attend. If all schools available are not affordable, they may not attend school (Birdstall et al, 2005). If children attend school, changes in parents' poor financial situation may push some children out of school.

The absence of teachers has profound financial implications for education managers and the country. When teachers are absent, students lose learning opportunities, which may lead to low internal efficiency. Teachers' absenteeism may disrupt the school routine and similarly create low morale among the present teachers (Murnane J & Willet B, 2010). To reduce teacher absenteeism, there needs to be an address concerning personal, school, and environmental factors leading to its effectiveness (Afrika & Ajumbo, 2012). It is also important to note that teachers engage in truancy, where they technically appear at school and leave to engage in other activities, which they refer to as side hustles.

The Gap

The study reviewed of the literature revealed that few studies had been done on influence of informal cross border trade on internal efficiency of schools. For instance, Omweno et al looked at the influence of informal cross border trade on student school attendance in secondary school in Busia County Kenya. Their study was limited to school attendance while this study looked at school internal efficiency as a whole. They also used descriptive research design while this study used mixed method research design. They found out that informal cross border trade largely affects students' attendance which is still insufficient information to address all aspects of internal efficiency and how they are affected by learners' involvement in informal cross border trade. Ouma F (2017) looked at the influence of school-based factors on internal efficiency in mixed public secondary schools in Nyatike sub county, Kenya. He used descriptive research design and established that school-based factors largely affect internal efficiency for instance when a principal stay long at the station, the school stabilizes hence high internal efficiency. However, no study has been done that focuses on the impact of ICBT on internal efficiency in schools along the Kenya-Uganda border in Busia County.

METHODOLOGY

This study adopted a convergent parallel mixed methods research design. Creswell (2011) states that a convergent parallel design involves simultaneously collecting and analyzing both quantitative and qualitative data separately, then merging the two datasets to compare and contrast the findings. The convergent parallel mixed methods design was considered appropriate because it enhanced triangulation, improved validity of findings, and provided a comprehensive understanding of the research problem by integrating both numerical and descriptive data. This study was carried out in Busia County, Kenya, specifically in public senior secondary schools along the Kenya-Uganda border. Busia County was chosen because it is characterized by high economic activities including informal cross-border trade activities in which learners along the border get themselves involved in either voluntarily or through coercion. The target population was 41808 from 152 schools where we had 41332 learners, 152 principals, 152 teachers, 152 directors of studies and 20 chiefs. The study drew a sample of 73 schools it is "the number of items selected from the universe to constitute a sample (Kothari, 2008). The study applied Cochran's (1963) formula for estimating proportions in large populations ($N > 10,000$) in learners. The Cochran finite population correction was then used to adjust the sample size for a finite population (Cochran, 1963; Mugenda & Mugenda, 2003; Bernard, 2006). To determine the sample size of head teachers, director of studies, class teachers and chiefs to be included in the study, the study research drew a sample size using Yamane's formula (Yamane, 1967). The sample size for each stratum was determined using a proportionate stratification method. In this approach, the number of participants selected from each stratum corresponds directly to the size of that stratum within the overall population. The calculation of stratum sample sizes is guided by the following formula.

Therefore, the sample size was 381 learners, 73 principals, 73 teachers, 73 directors of studies and 10 chiefs. Stratified random sampling was applied to group respondents into different strata i.e. head teachers, director of studies, class teachers, learners and chiefs. This study also used purposive sampling and convenience sampling. Purposive sampling was used specifically to select schools near border areas. Purposive sampling was used for the following reasons; it offers targeted data collection as it allows researcher to select participants who possesses specific characteristics or experiences directly relevant to the research question. It ensured that the data collected is highly relevant and insightful, leading to a deeper understanding of the phenomenon under study. In this technique, the researcher selected Heads of institutions, Director of studies, Class teachers and Learners. The study also used a convenience sampling technique to select the ten chiefs. Proportionate sampling helped determine a sample size that reflected the numerical strength of each group, while simple random sampling ensured every member had equal chance of selection.

Questionnaires, interview schedule and document analysis were research instruments used. Questionnaires were used on learners, interview schedule on principals, teachers and chiefs while document analysis was done of registers, admission books and merit lists. This study used convergent/criterion-related validity as there was a questionnaire, interview schedule and document analysis to ascertain how trade activities at the border affect learner performance

The results of reliability shown in Table 4.1 indicated that the instruments met the acceptable reliability threshold, confirming that the questionnaire items consistently measured the variables under investigation. The validity tests further confirmed that the instruments were appropriate for collecting credible data on the influence of informal cross-border trading activities on school internal efficiency. Therefore, the instruments were considered suitable for use in the study.

Table 4.1: Reliability test for learners' questionnaire

Variable	Cronbach's alpha if item deleted	Cronbach's alpha
Learner involvement in trading	.878	
Household dependence on informal trade	.812	

Time demands of trading	.815	0.849
Parent education support practices	.893	
Government policy	.887	
School internal efficiency	.811	

Source: (Researcher's survey, 2026)

From Table 4.1, the results show that Cronbach's alpha is 0.966, which indicates a high level of internal consistency for our scale with this specific sample.

Data collected through interviews was compared with the data collected from questionnaires. These comparisons showed that the data was largely congruent except for minor exceptions. Since there were no significant departures noted in the data from questionnaires, the interview collected data was considered reliable.

A total of 381 questionnaires were issued to respondents. A total of 370 (97%) questionnaires were returned back. Of these 5 (1.3%) were dropped out of the tally for having significant gaps in response for variable items. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting, 60% is good, while 70% and above is considered very good for survey research. Similarly, Babbie (2010) argues that high response rates increase confidence in survey results because they minimize sampling error and improve representativeness. In addition, Creswell (2014) notes that high participation rates strengthen the accuracy of quantitative findings and enhance confidence in drawing statistical inferences. In this study, the high response rate achieved indicates that the respondents were sufficiently engaged, the data collection procedures were effective, and the findings can be considered dependable for making conclusions about the study objectives.

Therefore, the study used a total of 365 questionnaires for the analysis of data. The response rate for the interview is also shown in Table 4.2.

Table 4.2: Survey response rate

Unit of observation	Data collection method	Target population	Sample size	Usable response	% effective response rate
Learners in senior secondary school	Questionnaires	41332	381	365	96
Head teachers	Interview	152	73	52	71
Director of studies	Interview	152	73	52	71
Class teachers	Interview	152	73	52	71
Chiefs	Interview	20	10	8	80

The piloting of the research instruments was done in three public senior secondary schools within Busia County which had been left out during sample size determination. Using the data obtained from the pilot study, the researcher was able to determine whether there was need for any alterations to the data collection instruments. Quantitative data obtained from questionnaires and school records were coded and entered into the Statistical Package for Social Sciences (SPSS) version 27 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data and describe the influence of informal cross-border trading activities on school internal efficiency. Qualitative data collected through interviews were transcribed, organized into themes, and analyzed thematically according to the study objectives. The qualitative findings were then integrated with quantitative results during interpretation to provide a

comprehensive understanding of the influence of informal cross-border trading activities on school internal efficiency.

Normality test was done at 95% confidence interval.

The findings are as shown in Table 4.3

Table 4.3: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Learner involvement in trading	.140	365	.000	.916	365	.000
Household dependence on informal trade	.161	365	.000	.901	365	.000
Time demands of trading	.138	365	.000	.884	365	.000
Parent education support practices	.183	365	.000	.870	365	.000
School Internal efficiency	.145	365	.000	.927	365	.000
a. Lilliefors Significance Correction						

The findings In Table 4.3 indicate that all study variables, namely learner involvement in trading, household dependence on informal trade, time demands of trading, parental education support practices, school internal efficiency, and government policy, recorded significance values ($p = .000$) for both the Kolmogorov–Smirnov and Shapiro–Wilk tests. Since all p -values were less than the conventional significance level of 0.05, the null hypothesis that the data was not normally distributed was rejected. Specifically, learner involvement in trading recorded a Kolmogorov–Smirnov statistic of 0.140 and a Shapiro–Wilk statistic of 0.916, while household dependence on informal trade had statistics of 0.161 and 0.901 respectively. Time demands of trading recorded statistics of 0.138 and 0.884, parental education support practices recorded 0.183 and 0.870, school internal efficiency recorded 0.145 and 0.927. These results suggest varying degrees of normality across the variables, with government policy exhibiting the greatest

The SW results confirmed the KS results that the data on respondents' questionnaire came from normally distributed population and was normally distributed. This means that the tests of normality were significant and therefore parametric test should be used for analysis.

Multicollinearity test was also done. Multicollinearity exists when there is the presence of strong correlation between or among predictor variables and can result to increase in the standard errors with the beta coefficients, limit the value of R and make it difficult to determine the importance of each predictor in the model. Assessment of Multicollinearity was done using the tolerance value and Variance inflation factor (VIF).

Table 4.4: Test for Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Learner involvement in trading	.176	6.678
	Household dependence on informal trade	.172	5.810

	Time demands of trading	.293	6.416
	Parent education support practices	.166	8.058

The results in Table 4.4 indicate that all the independent variables had tolerance values above the recommended threshold of 0.10 and VIF values below the critical value of 10. Specifically, learner involvement in trading recorded a tolerance value of 0.176 and a VIF of 6.678. Similarly, all tolerance values exceeded 0.10, further confirming the absence of harmful multicollinearity among the study variables.

Based on these results, it is concluded that the independent variables did not exhibit significant multicollinearity and was therefore suitable for inclusion in the multiple regression model. Consequently, each variable was retained for further analysis to determine its influence on school internal efficiency in public senior secondary schools in Busia County. The absence of multicollinearity enhances the reliability and stability of the regression coefficients and ensures that the unique contribution of each predictor variable can be accurately estimated.

Bivariate correlation which measures the association between two variables was computed for the observed variables using the Pearson product-moment correlation coefficient (r). The results of correlation analysis is presented in Table 4.5.

Table 4.5: Correlation analysis

Variables	Learner involvement in informal cross-border trading activities	School internal efficiency
Learner involvement in informal cross-border trading activities	1.000	-0.768**
School internal efficiency	-0.768**	1.000

The Pearson product-moment correlation analysis revealed a strong negative and statistically significant relationship between learner involvement in informal cross-border trading activities and school internal efficiency ($r = -0.768$, $p < .001$, $N = 365$). This indicates that increased learner involvement in informal cross-border trading activities is associated with lower levels of school internal efficiency. Specifically, learners who are more involved in trading activities are more likely to experience poor attendance, reduced classroom participation, lower retention, delayed progression, and poorer academic outcomes. Conversely, reduced involvement in trading activities is associated with improved school internal efficiency. The findings support the study's theoretical framework and are consistent with the statement of the problem, which posits that learner participation in informal cross-border trading diverts time and attention from schooling, thereby reducing internal efficiency. The results also corroborate the qualitative interview findings, where respondents reported that learner involvement in trading contributed to absenteeism, lateness, fatigue, and school dropout.

RESULTS AND DISCUSSIONS

The researcher sought to find determine the effect of learner involvement in trading on internal efficiency in Busia County public senior secondary schools. The result is presented in Table 4.7.

Table 4.7: Likert scale on learner involvement in trading

Statement	SA	A	U	D	SD	Mean	Std
I participate in trading activities before or after school.	171 46.8%	114 31.2%	14 3.8%	36 9.9%	30 8.2%	4.09	1.112

I assist my family in cross-border trading activities.	164 44.9%	90 24.7%	16 4.4%	66 18.1%	29 7.9%	3.98	1.160
Trading activities reduce the time available for studying.	153 41.9%	107 29.3%	13 3.6%	26 7.1%	66 18.1%	3.99	1.099
I sometimes miss classes because of trading activities.	131 35.9%	117 32.1%	25 6.8%	52 14.2%	40 11%	3.79	1.232
Participation in trading affects my concentration in class.	115 31.5%	128 35.1%	26 7.1%	49 13.4%	47 12.9%	3.70	1.240
Income earned from trading motivates me to continue trading.	129 35.3%	93 25.5%	13 3.6%	57 15.6%	73 20%	3.57	1.406
Trading activities negatively affect my academic performance.	139 38.1%	129 35.3%	25 6.8%	45 12.3%	27 7.4%	3.90	1.188
I spend more time trading than studying during holidays.	161 44.1%	111 30.4%	9 2.5%	61 16.7%	23 6.3%	4.07	1.039
Composite mean and Std						3.89	1.185

The findings in Table 4.7 indicate that learner involvement in informal cross-border trading activities was relatively high, as shown by a composite mean of 3.89 and standard deviation of 1.185, suggesting an overall tendency of respondents toward agreement that trading activities influence their educational experiences and school participation. The responses across all five Likert scale categories provide important insights into the extent of learner involvement and its effects on school internal efficiency.

On the statement “*I participate in trading activities before or after school,*” 171 respondents (46.8%) strongly agreed while 114 respondents (31.2%) agreed, showing that the majority of learners actively engage in trading activities outside school hours. However, 14 respondents (3.8%) were undecided, suggesting uncertainty among a few learners, while 36 respondents (9.9%) disagreed and 30 respondents (8.2%) strongly disagreed, indicating that a smaller proportion of learners were not involved in such activities. The high mean score of 4.09 demonstrates strong agreement that learner participation in trade before and after school is common.

Regarding the statement “*I assist my family in cross-border trading activities,*” 164 respondents (44.9%) strongly agreed and 90 respondents (24.7%) agreed, implying that many learners directly support household economic activities. Meanwhile, 16 respondents (4.4%) were undecided, 66 respondents (18.1%) disagreed, and 29 respondents (7.9%) strongly disagreed, indicating that although most learners assist their families in trade, some households do not involve children in these activities. The mean score of 3.98 reflects overall agreement.

On whether “*Trading activities reduce the time available for studying,*” 153 respondents (41.9%) strongly agreed and 107 respondents (29.3%) agreed, suggesting that trading significantly competes with academic study time. A small proportion, 13 respondents (3.6%) were undecided, while 26 respondents (7.1%) disagreed and 66 respondents (18.1%) strongly disagreed, indicating variation in how learners balance trade and academics. The mean score of 3.99 confirms that most respondents perceived trading as reducing study time.

Concerning the statement *"I sometimes miss classes because of trading activities,"* 131 respondents (35.9%) strongly agreed and 117 respondents (32.1%) agreed, indicating that absenteeism due to trading is common among learners. However, 25 respondents (6.8%) were undecided, 52 respondents (14.2%) disagreed, and 40 respondents (11%) strongly disagreed, suggesting that some learners are able to maintain regular attendance despite trade involvement. The mean score of 3.79 indicates general agreement that trading contributes to absenteeism.

For the statement *"Participation in trading affects my concentration in class,"* 115 respondents (31.5%) strongly agreed and 128 respondents (35.1%) agreed, meaning a majority acknowledged that trading affects their focus in class. At the same time, 26 respondents (7.1%) remained undecided, while 49 respondents (13.4%) disagreed and 47 respondents (12.9%) strongly disagreed, indicating that some learners did not perceive a negative effect on concentration. The mean score of 3.70 shows overall agreement that trade participation affects classroom concentration.

On the statement *"Income earned from trading motivates me to continue trading,"* 129 respondents (35.3%) strongly agreed and 93 respondents (25.5%) agreed, suggesting that financial benefits are an important motivating factor for learner participation in trade. However, 13 respondents (3.6%) were undecided, 57 respondents (15.6%) disagreed, and 73 respondents (20%) strongly disagreed, indicating that not all learners are motivated by financial gain. The mean score of 3.57 reflects moderate agreement.

Regarding the statement *"Trading activities negatively affect my academic performance,"* 139 respondents (38.1%) strongly agreed while 129 respondents (35.3%) agreed, showing that a majority recognized the negative academic consequences of trading activities. In contrast, 25 respondents (6.8%) were undecided, 45 respondents (12.3%) disagreed, and 27 respondents (7.4%) strongly disagreed, indicating that a minority did not perceive any negative effect on academic performance. The mean score of 3.90 confirms general agreement.

Finally, on the statement *"I spend more time trading than studying during holidays,"* 161 respondents (44.1%) strongly agreed and 111 respondents (30.4%) agreed, indicating that holidays are often devoted to economic activities rather than academic preparation. A small proportion, 9 respondents (2.5%) were undecided, while 61 respondents (16.7%) disagreed and 23 respondents (6.3%) strongly disagreed, showing that some learners still prioritize academic activities during school breaks. The high mean score of 4.07 demonstrates strong agreement with this statement.

The findings presented in Table 4.7 on learner involvement in trading activities indicate that a considerable proportion of respondents agreed with statements suggesting that learners actively participate in informal cross-border trading activities. Where the majority of respondents selected Agree or Strongly Agree on statements related to participation in hawking, assisting parents in trade, carrying goods across the border, or engaging in income-generating activities during school days, the data implies that learner involvement in trading is a common practice among students in the study area. These findings suggest that many learners in Busia border communities divide their time between school and economic activities, which may negatively affect their academic engagement. Involvement in trading activities likely reduces time available for attending classes, completing assignments, revision, and participation in school programs. It also increases the risk of absenteeism, fatigue, poor concentration in class, and in some cases school dropout. This means that informal cross-border trade activities compete directly with educational responsibilities and may undermine school internal efficiency.

The results are consistent with findings by Omweno et al. (2021), who established that learners involved in informal cross-border trade activities in Busia County frequently missed school, reported poor punctuality, and demonstrated low concentration levels due to balancing trade and school responsibilities. Similarly, Birdsall et al. (2005) observed that children in economically vulnerable households often combine schooling with work activities, and where economic survival becomes a priority, education suffers through increased absenteeism and dropout. The findings also agree with the Push-Pull Theory of Child Labour, which explains that poverty and economic vulnerability push children into work, while the availability of income-generating opportunities pulls them away from school. According to International Labour Organization (2021), children engaged in economic activities are more likely to experience interrupted schooling and reduced educational progression because work responsibilities interfere with learning.

However, if some respondents disagreed with the statements, this may indicate that not all learners participate directly in trading activities. Some families may prioritize education despite living in border communities, and some learners may be protected from active involvement in household economic activities. This shows variation in household practices and parental attitudes toward education. In general, the data means that learner involvement in informal cross-border trading activities is prevalent and constitutes an important factor affecting school attendance, academic commitment, and internal efficiency of public senior secondary schools in Busia County.

The study sought to determine the effect of learner involvement in trading on internal efficiency in Busia County public senior secondary schools. To establish this, simple linear regression test was used. The study utilised the following null hypothesis which was tested at 0.05 level of significance.

H₀₁: There is no effect of learner involvement in trading on internal efficiency in Busia County public senior secondary schools.

The results is shown in Table 4.8(a-c)

Table 4.8a: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.768 ^a	.589	.588	4.546
a. Predictors: (Constant), Learner involvement in trading				
b. Dependent Variable: School Internal efficiency				

Table 4.8a presents the model summary for the simple linear regression analysis conducted to determine the effect of learner involvement in trading on school internal efficiency in public senior secondary schools in Busia County. The results indicate a strong positive relationship between learner involvement in trading and school internal efficiency, as shown by a correlation coefficient of $R = 0.768$. This suggests that the two variables are strongly associated. The coefficient of determination ($R^2 = 0.589$) shows that learner involvement in trading accounts for 58.9% of the variation in school internal efficiency. This implies that changes in school internal efficiency can be substantially explained by variations in learner involvement in trading activities. The remaining 41.1% of the variation in school internal efficiency may be attributed to other factors not included in this regression model.

The adjusted coefficient of determination (Adjusted $R^2 = 0.588$) is very close to the R^2 value, indicating that the model provides a stable and reliable estimate of the relationship between learner involvement in trading and school internal efficiency. The small difference between R^2 and Adjusted R^2 suggests that the model is not overfitted and that learner involvement in trading is a meaningful predictor of school internal efficiency. The standard error of the estimate 4.546 indicates the average amount by which the observed values of school internal efficiency deviate from the values predicted by the regression model. The relatively low standard error suggests that the model provides a reasonably accurate prediction of school internal efficiency.

Table 4.8b: ANOVA of Learner involvement in trading

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10771.210	1	10771.210	521.188	.000 ^b
	Residual	7501.995	363	20.667		

	Total	18273.205	364			
a. Dependent Variable: School Internal efficiency						
b. Predictors: (Constant), Learner involvement in trading						

The results in Table 4.8b show the test whether learner involvement in trading significantly predicts school internal efficiency in public senior secondary schools in Busia County. The ANOVA results indicate that the regression model was statistically significant, $F(1, 363) = 521.188$, $p < .001$. Since the significance value ($p = .000$) is less than the conventional level of 0.05, the regression model is statistically significant. This implies that learner involvement in trading significantly influences school internal efficiency. The results further show that the regression model explained a substantial proportion of the variation in school internal efficiency. The regression sum of squares was 10,771.210, while the residual sum of squares was 7,501.995, giving a total sum of squares of 18,273.205. This indicates that a considerable amount of the variation in school internal efficiency was explained by learner involvement in trading, while the remaining variation was attributable to other factors not included in the model.

The high F-statistic of 521.188 demonstrates that the regression model provides a significantly better prediction of school internal efficiency than a model without learner involvement in trading. In other words, the predictor variable contributes meaningfully to explaining variations in school internal efficiency among learners in public senior secondary schools. Based on these findings, the null hypothesis was rejected. The study therefore concludes that learner involvement in trading has a statistically significant effect on school internal efficiency.

Table 4.8c: Regression coefficients of learner involvement in trading

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.595	1.020		4.506	.000	2.590	6.601
	Learner involvement in trading	.728	.032	.768	22.830	.000	.665	.791
a. Dependent Variable: School Internal efficiency								

The findings in Table 4.8c indicate that learner involvement in trading significantly predicts school internal efficiency ($\beta = .768$, $t = 22.830$, $p < .001$). Since the significance value is less than 0.05, the predictor variable makes a statistically significant contribution to the model. The unstandardized regression coefficient ($B = 0.728$) implies that a one-unit increase in learner involvement in trading is associated with a 0.728-unit increase in the school internal efficiency score. This finding suggests that changes in learner involvement in trading are significantly associated with changes in school internal efficiency. The standardized coefficient ($Beta = .768$) further demonstrates that learner involvement in trading has a strong effect on school internal efficiency, confirming the strong relationship observed in the correlation and ANOVA analyses. The constant term ($B = 4.595$, $p < .001$) indicates that when learner involvement in trading is held constant at zero, the predicted value of school internal efficiency would be 4.595. This value represents the baseline level of school internal efficiency in the absence of the predictor variable. The regression equation derived from the model is: School Internal Efficiency = $4.595 + 0.728$ (Learner Involvement in Trading)

The 95% confidence interval for the regression coefficient ranged from 0.665 to 0.791. Since the confidence interval does not include zero, it confirms that the effect of learner involvement in trading on school internal

efficiency is statistically significant and reliable. This means that the true population effect is likely to fall within this range. Based on these findings, the null hypothesis was rejected. The study concludes that learner involvement in trading has a statistically significant effect on school internal efficiency.

The findings are consistent with recent studies. For instance, International Labour Organization (2024) reported that child involvement in informal economic activities in developing countries remains a major contributor to school absenteeism and early school dropout, particularly in economically vulnerable households. Similarly, United Nations Children's Fund (2023) observed that children engaged in informal labour activities often experience reduced school attendance, fatigue, poor classroom participation, and weak academic performance due to competing economic responsibilities. In Kenya, Omweno et al. (2021) found that learners along the Busia border frequently participate in informal cross-border trade activities such as hawking, transporting goods, and assisting parents in business, which significantly interferes with school attendance, punctuality, and academic engagement. Likewise, United Nations Educational, Scientific and Cultural Organization (2023) established that child labour and household economic pressures continue to threaten educational efficiency in Sub-Saharan Africa by increasing repetition rates, school dropout, and delayed completion of education cycles.

The strong significance of learner involvement in trading activities in this study demonstrates that schools located in economically active border regions face serious challenges in maintaining internal efficiency. Learners who spend time trading before school, during school hours, or after school experience physical exhaustion, reduced study time, divided attention, and weak commitment to academic work. Over time, this leads to poor attendance patterns, reduced retention, and increased educational wastage through dropout and repetition. Therefore, addressing learner participation in informal cross-border trade is critical in improving school internal efficiency in Busia County secondary schools.

Qualitative Findings from The Interviews

The interviews revealed that learner involvement in informal cross-border trade was a common phenomenon in border communities. Principals reported that some learners participated in trading activities before and after school hours, while others assisted their families during weekends and school holidays. Class teachers observed that learners often engaged in carrying goods, selling merchandise, and helping parents at border markets.

One principal stated:

"Many learners assist their parents in transporting and selling goods across the border. While some do this after school, others occasionally miss lessons when business demands increase."

Similarly, a class teacher remarked:

"We have learners who arrive at school tired because they were involved in trading very early in the morning."

These findings are supported by recent literature. Bourdillon and Boyden (2023) found that child participation in informal economic activities in low-income communities negatively affects school attendance and academic achievement because children spend substantial time balancing work and educational responsibilities. Their study observed that learners engaged in economic activities frequently experience fatigue, reduced classroom engagement, and weak academic progression. Similarly, Save the Children International (2024) reported that children involved in informal work activities are at higher risk of chronic absenteeism, delayed progression, and school dropout, particularly in economically vulnerable communities where children contribute directly to household livelihoods.

The findings are also consistent with Kiiru and Mugambi (2022), who established that in Kenyan border communities, learners involved in petty trade and family economic activities frequently miss classes and demonstrate lower academic performance due to divided attention between work and education. Likewise, African Development Bank Group (2024) observed that informal economic activities in border regions across Africa increasingly involve adolescents, reducing effective learning time and weakening educational attainment among school-going children. The report emphasizes that children exposed to early labour participation often develop preferences for short-term income opportunities rather than remaining committed to formal education.

Similarly, Psacharopoulos and Patrinos (2023) found that child labour participation remains a major contributor to reduced educational attainment in developing countries, as children involved in work-related activities spend fewer hours studying and are more likely to drop out before completing school. In East Africa, Mugo and Kihoro (2024) established that economic pressures in vulnerable households frequently force school-going children into informal economic activities, particularly in border and market communities, resulting in absenteeism, low motivation, and poor educational outcomes.

The qualitative findings therefore demonstrate that learner involvement in informal cross-border trading activities remains a major barrier to school internal efficiency in Busia County. Learners who spend time participating in trade activities lose valuable instructional time, experience physical fatigue, and develop divided priorities between education and income generation. This contributes to poor attendance, low retention, weak academic achievement, delayed progression, and increased dropout rates, ultimately undermining the efficiency of schools in achieving their educational objectives. The findings suggest the need for stronger child protection enforcement, community awareness programs, and targeted interventions aimed at reducing learner participation in informal trade activities in border communities.

On data triangulation, the quantitative findings established that learner involvement in informal cross-border trading activities significantly influenced school internal efficiency. The majority of respondents reported participating in trading activities before or after school, assisting their families in trade, and experiencing reduced study time because of trading responsibilities. Although learner involvement initially demonstrated a significant relationship with school internal efficiency, its effect became statistically insignificant in the final regression model after controlling for other variables. This suggests that learner involvement influences school internal efficiency indirectly through related factors such as household dependence on trade and time demands associated with trading.

The interview findings supported these results. Principals reported that learners frequently participated in transporting goods, selling merchandise, and assisting parents at border markets. One principal stated that

“Many learners assist their parents in transporting and selling goods across the border, and some occasionally miss lessons when business demands increase” (Principal Interview).

Similarly, a class teacher observed that

“Some learners arrive at school tired because they were involved in trading activities very early in the morning” (Class Teacher Interview).

These responses indicate that learner participation in trading activities interferes with concentration, attendance, and academic engagement. The findings are consistent with UNICEF (2024), which reported that children involved in labour-related activities often experience interrupted schooling, reduced learning time, and poor educational outcomes due to competing economic responsibilities. Similarly, the International Labour Organization (ILO) and UNICEF (2025) observed that child labour remains a major barrier to educational participation and school completion in many developing regions. Therefore, the quantitative findings, interview responses, and empirical literature collectively demonstrate that learner involvement in informal cross-border trade negatively affects school internal efficiency through reduced attendance, concentration, and academic participation (UNICEF, 2024; ILO & UNICEF, 2025).

CONCLUSIONS

The first objective of the study was to determine the effect of learner involvement in informal cross-border trading activities on school internal efficiency in public senior secondary schools in Busia County. The study concludes that learner involvement in informal cross-border trading activities significantly affects school internal efficiency. Learners who actively participate in trading activities before school, after school, during weekends, and holidays experience reduced study time, absenteeism, poor concentration in class, and low academic performance. The study therefore concludes that increased learner participation in informal trade activities negatively undermines learner retention, attendance, academic engagement, and overall school completion rates.

RECOMMENDATIONS

Based on the findings, the study recommends that school administrators, in collaboration with parents and local government authorities, should establish strict monitoring mechanisms to discourage direct learner involvement in informal cross-border trading activities during school days. Schools should strengthen attendance monitoring systems and introduce guidance and counseling programmes to sensitize learners on the importance of prioritizing education over economic activities.

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