IMPACT OF CAPITATION TRANSFERS ON SCHOOL PERFORMANCE IN KENYA: A CASE OF PRIMARY SCHOOLS IN NORTH HORR SUB - COUNTY

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DECLARATION

This project is my own original work and has not been presented for any award in any other University

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This research project is presented for examination with my approval as the university supervisor.

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DEDICATION

I dedicate this piece of work to my elder sister, Talaso, without whom my education journey will never have materialized

ABSTRACT

In developing countries, access to education has increased considerably over the last 20 years, with many more children, particularly underprivileged children, entering school earlier and staying in school longer than ever before. This is been attributed by among others the governments support through capitation transfers. Capitation grant is a basic educational finance strategy that is utilized in many countries to provide financial resources to public institutions. The objective of the study was to determine the impact of capitation transfers on the performance of primary schools in North Horr Sub-county. The predictor variables in the study were the reliability, timeliness and the adequacy of the cash transfers. On the other hand, the control variables were teacher competency and the school size as measured by the learners' population. The results suggest that the timeliness of the cash transfer to schools was also not on time since on average, the cumulative number of days that the government delayed in disbursing cash over the year was 87 days though the delayed period in the three terms in an academic calendar was constant in between the terms. Further, the amount disbursed over the period was not meeting the stipulated policy since only around 92.4% of the expected amount in a given year was achieved. The inferential results show that the performance of the primary schools is affected by the variables under investigation to an extent of 12.5%. This finding suggests that other factors that determine school performance explain 87.5% of the variable. The study concludes that there is evidence from the fact that as the timeliness, adequacy and the reliability of the funds declined in the period, so did the performance. In addition, the study concludes that matching the school resources to the increase in student enrolment has a direct impact on the performance of the primary schools. Hence the study recommends that capitation grant disbursement pattern be reviewed with a view to determining whether the existing arrangement is conducive to improving education outcomes in Kenya. The study further recommends that a comparison study be undertaken to assess primary schools' performance in urban areas and those considered as hardship regions with a view to establishing the influence of capitation transfers.

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ABBREVIATIONS

BECE	:	Basic Education Certificate Examination
BEMIS	:	Basic Education Management Information System
GDP	:	Gross Domestic Product
ICT	:	Information and communications technology
KCPE	:	Kenya Certificate of Primary Education
MOE	:	Ministry of Education
MTEF	:	Medium-Term Expenditure Framework
SES	:	Social Economic Status
SPSS	:	Statistical Package for the Social Sciences
SFAI	:	Schools Fees Abolition Initiative
TLM	:	Teaching and Learning Materials
UNICEF	:	United Nations Children's Fund
UPE	:	Universal Primary Education

1.1 Background to the Study

Over the last 20 years, the number of children that access education in developing countries has risen dramatically, with many more children, particularly those from low-income households, enrolling and remaining in school for longer period of time than ever before (World Bank, 2019). Through bolder, quicker, and scaled-up policies, more developing Nations are working to preserve and enhance the renewed momentum toward Universal Primary Education (UPE) by employing different strategies, with greater financial resources investment being one of them. Since the early 2000s, global public spending on basic education has more than quadrupled in real terms with the low-income nations registering the highest increases, with public education spending as a percentage of GDP rising from 3.5 percent in 1998-2001 to 4.1 percent in 2014-2017 (Al-Samarri, Cerdan-Infantes, & Lehe, 2019). Abolition of school fees is becoming more widely recognized as one of these initiatives and a critical step toward ensuring children's right to education. In response, the World Bank and UNICEF formed the School Fee Abolition Initiative (SFAI) in 2005, with the goal of disseminating lessons learned from countries that have abolished fees and providing context-specific recommendations to nations that are considering adopting such policies.

Despite greater funding and access, many countries are nevertheless experiencing a learning crisis. According to Azevedo, Goldemberg, and Stacy (2021), 53% of all 10-year-old children worldwide are unable to read a short age-appropriate text with understanding in the developing countries. This is partly attributed to poverty levels that stands in some regions of

Africa at 90% (World Bank, 2019). Large expenditure inequities and inefficiencies hinder the efficacy of education finance, according to research from many countries and which eventually affect performance of the school going children. Addressing the dual finance issues of insufficient and ineffective expenditure might help to tackle the issue of learning crisis and contribute to the accomplishment of national and international education goals and targets set for a specific period. Due to the importance placed on the financing education world over and in the quest to achieve the universal primary education, different theories have been advanced and applied in order to achieve the goal.

The Agency theory, systems theory and performance equations were used in this research. The agency theory shows that owners or lenders of funds need to put in place mechanisms aimed at protecting their interest against actions of the agents (Jensen & Meckling, 1976), which in this case would be school administrators. According to System Theory (Ludwig Von Bertalanffy, 1956), a structured company does not exist in a vacuum; it is dependent on the environment in which it is founded. As a result, in the current context, capitation transfers are one of the inputs that enables schools to provide teaching, learning, and administration services, and their output is measured by the availability of teachers, textbooks, and classrooms, as well as the results of national examinations. Joshi (2009) proposed the Performance Equation Theory, which states that among other factors, resource availability, motivation and ability to perform a given task are specific factors that determine the degree of performance. Stakeholders in education must efficiently organize resources in order to address the growing requirements of their institutions with a view to reducing possible challenges to the provision of education for all.

In most nations, the education sector faces several obstacles, including a shortage of qualified instructors, inadequate teaching and learning facilities, and insufficient infrastructure. As in Kenya, the current level of enrolment has prompted the construction of additional facilities to accommodate the growing enrolment and to achieve this goal, there is need to effectively mobilize resource to address these issues. The Kenya government financial support to both primary and secondary schools come in form of capitation transfers which is pecked on the number of children that are enrolled in the particular education institution. Government support helps in financing different projects within the schools which would have otherwise been bridged by parents - a move that would have resulted in the drop of children enrolment in the schools.

In the pastoralist communities such as in the North- Horr Sub-County, Marsabit County, the performance of children in both primary and secondary schools is determined by both socio-cultural factors, financial support to the schools and student characteristics. Chief among the determinants has been a low financial support from the government due to lower capitation amount and reliability of the same. Primary schools in the sub-county require adequate funding to support their school feeding programs and infrastructure development. Since the year 2003, the Kenya government has been extending financial support to all the primary schools in the North Horr Sub-County at the rate of Ksh 1,420 per pupil towards supporting the FPE program. For the three financial years to 2020/2021, the total government disbursement has increased to Ksh 12.7 billion from Ksh 12.4 billion. Though other performance measures, such as Primary Completion Rate has increased from 82.5% in 2016 to 86.2% in 2020, the academic performance change as a result of the government financial capitation support has not been explored. It is therefore the intention of this research to try

and establish how the capitation transfers to primary school has impacted on the performance of the schools.

1.1.1 Capitation Transfers

The central government distributes a fixed amount of money to schools within predetermined time frame during the school calendar year depending on the number of registered learners in each school. Capitation grant is a basic educational finance strategy that is utilized in many countries to provide financial resources to public institutions (Ngowi, 2015). The funds are utilized to cover the costs of teaching, learning, and administration; and to guarantee fairness, capitation grants are distributed to schools depending on the number of pupils enrolled or other formulae in different countries (Mzee, 2015). In Kenya, the government deposits capitation funds directly into the bank accounts of all schools at predetermined periods during the school year. It is computed at KSh 1,200 per year for each enrolled student in a school from pre-primary to grade eight (Ministry of Education 2020) and this means that it is critical that the transfers occur at the required intervals and in a timely way so that schools can cover their expenditures and offer service on timely basis. The funds are used to provide timely teaching, learning, and administrative services throughout the school year in order to ensure the school's overall success.

The capitation grant is intended to ensure that teaching and learning materials (TLM) are available in schools, but this goal may not be realized if effective and well-regulated structures to allocate, disburse, spend, and monitor grant funds are not in place (Ezigbo, 2019). The allocation of funds must be published and open to public scrutiny as part of the full devolution of financial responsibilities to schools. Furthermore, school budgets and

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financial outlays must be accessible to parents and other community members interested in school matters.

The choice to replace school fees with capitation grants paid off in the 2019/2020 academic year, having a beneficial impact on enrolment in basic education (Ministry of Education, 2020). The following are some of the advantages that a MoE emphasizes: Gross enrolment in primary schools increased by approximately 10%, bringing total primary enrolment to 72.4 percent nationally. The primary net enrolment rate grew from 62% to 72%. Every area of the nation had an increase in enrolment, with the Northern Region (which had the lowest rates) seeing the highest increase. In the 2019/2020 academic year, enrolment in basic school climbed by 16.7% over the previous year. Girls' enrollment climbed somewhat higher than boys' (18.1 per cent vs. 15.3percent).

1.1.2 School Performance Scores

School performance refers to how well a student, instructor, or institution has reached their short and long-term educational goals (Ward, Howard & Murray-Ward, 1996). On the other hand, completion of educational milestones such as secondary school diplomas and bachelor's degrees is referred to as academic achievement while academic performance is a measure of a student's proficiency across a range of subjects (Chingos, 2018). Teachers and education officials frequently utilize classroom performance, graduation rates, and standardized test results to measure student achievement over a certain period of time.

Academic accomplishment is commonly quantified through tests or continuing evaluations, although there is no agreement on how to quantify it or which components are most important: declarative information such as facts or procedural knowledge such as abilities (Kaliba & Ghebreyesus, 2011). For a specific academic year or education cycle, a composite

measure of academic success is generally the mean score of the learners' tests or assessments, which may subsequently be ascribed to a school, a class, or even a council. In Kenya, a school's examination score for a given year is the mean score of its Kenya Certificate of Primary Education (KCPE) examination class, and it is the most reliable indicator of performance available for that school in that academic year.

1.1.3 The link between Financing and Education Sector Objectives

Education has been at the forefront of decentralization changes, particularly basic education (Badara & Saidin, 2018). According to recent estimates, 84 percent of the world's children reside in regions where sub-national governments manage government primary and secondary schools. Given the fundamental role that sub-national governments play in education, how they employ public funds to address the dual financing concerns of sufficiency and effectiveness will be vital to their success. The proportion of students in primary and secondary school who leave with the skills they need to continue learning and lead productive lives will be determined in part by how efficiently schools are able to transform financial support into high-quality education services (Emerson, Nabatchi & Balogh, 2019). Although schools oversee and make decisions about how public education funds are spent, they frequently rely on capitation fiscal transfers from the government, which account for nearly all of their revenue in Kenya, to offer quality services and improve access to education. The relationship is supported by the World Bank (2019) representation of how education finance system influences education system goals, as shown in Figure 1.1 below;
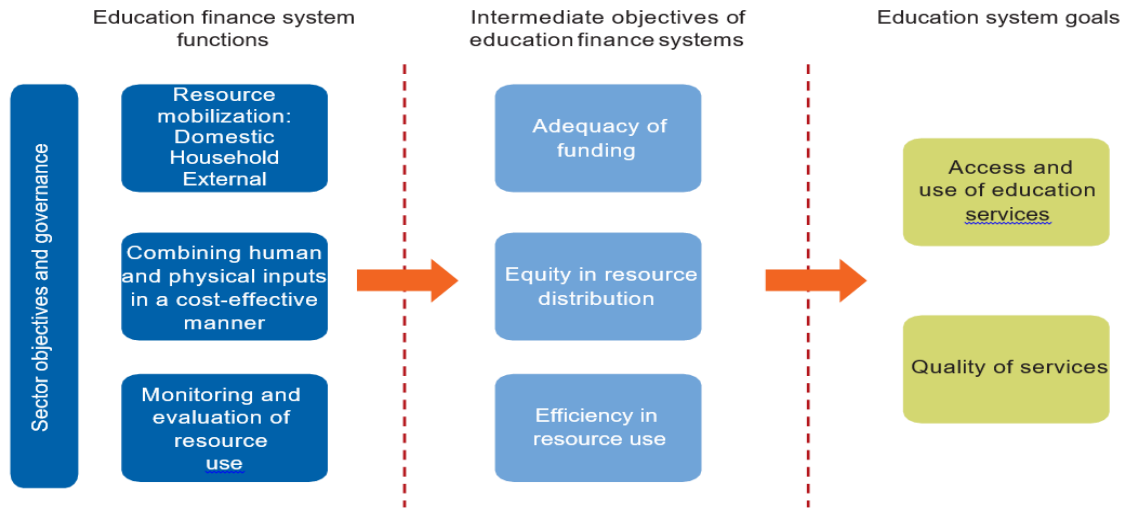
Source: World Bank.

Figure 1.1: The link between financing and education sector objectives

1.1.4 Capitation transfers and School Performance Scores

Sub-optimal student performance is attributed by among others, unreliable government's unreliable and poor distribution of capitation payments to public elementary schools (Eweniyi, 2018). Capitation transfers by the government is used by the school administrators to cover the costs of teaching, learning, and administration expenses – more so in cases where parents payment is restricted or regulated. The investigation of the effect of capitation on the national examination performance has resulted in varied results. According to Osei et al. (2009), capitation transfers have had no effect on pass rates. On the other hand, Augustin (2016) argued that there is a significant positive relationship between capitation transfers and national examination scores. Sitati (2014) found that national academic performance was not impacted by capitation grant, a result that implies that the impact of capitation transfers on school national examination scores is mixed. This creates the need to investigate the impact of timely and reliable capitation transfers to schools on examination scores. Government financial support in terms of student capitation is critical

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especially in pastoralist communities that move from one point to another in search of pasture and water.

1.1.5 Primary Schools in North Horr

North Horr Sub County has a total of 24 public primary schools under the capitation transfers program by the national government (Duflo, Dupas& Kremer, 2020). Kenya's capitation transfer policy aims to ensure good learning infrastructure, adequacy of non-teaching members of staff, availability of learning materials as well as supplementary materials that will aid in the learning process. The learning materials in this regard are resources such as exercise books, text books, pens, assessment tests and examination. This can only be achieved when there are enough funds to facilitate procurement of adequate stationary materials. In addition, capitation transfer policy in Kenya also spearheads for good sanitation and learning environment, enough space for meetings and capacity building, contingencies, science and applied technology, and ICT infrastructure materials (Ministry of Education, 2020).

1.2 Problem Statement

In developing countries, access to education has increased considerably over the last 20 years, with many more children, particularly underprivileged children, entering school earlier and staying in school longer than ever before (World Bank, 2019). These advancements have been aided by increased educational spending as evidenced by the global public education spending having doubled in real terms since the early 2000s. Low-income countries had the most dramatic increases, with public education spending rising from 3.5 percent of GDP in 2010–2020 to 4.1 percent in 2014–17 (Al-Samarrai, Cerdan-Infantes, & Lehe, 2019). The increased government spending, especially in junior schooling is out of the realization that a

lack of parent financial financing is a key impediment to actualization of the education for all objectives.

Private schooling prices are a key obstacle that prevents many children from getting and finishing a decent basic education, according to experience in various Kenyan counties (KNBS, 2020). Since 2003 when the government introduces capitation transfers for primary schools in North Horr Sub County access, retention and completion rates have improved. However, the capitation transfers to schools have been dogged by delays and unpredictability in disbursement, making it hard for schools to plan and spend on teaching, learning and admin services to ensure proper functioning of the schools. Furthermore, there are some indicators that there may be an issue with budget leakage at the school level, resulting in funding not being used effectively by the school. Even if capitation funds are accessible at the school level, the capitation grant's potential to empower students from low-income families and disadvantaged schools will be determined by how well the funds are used by school administrators. The national examination scores of public primary schools in North Horr Sub County, as measured by the primary leaving examinations mean score has been fluctuating, with improvements and decline, over the years.

Different scholars' have carried out studies on capitation and national examination scores of schools. The implications of a capitation grant on the implementation of free primary education in Kenya were investigated by Owuor, Gudo, and Onditi (2016). However, the research did not cover how the capitation grant influenced the school performance. A study in Tanzania by Mzee (2015) on the governance effectiveness of education grant and how it affects educational outcome mirrors the current study but the context of the studies differ since the present study will be in North Horr Sub-County. The educational environment and

grant disbursement between the two differ and thus further reducing the existing gap. There is currently little empirical evidence to explain the influence of capitation transfers on primary school test performance. This research is therefore focused at evaluating the benefits of timely and dependable capitation payments to schools and to investigate its influence on test scores. The research questions are: what is the impact of capitation transfers on examination scores for primary schools in North Horr Sub County? Are the examinations scores better when transfers are made on time, adequately and reliably and poor in the year when there were significant delays, short on policy and expected amounts.

1.3 Research Objective

To determine the impact of capitation transfers on school performance scores in North Horr Sub – county, Marsabit County.

1.4 Value of the Study

The findings of this study would be beneficial to a wide range of stakeholders. It would be used by policymakers to make modifications to current policies or to guide the development of new policies pertaining to timely, adequate and reliable capitation transfers to public schools in order to enhance national test scores and learning outcomes. The understanding of how the adequacy, reliability and timeliness of the financial capitation on school academic performance will facilitate the streamlining of the existing policy on government financial support to all the government funded educational institutions. The findings of this study would be useful to tertiary and university funding boards, as well as ministries of health and water, to help them establish more reliable public financing, performance, and medium-term expenditure framework (MTEF) policies for their respective sectors.

The study would also be important to the educational stakeholders in understanding the nexus between government funding and academic performance of the institutions. This would help in exploring other financing options that help in bridging the timeliness, reliability and adequacy of the schools' capitation program by the government. This would also bring about the need to establish a relationship with stakeholders such as banks, NGOs and development partners aimed at achieving optimal funding flows and requirement for improved academic performance.

Furthermore, the findings of the study would be valuable to academics and researchers interested in capitation transfers and national examination scores, as it will serve as a foundation for additional research and evaluation of the literature. Other scholars might extent the current study to apply to the secondary and tertiary institutions and make a comparison about the adequacy of the existing capitation or investigate other determinants of examination scores in addition to capitation transfers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature that has been covered on the area of school capitation and the performance of students. Specifically, it covers the theoretical underpinning of the research area whereby four theories that are relevant is expounded and their relevance to the study explained. Further, an empirical review discussing the variables under consideration is also expounded and the section ends with a summary of the literature and research gap.

2.2 Theoretical Review

This section provides a discussion on the relevant theories on the research subject area. Specifically, three theories anchor the study, namely; agency theory, systems theory and performance equation theory. The foundation of each theory and its applicability to the current research is discussed.

2.2.1 Agency Theory

Agency theory was advanced by Jensen and Meckling (1976) and posits that in company operations, one party (owners/principal) gives mandate of decision making and/or responsibilities to another party (an agent) to conduct the business activities on behalf of the principal. However, with this relationship, uneven distribution of information will regularly exists between agents and principals in the sense that the managers will be privy to more information about the company than the owners, a situation might lead to maximization of shareholder wealth or not will lead to efficiency being the selection criteria (Rungtusanatham et al., 2018). In an agency relationship, there are potentially two problems that may arise namely risk-sharing and agency problem. With regard to the agency problem, the objectives

of agents vary from the ones of principals and since the owners do not run the firm on the day-to-day basis, it is expensive or difficult to verify whether the delegations awarded to agents were done as required (Jensen & Meckling, 1976). As regards the risk-sharing problems, this challenge comes up when agents and principals have varying attitudes towards risk that results into conflict about remedies to be undertaken. Efficient management of the organization activities will enable the increase in shareholder wealth and vice versa. Therefore, efficiency utilization of resources in an organization is expected to influence the performance of a firm since it affects its output.

Kokoreva and Ulugova (2016) highlight that the corporate principles decisions in a firm can provide incentive to different stakeholders in a way that will reduce behavior of value-minimizing and therefore lower the agency costs. Particularly, the selection process of the firm's operation, liquidity, and leverage, can control the costs of agency that arise from the company's management – shareholders relationship. Mensa and Abor (2014) suggested that the management support of the principal goals can be increased in the company and put in line with its accompanying interest of shareholders. Kokoreva and Ulugova (2016) opines that a company can lower the cost of agency by mounting its dependence on debt financing as sources of capital as well as being able to generate internal sources of finance. Effective cash conversion cycle, liquidity holding, leverage and management of payables is therefore expected to increase shareholder value. However, the concept of accruing debt financing dependency is limited as a result of continuous accumulation of debt which may render a firm to get involved in financial distress. On top of financial distress costs, allegiance of emerging debt holders are expected to reduce the claim of active shareholders, thus the

requirement of higher return rates that are depicted in increased capital cost of a firm (Mans-Kemp, 2014).

The agency theory is applicable in the current study because of the important role that school managers are expected to play in safeguarding of the public-school resources and more so the capitation grants advanced by the government to support their day-to-day operations as well as the infrastructural development. The school administrators are agents of the government in this relationship and therefore, the government expects that the agent considers the interest of the government under all decisions made with a view to realizing its objectives. One of the government objectives in extending grants to the schools is good performance of the pupils in the National examinations. On the other hand, the government is expected to fulfil its role as the principal by releasing the school support on timely and predictable manner. Similarly, it needs to motivate the schools' administrators and incur agency costs to align the school administrators' goals to theirs. Therefore, the agency theory is a relevant theory to the study.

2.2.2 System's theory

The theory adapted in this study is based on Ludwig von Bertalanffy's input-output model, which he hypothesized in 1956. An organized enterprise, according to Koontz and Weinrich (1998), does not exist in a vacuum; it is dependent on the environment in which it is established. They go on to say that the organization receives environmental inputs and changes them into outputs.

Demand for schooling is hugely influenced by economic factors (Wickens & Sandlin, 2007). Basic survival demands in disadvantaged communities may drive education down the priority ladder, especially if the rewards are judged to be less than the time, money, and results invested. As a result, simply having a school is not enough to gain admittance. If there

is to be continuous demand and regular attendance, schools must match community expectations. Demand-side financing programs strive to drive demand for education by directing government resources directly to providers to enhance provision at no cost to the consumer where access is constrained owing to expenses to impoverished populations (. Johnson & Stage, 2018). Because funds follow or are delivered directly to consumers or providers, it is envisaged that this will reduce the need to charge customers for services, increase response to community needs, management, local decision-making, and fund utilization efficiency. With the government's provision of fiscal capitation transfers, no school is allowed to charge any fees. Therefore, the government and the communities must be guaranteed some reasonable returns from these investments (inputs) inform of favorable examination scores and education learning outcomes (Mattern, Radunzel, & Westrick, 2015).

As adapted to this study, capitation fiscal transfers constitute a main input, which is used by schools to purchase teaching, learning, and infrastructure and administration services. The direct output arising from it is schools' examination performance scores. In addition, the pupil teacher ratio, textbook pupil ratio, and classroom pupil ratio are all performance metrics that can be directly linked to the utilization of fiscal transfers. These is because the school learning resources such as teachers, textbooks, and classrooms are outputs coming from prudent use of the capitation fiscal transfers in any school.

2.2.3 Performance Equation Theory

The performance equation theory also guides this research. Joshi (2009) proposed the performance equation theory, which states that the amount of performance achieved is influenced by three interdependent factors: ability, motivation, and resources. The driving

forces of behavior that determine the degree of performance are ability, motivation, and resources.

Performance = Ability*Motivation*Resources (2x2x2=8) is the formula discovered by Carter and Selvaraj (2013). Any institution's performance will suffer if one of those criteria is missing. According to this study, accessible educational resources, both financial and non-financial, play a significant effect in improving test performance. Fiscal transfers from the government are a critical resource for schools in order to attain the intended goal of high test results. According to Carter's formula, there is no performance without ability and resources ($0 \times 2 \times 0 = 0$).

In the context of the present study, the performance equation theory is applicable because it recognizes that for improved performance to be registered, then the stakeholders need to invest adequate resources. Performance is an outcome of investment in resources by the principals and that the agents (teachers) need to be motivated as well to in order to actualize the desired performance. Therefore, as the performance equation theory suggest, there are three items that need to be addressed in a balanced manner if an organization performance is to be improved and that failure to optimally undertake one function will result in reduced performance. These three roles are performed by each group and thus need to be a synergistic understanding and relationship for the desired outcome to be actualized.

2.3 Determinants of School Performance Scores

2.3.1 Government Financial Capitation Grant

The financial capitation to public schools that has been is adopted by governments is aimed at enhancing learning and teaching through acquisition of educational facilities like books, desk, laboratory equipment and maintenance of school infrastructure to in order to meet the

intended national educational goals and objectives. In this regard, Ngowi (2015) opine that an unreliable and poor provision of capitation by the government to public secondary schools has led to poor student performance because the provision of these educational facilities is affected. UWAZI (2018) further assert that despite the Tanzanian government introducing reforms in the capitation grants policy, the program has experienced inconsistencies in terms of what is received by the schools and what they are actually supposed to receive. In Kenya, Owuor, Gudo and Onditi (2016) observe that presently, the disbursement of the capitation grant is not enough and is not given on time thus failing to realize educational goals and objectives.

The adequacy of the capitation grant to the public schools has also been brought into question. While carrying out a study on the adequacy of the grant allocation to primary schools in Tanzania, Haki Elimu (2010) notes that the amount that actually gets to the schools has been systematically lower than the amount stated in the cabinet policy developed and the challenge is further compounded by a lack of effective monitoring at the school level. A case in point was that in the financial year 2013/4 period, while Tshs 79, 090 had been budgeted and approved by the cabinet, only Tshs 35,230 per child had been disbursed to the school to buy all the required stationary. To compound the challenge the amount was disbursed late towards the end of the academic year and this means that school administrators were not able to buy the requisite school material on time and this affected the school performance.

The academic performance of a school is directly influenced by the reliability of capitation grants. Negatively affected education system by extension affects the society since education helps in generation of knowledge and skills that is aimed at the development of an individual

and a nation socially, politically and economic. Furthermore, education helps in the improvement of an individual values and ethics. Consequently, for schools to undertake their function well, the government should set a well-organized financing plan aimed at providing all required facilities like well trained teachers, laboratories and libraries. Failure to disburse the required financing on a timely manner will affect the delivery of the said services and expected to have negative effect on the school performance.

A study conducted by A study conducted by Owuor, Gudo and Onditi (2016) shows that the introduction of the FPE and the accompanying fiscal capitation had resulted in increase of the pupil population by over 84% in the year 2015 as compared in 2005 but the same has not been accompanied by increase in infrastructure development in the respective schools. The result of this positive change in pupils' enrolment is that Pupil-Teacher Ratio in public primary schools is 58:1 against the recommended PTR in Kenya of 40:1 (Ministry of Education, 2020). This is a manifestation of a weakness in the existing capitation grant arrangement that has not adjusted well with the changes in the pupil population.

The introduction of the FPE and the accompanying fiscal capitation had resulted in increase of the pupil population by over 84% in the year 2015 as compared in 2005 but the same has not been accompanied by increase in infrastructure development in the respective schools. The result of this positive change in pupils' enrolment is that Pupil-Teacher Ratio in public primary schools is 58:1 against the recommended PTR in Kenya of 40:1 (Ministry of Education, 2020). This is a manifestation of a weakness in the existing capitation grant arrangement that has not adjusted well with the changes in the pupil population.

Owuor et al (2016) further observe that though the government has increased its capitation amount, the performance of some areas like Seme Constituency is still below 250 marks and

thus recommended that the government should remove all costs relating to schooling by increasing the fiscal grant financing. However, the best student performance increased from 378 marks in 2008 to 416 marks in 2014 and the number of students attaining over 350 marks increased by 72% over the period. It can therefore be concluded that owing to the FPE capitation grant, performance of the pupils had been improving. These findings are similar with the findings of Ontario; Dooley, Payne, Robb, (2013) in United States of America, where they also found that first-year (entrance) scholarships and bursaries at both universities' effects positively the student grades and credits earned.

2.3.2 School Characteristics

Academic performance assessments for sponsored kids are uneven when it comes to the link between school resources and academic accomplishment. According to Akomolafe (2013), the student-to-teacher ratio has a significant impact on pupils' performance. Pupils who attend schools with a student-to-teacher ratio of 20 or more are 1.8 times less likely than students who attend schools with a ratio of 10 or less to have poor academic performance (Parcel &Dufur,2001). It is impossible to overstate the importance of human and material resources in improving educational outcomes, which include factors such as school infrastructure, class size, teacher experience and qualifications, and the availability of instructional leadership skills, which have been emphasized primarily in low-income countries (Bacolod & Tobias, 2005). According to Thiele, Singleton, Pope and Stanistreet (2016), the role of schools and proxies for school quality in explaining advances in student achievement in developing countries has not been fully supported by school characteristics. One use of the capitation transfers is to employ qualified temporary teachers to mitigate adverse effects of teacher shortages in many public schools in Kenya and other low-income

countries thereby improving pupil teacher ratio. Timely and reliable release of capitation transfers help reduce pervasive school characteristics such as shortage of teachers, textbooks and classrooms that hinder performance hence can lead to good examination scores (Ogweno, Kathuri& Obara, 2014).

Among the school variables that influence performance, class size has received the most attention in educational policy research; however, the effects of class size on school achievement are inconsistent. According to Wobmann and West (2006), smaller class sizes were related with worse student performance in math and science, despite Lindahl (2005) discovering that some minority and economically disadvantaged groups in Sweden benefited from smaller classes. In worldwide comparisons, smaller teacher-student ratios have failed to provide any significant gains in academic accomplishment. The average teacher salary and fully accredited teachers in a school has been found to influence the performance of students in a school. Liu and Cavanaugh (2018) assert that one would expect that schools with fully accredited teachers will register higher student achievement since these teachers would be expected to be better trained and experienced. New teachers in the teaching profession can be expected to realize a lower student performance because of a limited experience as opposed to experienced teachers that bring new teaching technique and excitement in the profession.

Teacher quality and passion are essential inputs in educational production for better educational results. As a cost benefit of the quantity-quality trade-off in teacher recruitment it appears that allocating limited educational resources to employing more competent teachers rather than lowering class sizes may be a preferable strategy, and that effective teaching is more potent than class size (Rubright, Jodoin& Barone 2019). Schools that receive timely and reliable capitation transfers can plan better to address the twin challenges of teacher

shortages and overcrowded class sizes, both of which are possible barriers to achieving good examinations scores.

2.3.3 Students' Characteristics

Student well-being, impressions of the school environment, motivation, participation in scholastic and extracurricular activities, and efforts, as well as students' perceptions of parental support and engagement, all have an influence on student academic achievement (Sutton & Soderstrom, 2001). School conditions, social ties, resources for self-fulfillment, and health status are described as four categories of student well-being dimensional phenomenon by Ndungi (2012). These attributes have an impact on students' school conduct as well as their grades. Timely and reliable capitation transfers to schools help the school management to put in place elaborate extra curriculum activities such as sports and performing arts, which improve social relationships, health and self-fulfillment of students.

In schools, students' well-being is influenced by a variety of variables, including their views on school rules and regulations, as well as their relationships with their instructors and classmates. Academic outcomes are also influenced by scholastic activities and individual efforts. Regardless of IQ, students must devote time to completing assignments, project work, home work, and class work in order to improve their grades (Bellur, Nowak & Hull, 2015). The amount of time spent on homework and other associated activities has also been linked to a student's drive to succeed, with these sentiments having a favorable impact on academic accomplishment. As a result, individual academic achievement in national examination scores is strongly linked to school attendance. It therefore follows that when government design and implement timely and reliable capitation transfers policy, student time spent on class activities is guaranteed.

2.4 Empirical Review

2.4.1 Global Empirical Review

Awonong (2018) undertook research to determine the impact of capitation grant on school enrolment and academic performance of pupils in the Sagnarigu District of the Northern Nigeria. A cross –sectional research was employed on 150 secondary schools in the region with a purposive sampling adopted to select the teachers, district education officers and head teachers that formed the respondents. The findings suggest that there was an increased enrolment of boys and girls upon the introduction of capitation by the government. The results also show that upon increase in the capitation, the performance of students in the secondary examinations improved by 1 % and at the same time financed school overall activities such as sports, culture and acquisition of teaching and learning materials. To improve on the utilization of the government capitation grant, the study recommended that the school committee and parents should be involved in decision making relating to the same. This same position supports that of Mwanzalila (2013) who while investigating the role of capitation in the quality of education in Tanzania advocated for a more participative approach to the utilization of the funds.

Essuman (2019) conducted a study to assess the past, realities and feasible choices fee-free Secondary Education in Ghana. The research involved a discussion with stakeholders in the education sector, namely; development partners, MOE agencies and education scholars. It also involved the review of journal articles on education financing in general and in particular, financing secondary education in selected developing countries. The research findings reveal that the challenge of finding adequate resources has led to undue delays and inconsistencies in the timing of release of funds to schools and lack of

infrastructure, teaching and learning materials well as teacher supply. Further, the research suggests that for improved performance in schools, the government should adopt a gradualist approach or a phased implementation of the programme to prepare all the stakeholders and for the school stakeholders to absorb change in the financing model.

The realization of the importance of governance effectiveness in the utilization of the government capitation grants was highlighted by Mzee (2017). In a study that sought to establish the governance effectiveness on capitation grant and education outcomes in primary schools in Morogoro, Tanzania, The research employed a descriptive research design with the quantitative data being supplemented by qualitative data on capitation grant disbursed between 2007/08-2011/12. Qualitative face to face interviews were held with 11 key informants selected purposively based on their positions and locality: six Chairpersons of the school committees, three Ward Education Coordinators, one officer from the District Education Office, and one officer from the Municipal Education Office. The study established that school committees did not comply with spending rules due to inadequate CG with the school heads being given greater lee way in the administration of the funds. A position arrived by Wei, Clifton and Roberts (2012) in an earlier study in Canada. Coupled with a lack of financial management knowledge by the SC, the utilization of the funds was below expectation and this affected the performance of the schools. Further, the findings reveal that adherence to good governance principles was not enough because SCs did not guarantee maximum effectiveness, rule of law and accountability in capitation grant spending?

Osei et al. (2009) looked into the effect of the capitation award on educational outcomes in Ghana. The goal was to see how the capitation grant influenced pass rates, gross enrollment

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ratios, and gender disparities in pass rates on the Basic Education Certificate Exam (BECE). The research examined data from the Ghana Education Service for all 138 school districts in Ghana between 2003 and 2007. The research found that the capitation grant had no effect on BECE pass rates in Ghana, that there was no link between the capitation grant and gross enrolment, and that the capitation grant had no effect on bridging the gender gap in BECE pass rates.

In Rwanda's Rubavu area, Augustin (2016) investigated capitation grant administration and secondary school performance. The research methods utilized in this study were documentation and questionnaires, which assisted the researcher in collecting primary data from the public by asking questions that were developed according to the research hypothesis. Through survey and statistical research design, this study incorporates both qualitative and quantitative data techniques. The study's target group included 30 principals, 30 PTA presidents, and 618 instructors. The schools were chosen via stratified and random selection based on their location, which included both rural and urban locations. The sample size of the respondents was determined using Bouchard Alain's technique, and the teachers were chosen using convenience sampling. SPPS was used to evaluate and interpret the data once it was collected (statistical package for social sciences). The data indicated that capitation grant management and school performance had a favorable significant association. Based on the data, the researcher found that effective utilization of capitation grants had a substantial impact on school performance, with a correlation of 0.673 and a p-value of 0.000.

Sitati (2014) investigated the impact of eliminating primary school school fees on student involvement and academic achievement. The study compares child engagement and academic achievement before the implementation of FPE in 2003 and after the

implementation of FPE through the year 2013. The study discovered that, on the one hand, child engagement has expanded dramatically since the commencement of FPE, but national academic achievement remains below the national average of 250. Regional differences in academic achievement and child involvement were discovered in the study. The report proposed eliminating all costs associated with schooling so that education is fully free to ensure child participation in elementary education.

Countries all across the world are making significant and positive progress in lowering the number of children who are out of school. In particular, between 1998/99 and 2002/03, enrolment in Sub-Saharan Africa increased by a staggering 25%. (Al-Samarrai, Cerdan-Infantes and Lehe, 2019). Sub-Saharan African countries have been looking at methods to improve their education systems in order to meet their promise to universal education. Governments and aid agencies alike are paying close attention to ensuring that children have access to free, compulsory, and high-quality education. The removal of school fees is one of the key techniques used by several governments to attain this goal. Many research on the influence of various systems on educational results have been undertaken (Augustin, 2016).

The capitation grant establishes a straightforward system for ensuring that funding for quality improvements reach the school level; in other words, "money follows kids." Its main goals include making actual resources accessible at the school level to replace money lost to schools due to the elimination of fees (Emerson, Nabatchi & Balogh, 2019). The time it takes for money to go from one source of financing to the next is cut in half. Both before and after independence, the education sector was extensively examined, and the country is awash with research papers, academic monographs, and reports from national committees, commissions, external consultants, missions, workshops, and seminars. There is no end of excellent,

terrible, or indifferent proposals, and there is a high level of understanding of the challenges and restrictions, but these suggestions do not appear to be turned into meaningful action. There is a big difference between what people say and what they do (Badara and Saidin, 2018).

2.4.2 Local Empirical Review

Mbogo, Khatete Ibrahim and Jumba (2022) conducted a study to establish the influence of financial resources adequacy on quality of education in Public Day Secondary Schools in Embu County, Kenya. The research employed a correlation research design with stratified and purposive sampling technique being adopted. In total, the research sampled 35 school principals and 394 students. The researchers employed a mix of data collection instruments consisting of questionnaires, interview guide and checklist forming the dominant instruments. The findings reveal that parents of day-public secondary schools were expected to meet the costs of lunch, transport, uniform and stationery while the government came out as the main financier of the school operations. The results also highlight that the major challenge faced by the schools on the part of government financing was the timeliness and lateness of the funds. As a result, the study found that there exists a statistically significant relationship between the adequacy and timeliness of the government funds with the performance of the day secondary schools. This finding is in support to that arrived by Evans, Gale and Kosec (2021) in Tanzania who found that conditional cash transfer programme increased performance of students and participation by between 12- 15 percent points and student completion rate by between 13-16 percent points. To further improve school performance, the study recommends that the government includes lunch capitation as

well as finance bicycle as a mode of transport to the girl child to quicken their arrival to schools.

The internal school factors that hinder pupils' participation in mobile schools in Mandera was carried out by Jillaow, Momanyi & Mwalw'a, (2020). The research was based on Rights-based theory and employed cross-sectional survey research design. The results reveal that the mobile-based school model increased enrolment in primary education and the overall performance of the schools increased in terms of male pupil enrolment as campared to female. In line with findings of Dyer (2015), the study established that not all pupils complete their education at the school of initial admission due to livestock herding, early marriages and transfers to other schools. Majority of the pupils in mobile schools transited to sedentary schools. Reliability of government and parent financial support was also found to be wanting and this affected the overall performance of the schools. Further, the study findings reveal that school performance based on the mobile model was hampered by school leadership, insecurity and inadequate teaching and learning resources. The study recommended that the government should review Capitation grants, curb terrorism, and recruit teachers from the local community as a long-term measure to adequate staff and improve the school performance.

The implications of a capitation grant on the implementation of free primary education in Kenya were investigated by Owuor, Gudo, and Onditi (2016). The study was conducted using a descriptive survey design using both qualitative and quantitative data collection approaches. The study included 86 head teachers who were chosen purposefully and proportionally, as well as 269 instructors who were chosen using a basic random selection approach. Questionnaires were handed to instructors, and head teachers were also

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interviewed. These respondents provided both quantitative and qualitative information. Quantitative data from questionnaires was examined using descriptive statistics and the Pearson correlation test in SPSS version 22, while qualitative data was thematically analyzed using content analysis in the theme analysis. According to the survey, more than three-quarters of respondents agreed that the school dropout rate had decreased considerably as a result of the capitation award. The majority of responders who strongly agreed with the statement also noted an increase in the enrolling rate. More than half of the respondents also agreed that the school retention rate had improved considerably as a result of the capitation award. With $r = 0.723$ at $P<0.05$, the Pearson correlation test revealed a high positive link between FPE capitation grant and pupils' enrolment rate of the selected schools in Seme Sub-County.

The dominant position has been that the government should endeavor to increase its funding for primary education, more so, in developing countries as Kenya. Bold, Kimenyi, Mwabu, and Sandefur (2015) conducted a study to evaluate whether free provision of primary school education can actually result in reduced demand for public services, in Kenya. The research methodology was cross-sectional and based its data on household surveys conducted by the KNBS between 2008 and 2014. Desktop research design of government policy documents and publicly available data was employed. The results show that policy shifted to offering free primary education, the demand for free schools stagnated as witnessed in 2003. However, in the private schools, enrollment increased and this was attributed to the more affluent parents who could not withstand the increased enrollment by poorer children. These shifts had mixed distributional consequences. Enrollment by poorer households increased, but segregation between socio-economic groups also increased. The shift was also found to

be as a result of decreased per student funding and which reduced the quality of education (Filmer & Schady. 2011).

Kilonzo (2007) investigated the impact of head teacher-related factors on the implementation of free primary education in Machakos District's Yatta division. According to Kilonzo (2007), 92.5 percent of parents were unwilling to pay school levies, and the similar attitude is likely to persist in secondary schools. Some crucial aspects that make learning in schools run smoothly were left out of the government financing. Infrastructure development (classrooms, libraries, and laboratories, for example), the provision of meals to students while they are in school, and the purchase of school uniforms are all examples of such areas. However, many parents are unwilling to pay any fees to the schools because they believe the government provides free education. Even with adequate and timely financing, socioeconomic issues in the surroundings may hinder enrolment and retention.

Wanyonyi (2004) conducted research on the elements that influence the delivery of free primary education in Nairobi. Despite the advent of free primary education, he discovered that school dropouts still existed. Early marriages, pregnancies, domestic obligations, parental carelessness (discipline), and peer pressure (lack of interest in school) are all variables that contribute to school dropouts, according to that research.

2.5 Conceptual Framework

A conceptual framework is a model that gives further details on the relationship and structure of study variables. Fig. 2.1 below not only offers a guidance framework for the interconnections between variables but also allows the researcher to achieve the research goal mentioned

The capitation grant is represented by the timeliness, reliability and adequacy. On the other hand, the control variables are represented by size of the school as measured by number of pupils and the accredited number of teachers. The dependent variable is represented by the mean scores of a school in the national examination.

Independent Variable
- Timeliness
- Reliability
- Adequacy

School Performance score

Control Variables
- School Size
- Accredited Teachers

Independent variables

Dependent variable
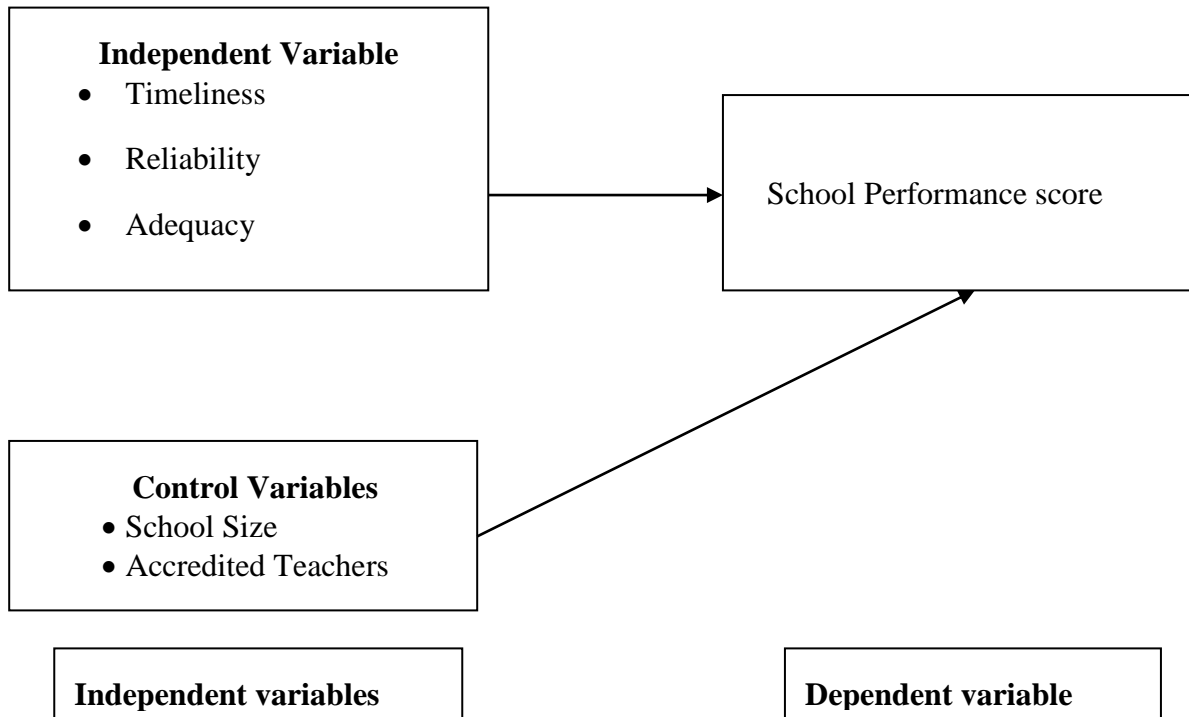
Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

This section reviewed the literature relating to capitation grant and student outcomes. The review shows that majority of the studies are done in different economic conditions from the current study. The studies done locally have focused on different concepts other than capitation grant and examinations outcomes. Further, the studies have been based on different contexts other than primary schools. The studies also adopted other methodologies

different from the ones adopted in the current study. This shows that knowledge and research gaps exist in the area of capitation grant and examination outcomes especially in Arid and Semi-Arid (ASAL) areas such as North Horr. From the outcomes, positive, negative or non-significant relationship between capitation grant and examination outcomes has been established.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section contains the various methodological processes and procedures to be followed in the research study. It presents the research design, empirical model, study population, sampling technique, and collection of data procedure and the analysis of data

3.2 Research Design

Research design, based on Sekaran and Bougie (2013), relates to guidelines relating to the achievement of objectives with minimal distraction. According to Glass and Hopkins (1984), 'descriptive research involves collecting data that "describes events, organizing it, tabulating and describing the data collected. Descriptive research design is useful in establishing relationships between variables and is therefore relevant for this study. Consequently, since the study sought to establish the relationship between two variables, capitation transfers and academic performance of primary schools in North Horr Sub County. Hence the data was collected and analyzed the way it is without researcher manipulation.

3.3 Population of the Study

Saunder et al. (2014) defines a population as a complete count of all elements under investigation. The elements display similar characteristics to the researcher. The population for this study was 24 public primary schools in North Horr Sub County. No sampling was done and census design was used as all the 24 public primary schools were involved.

3.4 Data Collection Instruments

The study utilized both secondary data sources and primary data to be collected from the school administrators. The Secondary data was obtained from the official Basic Education

Information Management Systems (BEMIS) and Education Statistics Year Books as published by the Ministry of Education, Science and Technology. The secondary information to be collected included the period when the funds was disbursed against the stipulated period, the amount advanced against the approved amount and reliability of the disbursement. In addition, the primary data be collected include number of pupils in the school, the board of management recruited teachers and the accredited teachers deployed by the Teachers Service Commission. The researcher got a research permit from the county government of Marsabit, Ministry of Education, Science and Technology and introduction letter from the University of Nairobi. Copies of these would be attached to the questionnaire and interview guide.

3.5 Diagnostic Test

The suitability of the data was examined by testing normality as well as existence of multicollinearity for the variables. In current research, normality was tested using Shapiro-Wilk and Kolmogorov-Smirnov Test. Shapiro-Wilk Test is suitable for sample sizes that are small like in this study. Test of multi-colinearity evaluates the high correlation of independent variables. It is when two or more predictors are extremely linked in the model contributing to inaccurate and uncertain measurements of regression coefficients and therefore bizarre outcomes in studying how easily the independent variable is understood. To test the level of correlation Wooldridge F-statistic serial autocorrelation analysis will be undertaken. Serial correlation test was done to test the level of correlation. Heteroscedasticity test was used to inspect if there is dissimilarity in residual variance of the period of observation to another (Godfrey, 1996).

3.6 Data Analysis

SPSS version 22 was used in analysis of the data. The association between the variables was established with correlation analysis. Also used to delineate variable features are descriptive statistics, for example the average and standard deviations. The regression analysis shall be used to determine the link between capitation transfers and school performance among primary schools in North-Horr Sub-County, Marsabit County.

3.6.1 Analytical Model

The data was analyzed using descriptive and inferential statistics. The SPSS v 25 was used to generate the statistics. Regression analysis was used to establish the relationship between variables. The model of analysis assumed the following form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu$$

This is represented in Table 3.1.

Table 3.1: Research Variables

Type	Variable	Definition
Dependent	School Performance (Y)	Average score / Total Marks
Independent Variables	Timeliness (X_1)	Number of days delayed / School days in a year
	Reliability (X_2)	Actual disbursement / Expected disbursement per term
	Adequacy (X_3)	Total amount disbursed p.a / Policy amount per annum
Control Variable	School Size (X_4)	Log of total number of pupils
	Teacher Competency (X_5)	BOM teachers / Total number of teachers in the school
β_0	Y intercept	
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$	coefficients of X	
μ	Error Term	

Significance of the model was tested using F-statistics generated through analysis of variance. The significance was tested on the 95% confidence level.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The chapter covers the analysis of data, presentation of the study findings, interpretation and discussion of the findings. Analysis of data followed the procedures highlighted in the previous section with emphasis of the outcome that was fashioned towards achieving the objective of the study. The processes of data analysis comprised of descriptive and inferential statistics.

4.2 Descriptive Statistics

The purpose of computing descriptive statistics was to offer a summary of the data in a format that would make it possible to understand the data appropriately. The statistics that were taken into consideration for this investigation comprised measures of dispersion in addition to the measures of central tendency, which included the mean, the minimum, and the maximum. In regard to the research findings, the measures of dispersion give a summary as well as the nature of spread; however, the measures of central tendency provide an extensive review of the study data around the central points. The data collected ranged from 2012 to 2021.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Performance	270	.23	.66	.4804	.06897
Timeliness	270	.16	.48	.2390	.09635
Reliability	270	.62	1.11	.9240	.15930
Adequacy	270	.52	1.24	.9590	.21391
Size	270	1.18	2.85	2.4210	.26231
Teacher competency	270	.33	.731	.5667	.14216
Valid N (listwise)	270				

Source: Research Data (2022)

The descriptive results above suggest that the performance of the schools ranged from 0.23 and 0.66 with the average results being 0.4804. The performance of the primary schools was measured by dividing the average scores of primary schools by the overall marks of 500. The lowest and the highest mean score was 115 marks and 330 marks respectively, and the average marks of all the schools over the 10-year period was 240.2. With the $.06897 < SD < 1$, the results suggest that the mean scores of the primary schools did not differ much over the years. Timelines of disbursement of school capitation was measured by a ratio of number of days the capitation amount delayed from the opening of schools in a particular year to the school days in that particular year. The results suggest that the mean of 0.2390 (87 days cumulatively) in the year did not significantly vary between the earliest and the latest the disbursement was made in an academic year since the standard deviation was < 1.

The reliability of the school capitation disbursement was measured by a ratio of actual disbursement to the expected disbursement per term. The results suggest that the lowest

disbursement received over the period represented 62% of the expected amount in a particular period while the maximum amount registered was 111% (1.11) of the expected amount. Consequently, the mean result of .9240 implies that over the period, the government has not been able to meet the targeted disbursement but rather 92,4% of the amount, has on average, been achieved per year.

The adequacy variable was measured by a ratio of the total amount disbursed per year to the stipulated policy amount per annum. The results reveal that the minimum amount received over the period was 52% of the total expected in the period and the average disbursement stood at 95.9%. Since the standard deviation in the results was all less than 1, it implies the variance between the highest recorded school capitation amount and the lowest amount realised was small.

The research adopted two measures as control variables, namely; school size and teacher competency. The size of the primary schools considered was measured by a log of the total number of pupils. The result is such that the mean was 1.18 and the highest measure is 2.85. The mean of 2.421 and SD< 1 shows that the variation of the number of pupils in the schools over the period was minimal. The staff competency in the schools was measured by a ratio of BOM teachers to the total number of teachers in the school. The results on this measure suggest that the school with the lowest number of BOM teachers was when they had 33% of the total number teachers. On the other hand, the maximum number registered was when 73.1 % of the teachers were BOM recruited. On average slightly over half of the teachers in the schools were BOM (56.7%).

From the descriptive statistics measures, it can be deduced that the performance of the primary schools in North Horr Sub-County was slightly below the median marks of 250 out of the possible 500 marks. The timeliness of the cash transfer to schools was also not on time since on average, the cumulative number of days that the government delayed in disbursing the cash over the year was 87 days though the delayed period in the three terms in an academic calendar was constant in between the terms. Further, the amount disbursed over the period was not meeting the stipulated policy target since only around 92.4% of the expected amount in a given year was achieved. Similar result was realized in relation to the adequacy measure which sought to determine the capitation amount met in a year which shows that 95.9% having been achieved over the period.

4.3 Trend Analysis

Trend analysis is a technique that uses historical data to analyses the behaviour of a population data using past events and also help predict the future. The study collected data from ten academic years in order to forecast future behaviour of the variables under evaluation. The trend behaviour of the variables is as presented in the figures that follow.

4.3.1 Performance

The school performance was measured by a ratio of the total average marks in the school against the possible 500 marks. The results relating to school average performance marks over the period is presented below.
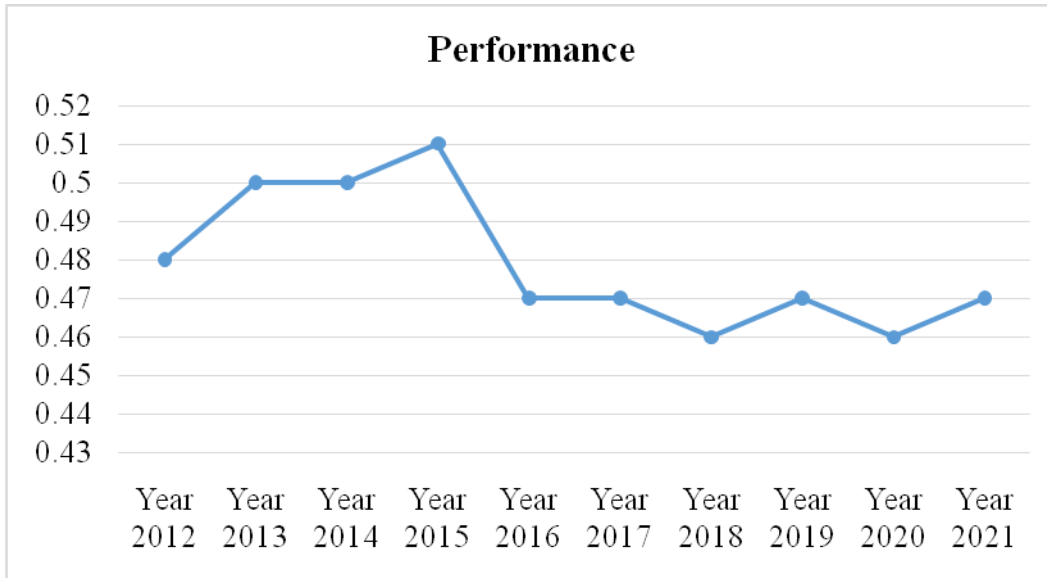
Figure 4.1: Performance

The performance results in Figure 4.1suggests that the highest performance was registered in 2015 when the average score in the schools was 51%. Since then, the schools' performance has declined to the minimum score of 46% of the total possible 500 marks in 2018 and 2020. Generally, the performance of the primary schools has been in a downward trajectory since 2015.

4.3.2 Reliability

The reliability of the capitation transfer was measured by the actual disbursement against the expected disbursement as per the policy stipulation. The trend of the reliability variable is presented in the Figure 4.2.
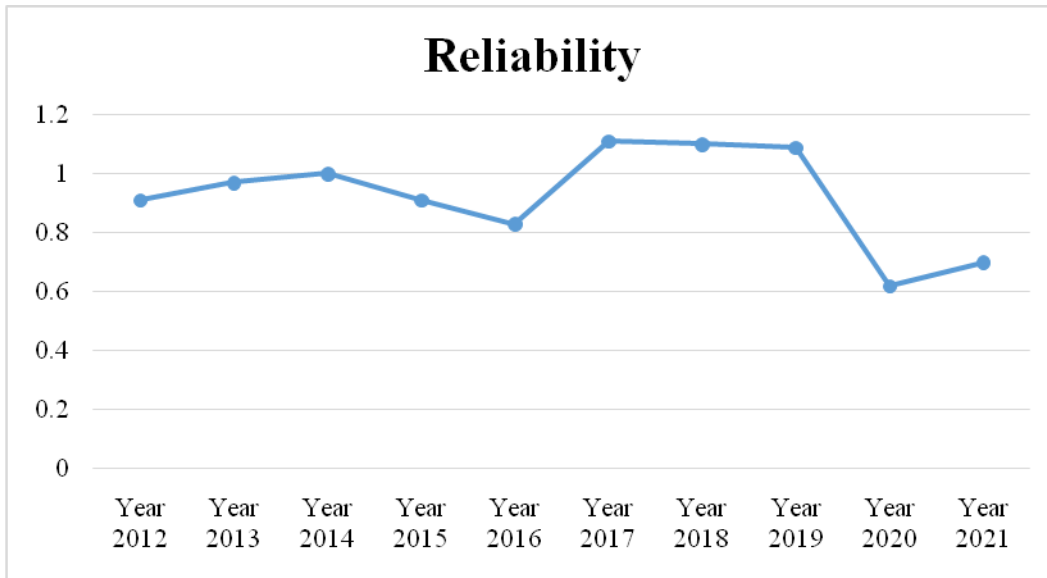
Figure 4.2: Reliability

The reliability of the fund's transfers suggests that, the government has maintained a consistent trend for the 2012 – 2016 period but improved their reliability for the period 2017 – 2019. However, in 2020, the amount transferred registered its lowest value of around 60% of the stipulated amount as per the policy in that financial year. This could be attributable to the Covid-19 pandemic when there was national wide school closure.

4.3.3 Adequacy

The adequacy of the capitation transfers was measured by the total amount of funds transferred in a particular year against the total amount that was expected to be disbursed. This measure helped to assess whether the schools had the necessary financial support from the government in a particular period. The trend position is presented below.
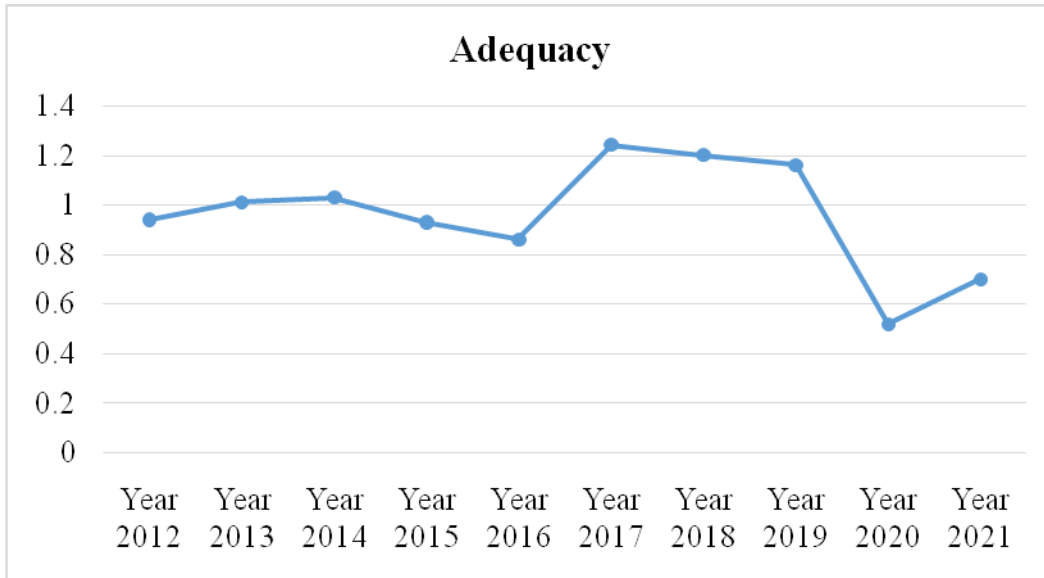
Figure 4.3: Adequacy

The adequacy of the capitation grants depicts a similar trend to of reliability, it was relatively constant between 2012 and 2016 with a marginal variation. However, a market improvement was registered between 2017 and 2019, and decline in 2020. This decline in 2020 is explained by the closure of schools due to Covid-19 pandemic.

4.3.4 School Size

The school size was measured by the total number of pupils in a particular year in the North Horr Sub-County. The results are presented below.
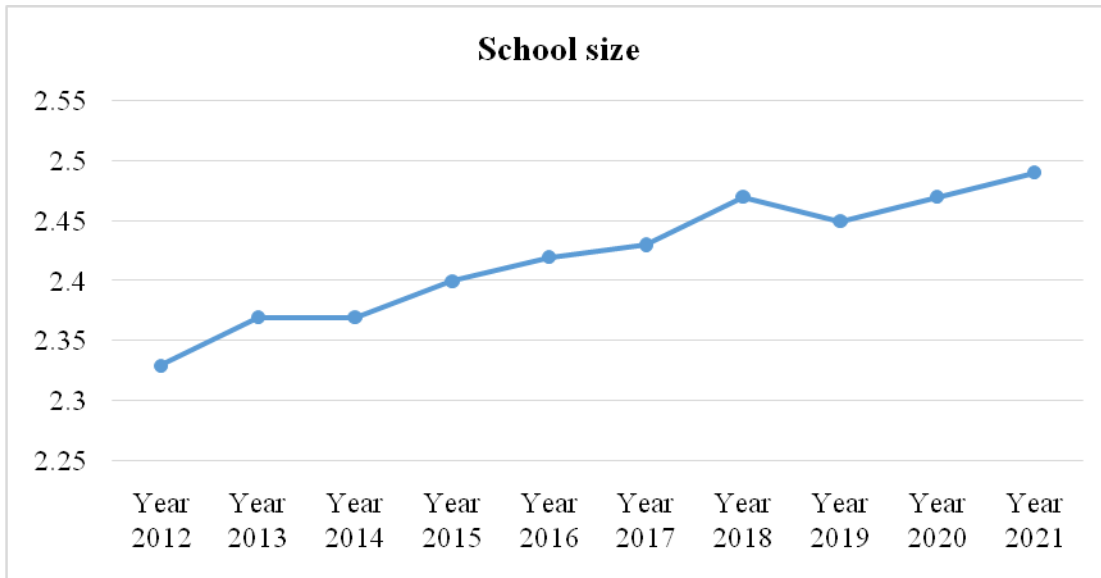
Figure 4.4: School Size

The trend depicting the school size suggests that the was an increase in the number of pupils in the respective primary schools. This increase can be attributed to the introduction of free primary school in Kenya in 2003. As a result, the government paid for all school requirements through capitation.

4.3.5 Teacher Competency

As a control variable, teacher competency as measured by the ratio of BOM teachers to the total number of teachers in the primary schools suggests that between 2014 and 2017, the number of BOM teachers was the highest. However, from 2017, the number of BOM teachers was reduced across the schools with an exception of 2020 when there was slight increase in the number of BOM teachers and then reduced in 2021. These results are presented in Figure 4.5
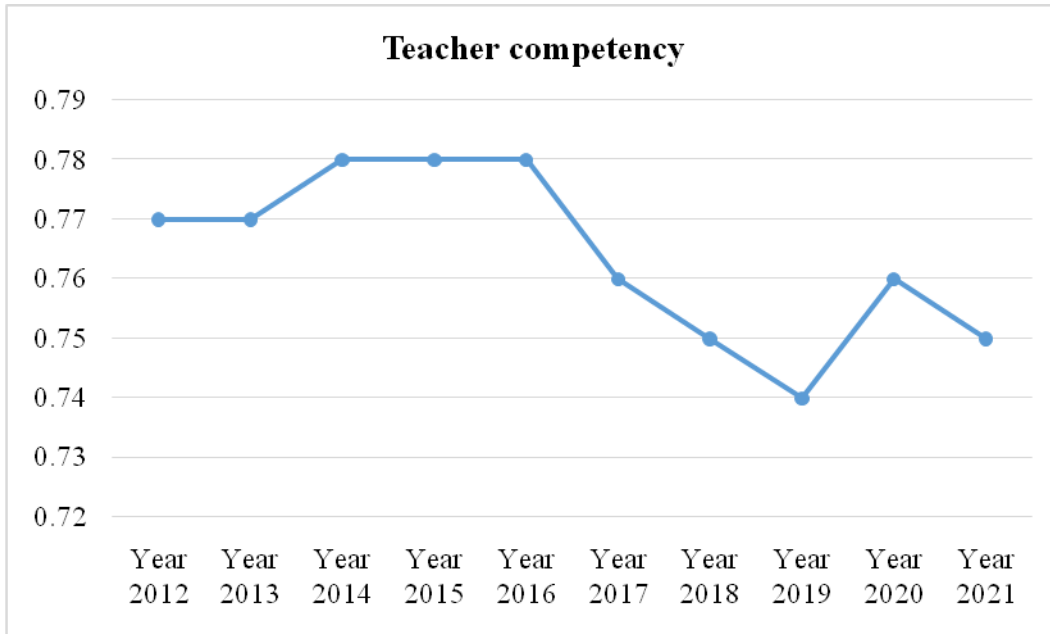
Figure 4.5: Teacher Competency

Overall, the trend of the various measures of capitation suggests that there is a correlation between the reliability, adequacy, timeliness, teacher competency and the school size on the performance of the schools. The trend over the ten-year period reveals that as the adequacy of capitation amount reduced the school performance also declined. Likewise, as the number of pupil ration increased and so the need to recruit BOM teachers increased, the quality of education as reflected by the school performance also declined.

4.4 Diagnostic Test

In order to determine whether or not the primary data that was gathered was suitable for analysis, a diagnostic test was carried out. As diagnostic tools, the normality test, the heteroscedasticity test, the multicollinearity test, and the serial correlation test were conducted.

4.4.1 Test of Normality

Normality tests are done to establish the distribution of data based on the skewness and kurtosis. An appropriate data for appropriate findings has a normal distribution. However, in majority of studies with sample size greater than 50, Shapiro Wilk test is used. The Shapiro-Wilk test was used in order to ascertain whether or not the data that were gathered were representative of a normal distribution. This included the school performance, reliability, timeliness, adequacy, and school size and staff competency. The data in relation to a given variable is said to be normally distributed if its significance value is less than 0.05.

Table 4.2: Test of Normality

<table>
<tr><td></td><td colspan="6" align="center">Tests of Normality</td></tr>
<tr><td></td><td colspan="3" align="center">Kolmogorov-Smirnova</td><td colspan="3" align="center">Shapiro-Wilk</td></tr>
<tr><td></td><td>Statistic</td><td>df</td><td>Sig.</td><td>Statistic</td><td>df</td><td>Sig.</td></tr>
<tr><td>Performance</td><td>.101</td><td>270</td><td>.000</td><td>.943</td><td>270</td><td>.000</td></tr>
<tr><td>Timeliness</td><td>.230</td><td>270</td><td>.000</td><td>.746</td><td>270</td><td>.000</td></tr>
<tr><td>Reliability</td><td>.165</td><td>270</td><td>.000</td><td>.885</td><td>270</td><td>.000</td></tr>
<tr><td>Adequacy</td><td>.146</td><td>270</td><td>.000</td><td>.909</td><td>270</td><td>.000</td></tr>
<tr><td>Size</td><td>.090</td><td>270</td><td>.000</td><td>.911</td><td>270</td><td>.000</td></tr>
<tr><td>Teacher competency</td><td>.098</td><td>270</td><td>.000</td><td>.970</td><td>270</td><td>.000</td></tr>
</table>

a. Lilliefors Significance Correction

Because the significance values for all the variables in the data analysis with regard to the normality test were less than 0.05, the results of the regression analysis were unaffected by the challenge of data abnormality. This indicates that the data values explaining the variables in the questions were normally distributed. The challenge of data abnormality did not affect the results of the analysis.

4.4.2 Test of Multicollinearity

When one or more of the independent variables are connected to one another in such a way that when one changes, it influences the findings of the other independent variable, creating a degree of dependency even though they should be independent, this is known as multicollinearity. Availability of multicollinearity among the variable residuals poses a problem in the model since each independent variable cannot be correlated with each other. The presence of multicollinearity decreases the model's reliability when it is produced from data. Using the variance inflation factor (VIF) approach, it was determined how multicollinear the variables under examination were. The null hypothesis of VIF is based on the presumption that values vary between 1 and 10, and that when values go closer to 10, multicollinearity problems become more prevalent.

Table 4.3: Test of Multicollinearity

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Timeliness	.629	1.590
Reliability	.008	2.283
Adequacy	.008	2.552
Size	.954	1.048
Teacher competency	.956	1.047

a. Dependent Variable: Performance

From the findings, it is evident that VIF values obtained fell in the recommended bracket 1-10. Furthermore, the values are close to 1 implying that there is little or no multicollinearity in the data values and thus no effect on the regression model for prediction of the outcome variable as a result of multicollinearity.

4.4.3 Serial Correlation

To determine if the sample variables are continuously auto correlated with their residuals is the goal of autocorrelation, sometimes referred to as serial correlation analysis. A popular indicator of serial correlation is the Dublin Watson serial correlation, which has a decision criterion that the DW statistic ranges between 1 and 4.

Table 4.4: Serial Correlation

Autocorrelation

Test	Statistic
Dublin Watson	1.713

a. Predictors: (Constant), Teacher competency, Adequacy, Timeliness, Size, Reliability

b. Dependent Variable: Performance

The findings as per the Durbin Watson serial correlation test above indicate that the DW value is 1.713 which is equivalent to 2 implying that there no serial correlation. Therefore, the finding implies that the outcome of regression analysis is free from serial correlation

4.4.4 Heteroscedasticity

Heteroscedasticity measures the level of variability between an independent variable and the dependent variable across the data set collected. The decision criterion is such that if the variable measure is more than 0.05, then there is minimal variation across the data and also that with less than 0.05 shows absence of heteroscedasticity.

Table 4.5 : Heteroscedasticity

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.167	.048		3.459	.001
Timeliness	.005	.031	.011	.147	.883
Reliability	-.038	.165	-.148	-.230	.818
Adequacy	.030	.122	.160	.249	.803
Size	-.034	.009	-.216	-3.578	.000
Teacher competency	-.040	.017	-.140	-2.323	.021

a. Dependent Variable: Abs

From the findings, the significance values in relation to school size and teacher competency are less than 0.05 and thus implying that there is no presence of heteroscedasticity. However, timeliness, reliability and adequacy have p-values > 0.05 and therefore implying that there is presence of heteroscedasticity However, this research took appropriate measure of establishing an average of the residual variable to do away with a data value that had the traces of heteroscedasticity.

4.5 Effect of Capitation Transfers on School Performance

The effect of capitation transfers on school performance among primary schools in North-Horr Sub-County, Marsabit County was determined using a regression analysis consisting of model summary, Anova and the regression coefficients.

4.5.1 Model Summary

The model summary of a regression analysis explains the correlation between the dependent and independent factors. Additionally, the model presents the coefficient of determination which explains the percentage effect realized on the outcome variable courtesy of the explanatory variables.

Table 4.6 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.353a	.125	.108	.06514	1.713

 a.   Predictors: (Constant), Teacher competency, Adequacy, Timeliness, Size, Reliability
b. Dependent Variable: Performance

From the findings, it is evident that the effect of capitation transfers on the school performance is weak with a correlation of r = 0.353. Further, the results show that in total, all the five independent variables representing capitation transfers and control variables explains only 12.5% of the school performance ($R^2 = 0.125$).

This findings suggest that other factors that might determine school performance explain 87.5% of the variable.

4.5.2 ANOVA

Analysis of variance (ANOVA) presents the significance of the model in relation to goodness of fit of the model. In this respect, the ANOVA model determines if the regression model is a good fit for the regression data. The decision criterion is based on 5% significance level hence giving a 95% level of confidence.

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.159	5	.032	7.512	.000b
	Residual	1.120	264	.004		
	Total	1.280	269			

a. Dependent Variable: Performance

b. Predictors: (Constant), Teacher competency, Adequacy, Timeliness, Size, Reliability

The findings show a significance level of 0.000 which is less than 0.05. The findings thus imply that the model is a good fit for the regression data and therefore the regression model is significant for predicting the outcome variable given the specific units of the predicting variables.

4.5.3 Regression Coefficients

The regression coefficients help in determining individual variable effect on the outcome variable. The Beta coefficients attached to each variable shows the magnitude of effect on the outcome variable or the relationship between the dependent and independent variables.

Table 4.8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.316	.080		3.971	.000
	Timeliness	-.026	.052	-.037	-.508	.612
	Reliability	-.274	.272	-.633	-1.007	.315
	Adequacy	.197	.202	.612	.976	.330
	Size	.071	.016	.269	4.570	.000
	Teacher competency	.082	.029	.170	2.879	.004

a. Dependent Variable: school performance

According to the regression coefficient results, the capitation transfers variable of timeliness, reliability and adequacy are insignificant in affecting the performance of the primary schools in North Horr Sub-County since the p-value > 0.05. Therefore, the significant variables that

affect the primary school performance are school size and staff competency (p<0.05). The resulting regression model therefore is presented as;

School performance = 0.316 + 0.071(school size) + 0.082(Teacher competency)

The results mean that one unit increase in school size results in 0.071 unit increase of school performance. On the other hand, one unit increase in teacher competency results in 0.082 unit increase in the school performance.

4.6 Discussion

The objective of the study was to determine the effect of capitation transfers on performance of primary schools in North Horr Sub-County. The results from the trend analysis over the ten-year period reveals that as the adequacy of capitation amount transferred to the schools reduced the school performance also declined. Likewise, as the number of pupil ration increased and so the need to recruit BOM teachers increased, the quality of education as reflected by the school performance also declined. The results show that as the school size (as measured by the number of learners' population) increased, the pressure on existing school infrastructure increased and therefore overwhelming the teaching resources. This led to a decline in the school performance. This increase in the learner's population came about due to government decision to offer free primary education (MoE, 2014). Gross primary school enrolment increased by approximately 10% per annum, bringing total primary enrolment to 72.4 percent nationally. The result of this positive change in pupils' enrolment is that Pupil-Teacher Ratio in public primary schools in Kenya increased to 58:1 from 40:1 (Ministry of Education, 2020). It was therefore expected that that the capitation grant should have matched the increased enrolment of learners. The positive change was registered in

every part of Kenya and since there was no corresponding increase in support infrastructure to cater for the increase, it resulted in a drop of performance.

The results reveal that the timeliness and reliability of the capitation transfers assumed a downward trajectory since 2017 and during the same period, the performance of the primary schools in North Horr registered the trajectory. Timely and reliable capitation transfers facilitate provision of teaching, learning, infrastructure and administration services in a school (Owuor, Gudo & Onditi, 2016). Timely and adequately resourcing of schools will mean well equipped schools, better physical environment for teachers to teach and children to learn, and better school national examination scores so that the school community can achieve their desired academic performance (Dooley, Payne, Robb, 2013). The research findings suggest that the performance of a school is dependent to both internal and external factors and as the system theory allude, a school does not operate in a vacuum, but rather depends on its environment, implying that the school receives environmental inputs and changes them into outputs (Koontz & Weinrich (1998),

The results on the timeliness of the capitation transfers (β = -0.38, p=.818)reliability (β = -0.38, p=.818) and adequacy (β = -0.300, p=.803) suggest that the three capitation transfer variables have no significant effect on the performance of the primary schools in the North Horr sub-county. This is because the performance of these variables had declined over the period. In line with the findings of Ngowi (2015), an unreliable and poor provision of capitation by the government to public schools was found to result in poor student performance because the provision of these educational facilities is affected. UWAZI (2018) further assert that despite the Tanzanian government introducing reforms in the capitation grants policy, the program has experienced inconsistencies in terms of what is received by

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the schools and what they are actually supposed to receive. In Kenya, Owuor, Gudo and Onditi (2016) makes the same conclusion as the current research by observing that presently, the disbursement of the capitation grant is not enough and is not given on time thus failing to realize educational goals and objectives. In relation to the general declining state of the adequacy level of funds disbursed, Haki Elimu (2010) notes that the amount that actually gets to the schools has been systematically lower than the amount stated in the capitation policy and the challenge is further compounded by a lack of effective monitoring at the school level. The variance between the actual and the approved amount of capitation funds has been highlighted as a major cause of dwindling educational standards since it affects the budgeted programs execution (Owuor, Gudo and Onditi, 2016)

As the systems theory posit, an organized school system does not exist in a vacuum; it is dependent on the environment in which it is established. Similarly, the performance equation theory posits that school performance is a function of a product of Ability*Motivation*Resources (Carter and Selvaraj, 2013). This means that any institution's performance will suffer if one of those determinants is missing. According to this study, accessible educational resources, both financial and non-financial, play a significant influence in improving test performance. Fiscal transfers from the government are a critical resource for schools in order to attain the intended goal of high-test results.

CHAPTER FIVE

SUMMARY, CONCLUCION AND RECOMMENDATION

5.1 Introduction

This chapter presents a summary of the key findings, conclusions drawn from the findings and recommendations, both for policy and research work. The conclusions and recommendations drawn were in quest of addressing research objective. The chapter concludes by citing limitations and suggestion for future studies.

5.2 Summary

From the descriptive statistics measures, it can be deduced that the performance of the primary schools in North Horr Sub-County was slightly below the median marks of 250 out of the possible 500 marks. The timeliness of the cash transfer to schools was also not on time since on average, the cumulative number of days that the government delayed in disbursing cash over the year was 87 days though the delayed period in the three terms in an academic calendar was constant in between the terms. Further, the amount disbursed over the period was not meeting the stipulated per cent since only around 92.4% of the expected amount in a given year was achieved. The same results were realized in relation to the adequacy measure which sought to determine the capitation amount met in a year as per policy which shows that 95.9% policy amount having been achieved over the period. The performance outcome in the schools has been declining since 2015. This can be attributed to combination of factors from the research which shows that teacher competency, reliability and adequacy of the capitation transfers has been declining too. Similarly, the pupils' size in the school been

increasing and therefore coupled with inadequate resources to the schools, the performance was negatively impacted.

The inferential results show that the performance of the primary schools is affected by the variables under investigation to an extent of around 12.5%. This finding suggests that other factors that might explain school performance explain 87.5% of the variable. The capitation transfers variable of timeliness, adequacy and reliability were found not to be significant factors that affect the performance of the primary schools since the p-value < 0.05. Therefore, the significant variables that affect the primary school performance are school size and staff competency (p>0.05).

5.3 Conclusion

Based on the research findings, capitation transfers to primary school play an important role in performance of pupils. This is evidence from the fact that as the timeliness, adequacy and the reliability of the funds declined in the period, so did the performance. In addition, the study concludes that matching the school resources to the increase in student enrolment has a direct impact on the performance of the primary schools.

The findings lead to the conclusion that capitation transfers so far advanced to schools has not been able to address all the needs of learners as well as teaching in the primary schools. Such challenges include congestion in the classrooms – more so, in schools adjacent to urban centers. The current capitation transfers model is more focused on quantitative results rather than qualitative aspect of performance.

5.4 Recommendation for Policy

The reliability, timeliness and adequacy of capitation transfers to primary schools were found not be a significant factor affecting the performance of primary schools. Hence it is

recommended that its disbursement pattern be reviewed with a view to determining whether the existing arrangement is conducive to improving education outcomes in Kenya.

This existing arrangement (allocation formula) where every child in the country gets equal amount from the government irrespective of economic, social or climatic condition should be reviewed with the view of establishing an equitable allocation formula that incorporates other variables such poverty index, distance from central administrative Centre and special needs conditions, Further, there is need for the formulation of a policy direction to align the increased number of children in primary schools as result of free primary education to the resources required such as teachers and classrooms.

The capitation transfers call upon timely release of funds at the beginning of a every school calendar term and this needs to be enforced to make the policy effective. Further, to improve on capitation grants utilization, accountability and aid information access to the public, the MoE should publish capitation data on its website every year. The study established that the capitation transfers was found not to be adequate, it is recommended that individual schools should explore additional avenues of financing their operations through sustainable income generating projects and mobilization of community contributions.

5.5 Limitation

The research focused on quantitative aspects of capitation transfers and school performance. The study was restricted to North Horr Sub-County and therefore the results cannot be generalized to other regions, similarly, the study was based on transfer of capitation funds as per policy and payment arrangements by the ministry of finance without considering the need in a particular region or school.

5.6 Recommendation for Further Studies

Since the research was more focused on quantitative research, it is recommended that a mixture of quantitative and qualitative study is undertaken with a view to establishing the relationship between capitation and a learner overall performance, and thus facilitate generalization of the findings. Furthermore, the study recommends that future studies be conducted using more broader dimensional characteristics to establish whether there is difference in the findings. Due to the limitation of a localized area of the study, it is recommended that a comparison study be undertaken to assess the impact of capitation transfers on primary schools' performance in urban areas and those considered as hardship regions.

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