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LOCATION AS A CORRELATE OF PRINCIPALS' PERCEPTIONS ON COST EFFICIENCY IN PUBLIC SECONDARY SCHOOLS IN BOMET COUNTY, KENYA

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Abstract:
Most public secondary schools in Kenya do not have adequate funds to meet the demands of providing education to learners. These financial challenges call for cost efficiency management of resources in schools. However, this has not been the case, as evidenced by the low cost of efficiency in schools in Bomet County. The low-cost efficiency could be due to the school's location, given that it has been cited as one of its correlates. This inquiry explored the relationship between school location and principals' perceptions of cost efficiency in public secondary schools in Bomet County, Kenya. The study employed a correlational research design. It utilised purposive, stratified, proportionate and simple random sampling techniques to choose 5 Sub-County Directors of Education (SCDE) and 175 principals who participated in the study. Data was gathered using a principals' questionnaire and SCDEs' interview guide. The Chi-Square test was used to determine the relationship between school location and principals' perceptions on cost efficiency. The findings indicated that over three-quarters (76.4%) of the schools were located in rural areas, while the rest (23.6%) were situated in urban settings. The results also indicated that the majority (74.8%) of the principals perceived that the cost efficiency of schools was low, while the others were of the view that it was moderate (20.3%) and high (4.9%). The SCDEs believed that school principals adopt cost reduction and saving strategies. However, they did not explain how these strategies affected cost efficiency. Further, the results revealed that the relationship between school location and perceptions of cost efficiency was statistically significant, $\chi 2$ (2, N = 143) = 8.25, $p < .05$. The study concludes that most public secondary schools in Bomet County are located in rural areas. Their cost efficiencies were perceived to be low. The study also concludes that school location correlates with cost efficiency perceptions and a pointer that it affects principals' management of school resources.

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1. Introduction

Secondary school education is the level which follows primary school and precedes higher education (Behlol *et al.*, 2019). It is considered the most significant stage of education since it equips learners with knowledge, skills and attitudes and assists them to develop mentally, socially, morally and spiritually so that they are all-round persons (Lessa *et al.*, 2018). It is also supposed to build a firm foundation for further education, training and the world of work. The system of education currently in Kenya is the Competence Based Curriculum (CBC) (Ndemwa & Otani, 2020). The government started replacing the 8-4-4 education system with CBC in 2019. This curriculum puts more emphasis on skills acquisition and technical subjects like computer studies, home science and agriculture so as to help students identify their career paths early enough and specialize (Otukho *et al.*, 2017; Simon, 2022).

Effective and efficient management of secondary schools is essential given that it is the foundation of university and tertiary education, training and the world of work (Nyakan, 2018). School management refers to actions that take place in learning institutions during planning, organization and instruction, management of resources and promotion of integration between school and community (de Mouraa & Bispob, 2021). It involves the application of management principles in designing, developing and utilising resources towards the achievement of educational goals (Nzioka & Orodho, 2014). Management effectiveness is judged by the extent to which schools meet the expectations of the society within which they are established. The expectations include imparting knowledge, values, attitudes and skills to learners with the ultimate aim of making them productive members of society (Beegum, 2022).

Public secondary schools in Kenya are managed by Boards of Management (BoM), which comprise members, with the principal as the secretary (Wanjala, 2021). The principals, who are appointees of the Teachers Service Commission (TSC), are the heads of those institutions (TSC, 2011). They are thus in charge of the overall management of schools. The administrative tasks of principals include planning, resource mobilization, controlling, and the deployment of staff and other resources, as well as instruction and supervision (Hallinger & Kovacevic, 2019). The other tasks are managing human relations, policy formulation and staff development. The deputy principal, who is also an employee of the TSC, is the second in command and assists the principal in running the school (Musyoka, 2018). Secondary schools have heads of departments who coordinate the operations of departments. Schools also have Parents' Associations (PA), which play a significant role in the management of secondary schools by assisting in the maintenance of discipline, mobilising funds for constructing physical facilities and purchasing instructional equipment and materials (Nyakan, 2018). Prefects are part of school management since they play an essential role in the day-to-day running of schools and the maintenance of students' discipline (Kabugi, 2013).

2. Financing School Operations in Schools

The aims of setting up schools are to facilitate learners' acquisition of knowledge, skills and attitudes for the development of the self and harmonious co-existence with other members of society (Kinuthia, 2018). Actualization of educational goals and objectives in school systems requires the provision of adequate physical facilities, staff and teaching-learning materials (Eric & Ezeugo, 2019). Globally, the provision of education and associated resources is the mandate of governments (Roser & Ortiz-Ospina, 2016). However, governments worldwide do not have adequate funds to meet the demands of education (World Bank, 2020). As a result, school principals are under much pressure to utilise the available resources efficiently. This calls for cost-efficient management of resources available in schools.

2.1 Cost Efficiency

Cost efficiency originated from engineering relations where a technical process is considered efficient when the desired mix of output is maximized for a given level of inputs or when inputs are minimized for a desired mix of outputs (Kosor *et al.*, 2019). It has been defined as the act of saving money by changing a product or process to work in a better way (Menon & Phalachandra, 2018). The cost-efficiency concept also applies in education. An educational institution attains cost efficiency when it achieves the desired educational objectives by using the lowest possible inputs (Tellis, 2017). According to Olatunji *et al.* (2017), cost efficiency in schools is concerned with the achievement of stated education objectives at the lowest possible cost or the achievement of better outputs for a given set of input resources. This implies that the computation of cost efficiency requires the availability of input and output data.

2.2 Measurement of Cost Efficiency

Computation of cost efficiency is a controversial topic, given that there is no consensus on what constitutes input and output due to the complex nature of education (Wirtz & Zeithaml, 2018). Resources such as school infrastructure, funds, instructional materials and staff are considered education inputs, while knowledge and skills acquired by students, their performance in examinations and/or pass rates, attitudes, discipline and behaviour are outputs (Alsuliman *et al.*, 2019; Gralka *et al.*, 2019).

Various methods are used to compute cost efficiency, among which is the expenditure approach that involves computing the cost of all inputs and outputs of an education system and expressing them as a ratio (Nauzeer *et al.*, 2018). Cost efficiency has also been expressed in terms of the best use of input resources to achieve the highest level of educational outputs (Agasisti *et al.*, 2017). Kiveu (2018) determined cost efficiency using expenditures incurred as students progressed from the point of entry to the point of completion. Computation of cost efficiency thus requires well-kept and up-to-date financial data at the school level. However, the lack of complete data is a major challenge in most public secondary schools in Kenya (Musyoka, 2018). Due to these challenges, this

study used cost efficiency perceptions of principals as a measure of the construct. Perception refers to the cognitive process by which an individual selects, organizes and gives meaning to environmental stimuli obtained through hearing, seeing, smelling, touching and tasting (Haridas *et al.,* 2021). Studies show that perceptions significantly influence how people view the world, communicate and behave (Quadros *et al.*, 2015; Sarwar & Muhammad, 2020). It thus influences how efficiently principals manage school resources. Nyenze (2016) advocates the use of perceptual measures of variables during inquiries when factual ones are not available

2.3 Cost Efficiency Status in Schools

Most schools have limited resources, and as a result, they are forced to adopt management strategies that are cost-efficient (Trihantoyo *et al.*, 2019). These include controlling maintenance, administrative and tuition costs and excluding activities that do not add value. Despite adopting these strategies, running learning institutions cost-efficiently is still a challenge to many schools globally. The challenges are in the form of inadequate, underutilization and wastage of resources, unaffordable and unsustainable costs of education coupled with low outputs (Council of the European Union, 2019). According to estimates by the World Bank (2019), 16% of the financial resources for education in developing countries go to waste. Studies conducted in Asia showed that the ever-increasing enrolment in secondary schools had placed a significant strain on both governments and educational institutions, leading to inefficient use of resources.

Cost inefficiency is also a problem in Africa due to increased operation costs and an ever-increasing school enrolment that puts pressure on the education system's ability to provide quality education (Ajayi *et al.*, 2017; Evans & Popova, 2016). A study by Nauzeer *et al.* (2018) established that the cost efficiency of secondary schools in Mauritius was low. Kolawole and Ogbiye (2020) established that wastage of educational resources through repetition and dropout rates were among the causes of high levels of cost inefficiency in Nigerian schools. A study conducted in Tanzania showed that increase in educational spending had no impact on students' learning due to low teacher motivation, as evidenced by classroom absenteeism and poor monitoring of learning activities (Mbiti *et al.*, 2019).

Cost-efficient management of schools is also a challenge for many institutions in Kenya. Mwikya *et al.* (2019) study showed that public funds released to schools were inadequate and never released on time, thus contributing to the school's cost inefficiency in offering educational services. Kiveu (2018) noted that secondary schools in Kenya face cost inefficiencies due to the high cost of education, low transition from primary to secondary, high dropout rates, poor payment of fees, pregnancies and disciplinary issues. Ngetich *et al.* (2018) observed that rising costs of education, inappropriate allocation of resources, poor management of financial resources and academic performance escalated the unit cost in public schools. Public secondary schools in Bomet, like their counterparts in other counties, also face cost-efficiency challenges (Chepkwony *et al.*, 2020; Kitur *et al.*,

2020). Ministry of Education, Science and Technology records for the years 2016 and 2019 show variances between the average expected and the actual unit costs (Table 1).

Table 1: Unit Costs Variances for the Years 2016-2019 in Kenya Shillings by school Accommodation Status

Location	Expected	Actual	Costs Variance	Variance (%)
Rural	65,788.00	67,347.50	1,559.50	2.4
Urban	77,758.00	80,398.70	2,640.70	3.4

Source: Ministry of Education Science and Technology (2020)

Table 1 indicates that the variance (KES 2640.70) of urban schools was higher than that (KES 1559.50) of those in rural settings. The difference in variance suggests that location influences cost efficiency.

Cost efficiency in schools is influenced by many factors (Pekkolay, 2021; Sunaengsih *et al.*, 2019). Training and experience have been cited as one of the factors related to schools' cost efficiency since they enhance principals' knowledge and skills and enable them to perform their administrative tasks with minimum costs (Menon & Phalachandra (2018). These skills include financial record keeping and complying with the government's various financial management policies. Policies such as Subsidised Secondary School Education (SSE) have been cited as factors which affect cost efficiency (Ndolo *et al.*, 2016). SSE policy has led to increased enrolment, overstretched school resources and ineffective teaching and learning. Staff commitment to work and motivation have also been cited as predictors of cost efficiency (Estigoy & Sulasula, 2020). Motivation and commitment are essential since they not only influence employees' desire to do something but also impact their behaviour (Rapiudin, 2019). Availability of funds has also been associated with cost-efficient operation of learning institutions (Gavurova *et al.*, 2017). Gavurova *et al.* argue that the availability of adequate funds that can be accessed whenever required enables school administrators to plan, budget and use cost-saving measures such as bulk purchasing. School location also has been related to cost efficiency (Mucharreira *et al.*, 2019; Kwarikunda *et al.*, 2020).

2.4 School Location

Studies have shown that school location is a significant predictor of cost efficiency (Gibbons *et al.*, 2018; Kyambi, 2019). Location has been defined as a particular place in relation to other areas in the physical environment where something is found or situated (Eugene & Ezeh, 2016). A school may be located in a rural setting, which is in the countryside or an urban area, that is, a town or city. Education for All (2015) contends that factors within a school locality, such as availability of transport, communication, housing and social amenities, affect education inputs and cost efficiency of schools. A study conducted among rural schools in South Africa found they faced challenges that were unique to their environments and had cost implications (Du Plessis & Mestry, 2019). These challenges included parental interest in children's education, deplorable conditions in the classroom, insufficient funding from the state, lack of water, sanitation

facilities and electricity, underqualified teachers, and multi-grade teaching as the main barriers to adequate provision of education. Morgan *et al.* (2017) noted that most rural schools' physical facilities and social amenities were inadequate, forcing them to look for alternatives at extra cost.

2.5 Objective

This introduction indicates that public secondary schools in Bomet County, like many others in Kenya, are inefficient in their use of educational resources (Chepkwony *et al.*, 2020; Kitur *et al.*, 2020). Ministry of Education (2020) records also show inefficiencies in schools as evidenced by variances between expected and actual unit costs between the years 2014 and 2017. Further, studies done elsewhere (Gibbons *et al.*, 2018; Du Plessis & Mestry, 2019; Kyambi, 2019) indicate that location is a significant predictor of cost efficiency. The cost inefficiencies experienced in schools could perhaps be due to location, given that it has been cited as one of its correlates. It is against this background that the researcher was provoked to examine the relationship between school location and cost efficiency from the principals' perspective. This inquiry had one objective, namely, to explore the relationship between school location and principals' perceptions of cost efficiency in public secondary schools in Bomet County, Kenya.

3. Methodology

3.1 Design

A correlational research design was adopted for this enquiry. This non-experimental design uses relational statistics to explore the direction and strength of the association between variables (Gathii *et al.*, 2019). The design was deemed appropriate because the study's objective was to establish the relationship between school location and cost efficiency from the principals' perspectives. Ansari *et al.* (2022) recommend the correlational research design when an inquiry aims to find out the relationships between two or more continuous variables without manipulating them.

3.2 Study Area

This study was conducted in Bomet County, one of the 47 counties of Kenya. Bomet comprises five sub-counties: Sotik, Konoin, Bomet East, Bomet Central and Chepalungu. The County had 270 public secondary schools when the research was conducted (County Director of Education, 2019). The schools are located in both rural and urban settings. The location was chosen because public secondary schools in the county have consistently been posting low-cost efficiencies over the years (Chirchir *et al.*, 2019; Kitur *et al.*, 2020). Several published works reveal inefficiencies in schools as evidenced by differences between the budgeted and actual expenditure misallocation of resources and unrealistically high unit costs, making savings unfeasible (Koriyow, 2017; Ministry of Education, Science and Technology, 2020).

3.3 Participants

This study targeted 270 principals of public secondary schools and 5 Sub County Directors of Education. These populations were targeted because they were best placed to provide data on cost efficiency. According to Kamunge (2016), principals are responsible for managing schools using available resources and achieving set educational outcomes, while SCDEs are their supervisors.

The number of principals who participated in the study was determined using Krejcie and Morgan (1970). The formula is recommended for determining sample sizes of studies with a small and finite population (Etikan *et al.*, 2016). The formula is:

$$S = \frac{X^2 * NP(1-P)}{d^2 * (N-1) + X^2 * P(1-P)}$$

Where,
S = Required sample,
X = Z-value (1.96 for 95% confidence level),
N = Population size,
P = Population proportion (50%, expressed as decimal. 0.5), and
d = Degree of accuracy (5%),

The sample size of the principals was 159 but was increased by 10% to 175, as recommended by Guetterman *et al.* (2015) to cater for possible drop-outs, natural attribution and non-responses.

The number of principals from each of the five sub-counties of Bomet was determined using stratified and proportionate sampling techniques. Proportional sampling procedures were used again to determine the number of principals by school location at the sub-county level. Principals who took part in the study were then picked using simple random sampling methods. The census method was utilised to select all 5 SCDEs. Table 3 presents the distribution of the sample by Sub County.

Table 3: Distribution of the Study Samples by Sub County

Sub-county	**Location**		**SCDEs**
	Rural	**Urban**	
Sotik	46	7	1
Konoin	21	8	1
Bomet East	16	9	1
Bomet Central	19	18	1
Chepalungu	35	6	1
Total	**137**	**38**	**5**

3.4 Data Collection

Data was collected using a principals' questionnaire and SCDE interview. Using multiple instruments to collect data enhances its validity and dependability (Ramirez-Trujillo *et al.*, 2021). The questionnaire was selected because of the benefits associated with it, such

as efficiency when collecting data from a large sample that is spread over a wide geographical area and is easy to administer, score, and analyse (Mohajan, 2017). The choice of an interview guide was informed by the fact that it utilizes less time and allows a researcher to capture quality data by controlling the topics and format of discussion (Doody & Noonan, 2017).

The principals' questionnaire was constructed using open and closed-ended items. Canals (2017) contends that closed-ended items generate consistent responses, and data gathered by such instruments is easy to code and analyse. Ramil *et al.* (2020) advocate for including open-ended items in an instrument since they allow an investigator to ask follow-up questions, thus enriching the data collection process. The questionnaire had sections for generating data on school location and perceptions of cost efficiency. In contrast, the SCDEs interview guide had items for eliciting the participants' views on cost efficiency only.

3.5 Validity and Reliability

Face and content validities of the principals' questionnaire and SCDEs interview guide were checked by experts as a way of ensuring they were appropriate for measuring the constructs under investigation. Three poorly constructed items, one double-edged item in the principals' questionnaire, and two repetitive items in the SCDEs' interview schedule were identified. The items were rephrased before the instruments were used to gather data.

3.6 Reliability

The reliability of the principals' questionnaire was estimated before it was used to collect data to ensure that it yielded similar results consistently. It was estimated using the Cronbach alpha method. The instrument was deemed reliable since its coefficient of .822 was above the 0.7 threshold recommended by Miller (2019).

3.7 Data Collection and Analysis

A research permit from the National Commission for Science, Technology, and Innovation (NACOSTI) and clearance to collect data from the County Commissioner and County Director of Education (CDE), Bomet were sought. The purpose of the study was explained to the participants, and their consent was sought. The questionnaires were administered to the principals in their offices using the drop-and-pick (DP) later method. The DP method was selected because it yields higher response rates (Gathii *et al.*, 2019). A total of 175 questionnaires were administered to the respondents with the help of two research assistants. The principals were given two weeks to fill out the questionnaires, after which the completed ones were collected. The SCDEs were interviewed in their offices during the data collection process.

The gathered data was cleaned, coded and keyed into a file. School location data was summarised using frequencies and percentages, while those from the interview schedule were analysed thematically. The principals' responses to items on cost efficiency

perceptions were scored, and their means were calculated and transformed into an overall mean score. The overall mean scores were categorised into low (1.00 and 2.33), moderate (2.34 and 3.66), and high (3.67 and 5.00) ranges. The cost efficiency of a school was thus perceived as either low, moderate or high. The relationship between school location and cost efficiency perceptions was determined using the Chi-Square test. This statistical procedure was chosen because both school location (rural, urban) and perceptions on cost efficiency (low, moderate, high) were categorical data. Pituch and Stevens (2015) recommend the Chi-Square test for establishing relationships between categorical data.

4. Results and Discussion

4.1 School Location

The results indicated that most (76.4%) of the schools were in rural areas, while the rest (23.6%) were in urban settings. The high number of schools in rural areas could be due to increased demand as a result of the subsidised secondary school education policy advanced by the Kenya government (Oyier, 2017). It could also be due to the increasing number of primary schools spread all over rural areas, creating secondary school wings to accommodate increased demand for secondary school education (Owiti *et al.*, 2020). These findings are in harmony with those of a study by Kitur *et al.* (2020), which showed that majority of schools in the county were based in rural areas.

The location of a school may or may not affect cost efficiency. Darma (2017) argues that differences in environmental factors, such as mode of transport, roads, and availability of electricity and water supply, between rural and urban do influence cost efficiency in schools. Education for All (2015) contends that factors within a school locality such as availability of transport, communication, housing and social amenities affect education inputs and cost efficiency of schools. Similarly, Ganiyu and Babalola's (2016) study demonstrated that location significantly influenced the costs of operating secondary schools in Nigeria as those in rural areas were less endowed with resources, as a result, they tend to perform poorly in examinations. Batool and Chaudry (2019) noted there were no cost-efficiency differences between rural and urban public schools in Pakistan. This was attributed to the homogeneity of public schools in terms of resources and management.

4.2 Perceptions on Cost Efficiency

Analysis of data showed that the majority (74.8%) of principals were of the view that the cost efficiency of schools was low, while the rest believed that they were moderate (20.3%) and high (4.9%). These findings suggest that the cost efficiency of schools in Bomet County was low. They support the results of a study by Esongo (2017), which established that the cost efficiency of secondary schools in Cameron was low due to inadequate human and technical resources. Similarly, Adejumo-Ayibiowu (2018) found that the cost efficiency of secondary schools was not satisfactory due to declining

students' academic performance even with high financial investment. These findings also support those of Mwikya's *et al.* (2019), which revealed that the cost efficiency of most schools in Kenya was low due to inadequate funds, which were never released on time. These challenges contribute significantly to poor budget implementation, wastage and inefficiencies in the provision of educational services.

4.3 SCDE perspectives on cost efficiency

The SCDEs indicated that they were aware that principals had adopted expenditure reduction and savings strategies as a way of enhancing cost efficiency in schools. These included allocating teachers additional work and students cleaning and weeding instead of hiring labour, among others. However, the SCDEs did not explain how these strategies enhanced cost efficiency.

4.4 Correlations

The Chi-Square test of independence was used to determine the relationship between school location and principals' perceptions of cost efficiency. A summary of the test results is in Table 4.

Table 4: Relationship between School Location and Perceptions of Cost Efficiency

Scale	Value	Df	p-value)
Pearson Chi-Square	8.256	2	.016*
N of Valid Cases	143		
Cramer's V = .240			

Table 4 shows a statistically significant relationship between school location and principals' perceptions of cost efficiency, χ^2 (2, N = 143) = 8.25, $p < .05$. These results are evidence that school location affects principals' perceptions of cost efficiency.

Qualitative data gathered through interviews showed that SCDEs were of the opinion that school location affected the costs of running schools, as explained by interviewee 5:

> *"Many rural schools face challenges that stem from inadequate resources and difficulties in hiring and retaining teachers. These challenges lead to low savings and high costs of education in rural areas."*

Similar sentiments were expressed by interviewee 4, as shown in the below excerpt:

> *"Schools in urban areas are usually larger, allocated more resources, less likely to experience staff shortage, and have lower student-teacher ratio than schools in rural areas. Further, they are often managed efficiently, unlike schools in rural areas, which face many challenges due to limited access to social amenities like communication, water and electricity."*

The sentiments of these interviewees suggest that urban schools are advantaged because they have better resources, and the chances of such institutions being managed efficiently are higher, given that they have the required resources.

These findings showed that both the principals and SCDEs were of the view that school location was related to school cost efficiency. The findings are in tandem with those of Echazarra and Radinger (2019) who found that practices in rural schools that shape cost efficiency, such as organizing for instruction, classroom and time management staffing, availability and use of teaching-learning resources, and assessment in European Union countries, were not similar to those in urban schools. The study concluded that school location was related to cost efficiency. These findings are also in tandem with the results of a study by Ganiyu and Babalola (2016) which indicated that challenges in rural schools, such as lack of physical facilities and instructional materials, high student-teacher ratio, unfairness in the distribution of resources across rural and urban divide were reasons why rural secondary schools tended to be more inefficient. A study in Uganda by Okurut (2018) also found that repetition and dropouts, which are precursors to increased unit costs, were higher in rural schools than urban ones. Similarly, a study by Nyangi and Orodho (2014) also showed that school location was associated with cost efficiency since institutions in urban settings were able to devise cost-saving measures because of proximity and their numbers. These measures included sharing facilities with neighbouring institutions and assigning staff multiple tasks, amongst others.

However, these findings contradict those of Batool and Chaudry (2019) which revealed that location had an insignificant impact on the cost efficiency of schools. The study observed that no cost efficiency differences existed between rural and urban public schools as they were similar with regard to finances, personnel, facilities and management guidelines. Echazarra and Radinger's (2019) found that cost efficiency in European Union countries was not affected by school location when institutions re-organised their operations. The re-organisations ensured that inputs to education were available, wastage of resources was reduced, and school environments were conducive to effective teaching and learning.

These findings confirm that school location is a significant determinant of cost efficiency. Gibbons *et al.* (2018) argue that location is a significant predictor of cost efficiency since it defines a school's environmental setting. This environment comprises teaching and learning climate, financial and material resources, programmes, student support and after-school activities, staff, teachers' preparation, learning and support, leadership, school community relations, and communication and technology. The environments in rural and urban schools differ significantly, and this could explain the influence of location on cost efficiency. It is, therefore, imperative that principals are cognisant of the impact of location on cost efficiency in their endeavour to effectively manage their institutions using whatever resources are at their disposal.

5. Conclusion and Recommendations

5.1 Conclusions

This paper concluded that most schools in Bomet County were located in rural areas, and principals believed that the cost efficiency of schools was low. It was also concluded that school location affected principals' perceptions of cost efficiency since those in urban settings were viewed as more efficient than those in rural areas. These perspectives were informed by benefits associated with location in urban settings, such as ease of communication, housing, and availability of social amenities such as roads, electricity, water and sanitation. These location-specific factors and variations in the distribution and availability of educational resources between urban and rural settings need to be considered by principals for cost-efficient management of schools.

5.2 Recommendation

The observed low-cost efficiency perceptions imply that there are issues with the financial management of schools. Principals in Bomet should, therefore, be trained in school financial management, particularly in resource mobilization, budget preparation and implementation. This will go a long way in enhancing cost efficiencies in the institutions. School location was found to be related to perceptions of cost efficiency. The principals believed rural schools were disadvantaged in terms of access to social amenities and school provisions. Principals should consider these when preparing and implementing school budgets. They should also adopt location-specific cost efficiency mitigating measures such as harvesting and storing rainwater, using solar-based energy sources and collaborating with neighbouring schools in procurement to take advantage of economies of scale.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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