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The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com
Vol. 11, Iss.3, pp 511 – 529, October 21, 2024. www.strategicjournals.com, © Strategic Journals

ELECTRONIC RECORD MANAGEMENT PRACTICES AND PERFORMANCE OF DAIRY FARMING IN TRANS NZOIA EAST SUB COUNTY, KENYA

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Accepted: October 8, 2024

DOI: http://dx.doi.org/10.61426/sjbcm.v11i4.3102

ABSTRACT

This study evaluated the effect of electronic record management practices and performance of dairy farming in Trans Nzoia East Sub County, Kenya. It was based on the following objectives: effect of adoption of electronic record management systems, training on electronic record management, farmer data integration in farm management and farmer data driven decision making on dairy farmers' performance in Trans Nzoia East sub-county East Sub County. The study was based on the Information Systems Theory, Technology Acceptance Model, Socio-Technical Systems Theory and Diffusion of Innovations Theory. Since this study targeted to collect data which is quantitative in nature, it adopted a survey design. The sample size was determined by Yamane (1967) hence, 372 respondents. Primary data was collected through a questionnaire. A pilot study to help determine validity and reliability of the study was carried out in the neighbouring Trans Nzoia County. Construct validity with factor index >0.5 was used to determine validity of the tool while the Cronbach Alpha coefficient reading of above 0.72 was used to determine the reliability of the tool. Before data collection, an authority letter was sought from the Graduate school to allow data collection. The collected data was sorted and coded, then entered into Statistical Package for Social Sciences to help in data processing. Data was analyzed descriptively in ERMS of frequencies, means and standard deviations then presented in ERMS of tables or figures where applicable. The study concluded that there was a significant positive relationship between adoption of electronic record management systems, training on electronic record management, farmer data integration in farm management and farmer data driven decision making and dairy farmers' performance in Trans Nzoia East sub-county East Sub County. The study recommends that the staff at Dairy Farmers in Trans Nzoia East Subcounty need to take an active role in development of E-systems records, do proper data retrieval, ensure regular strategic evaluation, enhance and upgrade dispute resolution mechanisms.

***Key Words**: Electronic Record Systems, Training, Data Integration Management, Data Retrieval Efficiency*

CITATION: Tembelio, D. K., & Miroga, J. (2024). Electronic record management practices and performance of dairy farming in Trans Nzoia East Sub County, Kenya. *The Strategic Journal of Business & Change Management,* 11 (4), 511 – 529. http://dx.doi.Org/10.61426/Sjbcm.v11i4.3102

INTRODUCTION

The storage of records is a fundamental aspect of information management, enabling organizations to effectively preserve and retrieve crucial data. In the rapidly evolving digital age, where information is generated at an unprecedented rate, the importance of record storage has become even more pronounced (Aljawarneh, 2020). Records serve as a repository of history and cultural heritage. Proper storage of historical records, such as archival materials and manuscripts, ensures their longevity and accessibility for future generations.

The development of record management began in the late 19th and early 20th centuries (Access Record Management, 2019). During this period, there were no standardized rules or regulations for records retention. Businesses and governments managed documents based on their individual requirements (Access Record Management, 2019). Practical considerations such as finance, space, and resources significantly influenced how records were kept and the duration of their retention. In the UK, three government bodies were established in the late 19th century to enact laws regulating the management of records by firms and government entities (Corporate Storage Services, 2010).

In Africa, the development of record management dates back to the colonial era when colonial administrators were responsible for managing records, with minimal efforts made to educate the indigenous populations of various African countries (Archives & Manuscripts, 2015). In Ghana, as late as the 1930s, records management practices lacked formal programs. Both government and private businesses kept records in whatever form they deemed appropriate, without the benefit of retention schedules, disposition guidelines, or other formal information life-cycle procedures (Noko & Ngulube, 2013).

Yuni et al. (2024) Review of On-Farm Recording Tools for Smallholder Dairy Farming in Developing Countries revealed that dairy recording involves collecting and managing data on animal information, traceability, health, and productivity through various methods, ranging from manual record-keeping to digital tools. The study found that most research efforts have focused on developing digital recording tools aimed at monitoring production performance (PR), particularly milk production, utilizing the Internet of Things (IoT) and mobile phone applications. Additionally, other technologies such as networks, desktop applications, and web apps have been introduced. Given the widespread ownership of mobile phones among the general population, mobile phones remain a popular choice for recording tools.

A study by Waktole et al. (2020) on Dairy Farm Record Keeping with Emphasis on its Importance, Methods, Types, and Status in Some Countries revealed that Record keeping is essential for effective livestock business management. It aids in financial planning, provides data for government administrative and extension purposes, supports livestock management decisions, and helps evaluate overall farm activities. Common records in a dairy farm include cattle identification, financial records, production records, health records, agricultural inputs, animal feeds, daily farm activities, farm implements and equipment, and records of workers and vehicles. Dairy farms typically use either basic manual (handwritten) or computerized record-keeping systems. Analyzing both production and financial records can significantly enhance decision-making and profitability in dairy farming.

A study by Owino and Namande (2022) on records management practices and service delivery at the Pensions Department, Kenya, demonstrated strong reliability, with a reliability coefficient exceeding 0.70 and a response rate of 75%. The findings indicated that respondents concurred that records management policy influenced service delivery. It was also determined that staff capacity impacts service delivery. Furthermore, the application of ICT in records management was found to affect service delivery. Overall, the study concluded that records

management practices impact service delivery in the Pension Department. Although all four independent variables showed a positive and strong relationship with service delivery, they did not have a significant effect on it. Additionally, the study revealed that there were written policies that staffs were unaware of, insufficient security for records, skill gaps among staff, and instances of lost files.

Statement of the Problem

The integration of electronic record management practices in the milk sector farming in Kenya would enhance efficiency, transparency, and productivity. Electronic record systems promise streamlined data collection, real time monitoring, and improved decision making capabilities Erdem and Hasan (2024). Farmers and stakeholders would benefit from accurate data analysis, leading to optimized production processes, better resource management, and increased profitability. The adoption of these technologies would also ensure compliance with industry standards and facilitate access to local and international markets (Aljawarneh, 2020).

However, the real situation presents a stark contrast. Many milk sector farmers in Kenya still rely on traditional, manual record keeping methods. These outdated practices are prone to errors, data loss, and inefficiencies. The lack of technological infrastructure, limited access to digital tools, and insufficient training among farmers further exacerbate the problem. Consequently, data management is fragmented and unreliable, hindering the ability of farmers to make informed decisions. This disconnect between potential and practice results in suboptimal production processes, resource wastage, and financial losses (Erdem & Hasan, 2024).The consequence of this disparity is significant. Inefficient record management leads to inaccurate tracking of production metrics, poor herd management, and compromised product quality. Farmers face difficulties in maintaining consistent supply chains and meeting market demands. Additionally, the inability to effectively manage and analyze data limits opportunities for growth and innovation within the sector. The overall productivity and competitiveness of Kenya's milk sector are adversely affected, impacting both local economies and the livelihoods of farmers (Aljawarneh, 2020).

Addressing this issue requires a comprehensive understanding of the research gap (Erdem & Hasan, 2024). There is a notable lack of empirical studies that investigate the adoption and impact of electronic record management practices in the milk sector farming in Kenya. Existing research tends to focus on broader agricultural contexts, without delving into the specific challenges and opportunities within the dairy industry. Furthermore, there is a need for detailed analysis of the barriers to adoption, such as technological constraints, financial limitations, and socio cultural factors (Aljawarneh, 2020). By exploring these dimensions, future research can provide targeted recommendations and strategies to facilitate the transition towards effective electronic record management systems in Kenya's milk sector.

Objective of the Study

The general objective was to evaluate the effect of electronic record management practices and performance of dairy farming in Trans Nzoia East Sub County, Kenya. The study was guided by the following specific objectives:

- To determine the effect of electronic record systems usability on dairy farmers' performance in Trans Nzoia East sub-county East Sub County, Kenya.
- To assess the effect of training on electronic record on dairy farmers' performance in Trans Nzoia East sub-county East Sub County, Kenya.
- To examine the effect of farmer data integration management on dairy farmers' performance in Trans Nzoia East sub-county East Sub County, Kenya.
- The establish the effect of data retrieval efficiency on dairy farmers' performance in Trans Nzoia East sub-county East Sub County, Kenya.

LITERATURE REVIEW

Information Systems Theory

Information Systems Theory, particularly the Information Systems Success Model by DeLone and McLean (1992), provides a robust framework for understanding the impact of information systems on organizational performance. The theory posits that the quality of information systems, including system quality, information quality, and service quality, directly influences user satisfaction and system use, which in turn affect individual and organizational performance.

In the context of dairy farming, the implementation of electronic record management systems (ERMU) can be analyzed through this framework. The quality of the ERMU—how well it captures, stores, and retrieves data (system quality); the accuracy, relevance, and timeliness of the information it provides (information quality); and the support services available for its users (service quality)—can significantly affect farmers' satisfaction and usage levels. This increased use and satisfaction can lead to improved decision-making, operational efficiency, and overall farm performance.

Technology Acceptance Model (TAM)

The Technology Acceptance Model, developed by Davis (1989), explains how users come to accept and use a technology. According to TAM, perceived ease of use and perceived usefulness are the primary factors that influence users' attitudes towards a technology, which in turn affect their intention to use and actual usage behavior.

For dairy farmers, the adoption of ERMU can be better understood through TAM. If farmers perceive the electronic record management system as easy to use and useful in managing their dairy operations, they are more likely to adopt and utilize it. This adoption can lead to more accurate record-keeping, better tracking of herd health, feed management, and milk production, ultimately enhancing farm performance.

Socio-Technical Systems Theory

Socio-Technical Systems Theory emphasizes the interdependence between social and technical aspects of an organization. The theory suggests that optimal performance is achieved when there is a good fit between the technical system (tools, technologies, processes) and the social system (people, culture, organizational structure).

Implementing an ERMU in dairy farming involves not just the technical aspects of the system but also the social aspects, including farmer training, attitudes towards technology, and changes in work practices. Ensuring that the ERMU aligns well with the farmers' needs and practices, and that they receive adequate training and support, can lead to successful adoption and improved performance.

Diffusion of Innovations Theory

Rogers' Diffusion of Innovations Theory (1962) explains how, why, and at what rate new ideas and technology spread through cultures. The theory identifies factors that influence the adoption of an innovation, including the innovation itself, communication channels, time, and the social system.

Understanding the diffusion of ERMU in the dairy farming community can help identify barriers and facilitators to its adoption. Factors such as the relative advantage of the system over traditional record-keeping methods, its compatibility with existing practices, the complexity of the system, and the observability of its benefits can influence how quickly and widely ERMU are adopted among dairy farmers.

Conceptual Frameworks

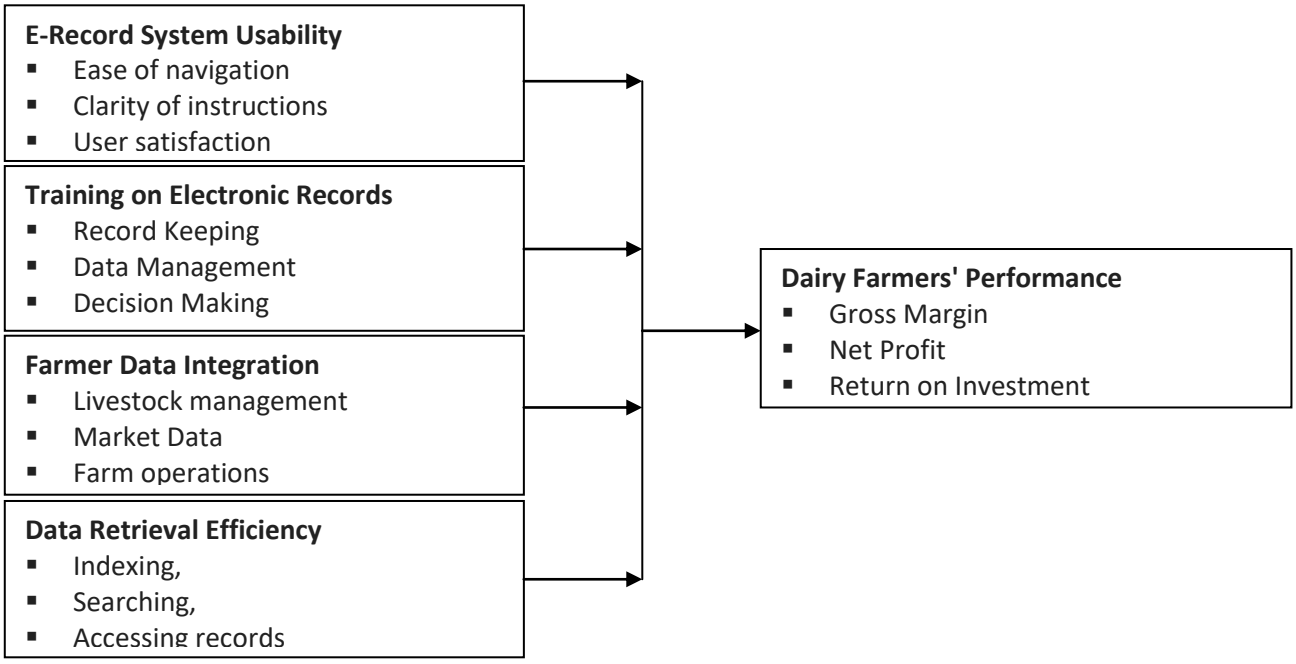

Figure 1: Conceptual Framework

E-Record System Usability

A study conducted by Erdem and Hasan (2024) in Turkey, specifically in Kahramanmaraş Province, explored how technology adoption impacts dairy farm welfare. The research found that factors such as income, household size, investment, ownership of improved cattle breeds, Chamber of Agriculture membership, interaction with private veterinarians and fellow farmers, perceived ease of use, perceived usefulness, and technical efficiency all affect technology adoption levels on dairy farms. Farms that adopted advanced technologies exhibited higher profitability and efficiency, indicating a strong positive link between technology use and farm performance. To enhance technology utilization and farm efficiency, policymakers should implement training and support programs for dairy farmers. Additionally, promoting resource-efficient practices and offering financial incentives for sustainable farming and dairy technologies would be beneficial.

A study by Okello, Owuor, Larochelle, Gathungu, and Mshenga (2021) identified several key determinants affecting the adoption of dairy agricultural technologies among smallholder farmers in Kenya. These determinants include the education level of the household head, the number of cows owned, the type of livestock, milk yield, land size, access to contracts, milk prices, credit access, business plan training, membership in dairy cooperatives, the type of service providers, receipt of remittances, and the distance to veterinary services and output markets. The extent to which dairy technologies are utilized was particularly influenced by the number of cows, livestock type, land size, access to contracts and credit, cooperative membership, and service provider types. In summary, the adoption of agricultural technologies is affected by various household, farm, market, and transaction cost characteristics, which can either hinder or promote their use.

Training on Electronic Records

An agricultural training program includes both formal and informal educational activities, which can be either short-term or long-term, and are tailored for individual farmers or groups to meet specific objectives (Gwivaha, 2015). These interventions are designed to facilitate the transfer of knowledge or skills on agricultural issues that benefit farmers (Stewart et al., 2015). As Stewart et al. (2016) noted, the training content may include new technologies or innovations that are not necessarily new to the farmers but have not yet been widely adopted. Additionally, agricultural training is regarded as "a potentially effective method to diffuse relevant new technologies to increase productivity and alleviate rural poverty" (Nakano et al., 2018).

A study by Wonde, Tsehay, and Lemma (2022) investigated the impact of training at farmers' training centers on crop productivity and household income in Ethiopia using a quantitative data collection approach. Qualitative data were also gathered through interviews with key informants and focus group discussions. The study employed the propensity score matching model to analyze the impact of training on the specified outcome variables. The findings revealed that the training significantly improved crop productivity and household income in Ethiopia. Specifically, maize yields increased by 860.16 kg ha-1 (26.66%), wheat yields by 301.56 kg ha-1 (10.10%), and net annual income from wheat production rose by 7,490 Ethiopian birr ha-1 (19.64%).

Farmer Data Integration

Companies across various industries are more inclined to adopt new technologies when the perceived benefits are significant and the adoption costs are minimal (Sun, Cegeilski, Jia, and Hall, 2018). With the growing availability and diversity of hardware and software for big data collection and analysis, farmers are likely to become more open to adoption. This trend will likely lead to a rise in public sector initiatives and business ventures within the agricultural sector (Kamilaris, et al., 2017).

A study by Santana (2022) on data integration for precision agriculture highlighted the challenges and opportunities for the database community. The research revealed that data integration and visualization could yield tailored results for family farming in southern Brazil. Employing machine learning and Big Data techniques could allow for the prediction, estimation, sampling, or suggestion of actions for grain cultivation in central-eastern Brazil. Data lakes can store forest imagery and data for future sustainable analysis, while data mining can uncover patterns to enable smarter water usage, particularly in the northwestern region of Brazil. Blockchain technology could enhance contract efficiency and overall agribusiness operations. According to Santana, the database community in Brazil, where agriculture is a significant part of the economy and sustainability is crucial for the future, could play a pivotal role in developing the necessary tools, standards, and solutions for this field.

Data Retrieval Efficiency

Ikhsan and Arief's (2023) study on the decision-making performance of big data analytics capabilities, with a focus on the mediating effect of co-collaboration, emphasizes the importance for organizational leaders and managers to cultivate big data analytics capabilities and implement co-collaboration processes. This strategy is essential to maximize the business's utilization of big data. Achieving value from big data to enhance organizational decision-making performance necessitates collaboration between data science experts and business users. Furthermore, the study identifies opportunities for future research, including comparative analyses across different organizations, experimental studies on co-collaboration and decision-making performance, and the use of concurrent or sequential mixed methods to explore the relationships among variables in context and process.

A study by Karijo, Otieno, and Mogere (2021) on the determinants of data use for decision-making in health facilities in Kitui County highlights the significance of meeting frequency, data storage and

analysis methods, and continuous professional training. The organization of the district health system impacts routine data utilization through the frequency of support supervision, issues assessed during supervision and feedback reports from supervisors. The study revealed limited use of routine data for decision-making in health facilities and recommended capacity building for data utilization through on-the-job training and strengthening the curriculum in health training institutions in data-related areas. The Ministry of Health can standardize parallel reporting levels, unify reporting tools, and ensure districts hold structured meetings, provide support supervision, and give feedback to healthcare providers.

Dairy Farmers' Performance

Adigun et al. (2023) examined the factors influencing the profitability of dairy farming among smallholder dairy farmers in South-West Nigeria, highlighting its significant role in many developing economies, including Nigeria, through its contributions to food supply, income, and employment. The study identifies key determinants of profitability, such as age, vocational education, and other forms of education, herd size, and total production costs. It also notes major challenges like limited access to forage, poor-quality fodder, and insufficient credit. The study recommends implementing training programs in feed technology and healthcare management and supporting the establishment of dairy cooperatives.

A study by Kipkorir (2023) on the factors influencing performance of dairy farming projects in Cherangani Sub County, Trans-Nzoia County, Kenya revealed that the development of digital agriculture or smart farming highlights the importance of data and data exchange. This chapter discusses how to achieve data standardization as a critical success factor in agricultural decision-making. It emphasizes the importance of starting from understanding business processes and decision-making steps. The chapter reviews a reference architecture that has been developed in the IoF2020 project to support the interoperability, replicability and re-use of standards and components for integral decision-making in agriculture.

Empirical Review

Erdem and Hasan's (2024) study on technology adoption's impact on dairy farm welfare in Kahramanmaraş Province provides valuable insights but has several limitations. While the research identifies a range of factors influencing technology adoption—such as income, household size, and technical efficiency—it overlooks the potential variability in technology impacts across different farm scales and regional contexts. Additionally, the study's recommendation for training and financial incentives, although practical, may lack specificity in addressing the diverse needs of farmers. The call for further research on the Adoption of Electronic Record Management Systems highlights a significant gap, yet the review does not sufficiently explore how such systems might directly influence farm productivity and efficiency.

The literature review by Okello et al. (2021) provides a comprehensive analysis of factors influencing the adoption of dairy agricultural technologies among smallholder farmers in Kenya. While it effectively identifies key determinants such as education level, livestock type, and access to credit, the review lacks a critical evaluation of how these factors interact or their relative impact on technology adoption. Furthermore, the study does not address the dynamic nature of these determinants over time or in different socio-economic contexts, which could affect their relevance and significance. There is also an absence of discussion on the specific barriers faced by different groups of farmers, highlighting a research gap related to the adoption of Electronic Record Management Systems and their influence on dairy farming performance.

Ngo and Kechadi (2021) present a compelling framework for normalizing agronomic knowledge through electronic farming records, highlighting the transformative potential of big data in agriculture. They effectively address the challenge of managing

vast data volumes by proposing a flexible electronic farming record model based on a fact constellation schema. However, while their approach is promising, the review falls short in addressing practical implications and limitations of integrating disparate data sources. Notably, it lacks a discussion on the adoption barriers and the impact of such systems on dairy farmers' performance. Further research is needed to bridge these gaps and evaluate real-world applications and constraints.

In contrast, Wonde, Tsehay, and Lemma's (2022) research employs a combination of quantitative and qualitative methods to assess the effects of training at farmers' training centers in Ethiopia, using propensity score matching to robustly analyze its impact on crop productivity and household income. Their findings—highlighting significant increases in maize and wheat yields, as well as net annual income—demonstrate the training's effectiveness. However, the study could be enriched by investigating how similar training interventions might affect dairy farmers' performance, thereby addressing a notable gap in the literature concerning the adoption of Electronic Record Management Systems in this context.

Santana (2022) explores the integration of data and machine learning for precision agriculture, emphasizing the potential benefits for Brazilian family farming and broader agricultural operations. However, the review lacks critical depth on how machine learning models and data lakes will be practically implemented and integrated with existing agricultural practices, potentially overlooking the complex challenges of real-world application and scalability.

Wolfert's (2020) work on data standards and integration highlights the importance of data standardization in digital agriculture but misses a thorough analysis of the practical impacts and challenges of adopting these standards in diverse agricultural contexts. Both reviews could benefit from a more detailed exploration of practical barriers and the interplay between technological advancements and real-world agricultural practices.

The literature review provides a comprehensive overview of various studies on the role of big data analytics in decision-making performance, but it demonstrates several shortcomings in synthesis and focus. Ikhsan and Arief's (2023) emphasis on co-collaboration as a mediating factor is insightful; however, their recommendation for future research lacks depth in addressing methodological rigor and contextual diversity. Ghasemaghaeiet et al. (2018) and McAfee and Brynjolfsson (2012) offer valuable insights into the benefits of big data analytics, yet their findings are somewhat dated and fail to explore the evolving nature of data-driven strategies. Karijo, Otieno, and Mogere's (2021) focus on health facilities presents practical implications but lacks broader applicability beyond the healthcare sector. Lastly, Brynjolfsson, Hitt, and Kim's (2011) study supports the efficacy of data-driven decision-making but could benefit from a more critical examination of its applicability across different firm sizes and industries. Overall, while the reviewed studies collectively underscore the importance of big data in decision-making, there is a need for updated, cross-sectoral analyses and more nuanced investigations into the practical challenges of implementation.

METHODOLOGY

This study adopted descriptive research a survey design. The unit of observation therefore was the registered dairy farmers with Kenya Dairy Board a total unit observation 2317.

Stratified sampling was used to stratify the sample population so as to give each cooperative society a chance to participate in the study. Therefore, the sample size was determined by Yamane (1967).

$$n = \frac{N}{1+N(e)^2}$$

Where;

N= Population;

e = margin of error or significance level at 0.05,

n = sample size hence,

The Strategic Journal of Business & Change Management. ISSN 2312-9492 (Online) 2414-8970 (Print). ww.strategicjournals.com

= 2317/[1+2317 (0.05^2)]

= 2317/1+ 5.7925 =3015/ 6.7925

= 341.1 =341

Primary data was collected using questionnaires.

A pilot study was undertaken in the neighboring Trans Nzoia west sub County, a sub county that bears similar characteristics like those of farmers in Trans Nzoia East sub County. The sample for the pilot study involved 10% (34) of the total sample size of the study (Kathuri & Pals, 1993) hence, 34 respondents from similar strata of the population were used as a pilot study sample.

The study ensured reliability by checking the internal consistency of the instrument tested at above 0.72 by computing Cronbach's alpha reliability coefficients as per Sekeran (2016) standards.

Quantitative data collected was coded, entered into the Statistical Package for Social Sciences (SPSS) version 28 then analyzed using both descriptively, through frequencies, percentages, means and standard deviations, and through regression analysis. A multiple regression equation was used to measure the relationship between the dependent and independent variables.

FINDINGS AND DISCUSSION

Response Rate

Out of 307 questionnaires that were circulated to the respondents, 259 of the respondents dully filled and retuned questionnaires; yielding a response of 79.32%. This was less 15 (10%) respondents who were pilot tested.

Descriptive Statistics

In this section, the study presents findings on Likert scale questions on the role of electronic record management practices and performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. The study specifically presents the effect of E-record systems usability, training on electronic records, farmer data integration, data retrieval efficiency on performance of dairy farmers' in Trans Nzoia East sub-County, Kenya. Respondents were asked to use a 5-point Likert scale where 5 (SA) = Strongly Agree, 4(A) = Agree, 3(UD) = undecided, 2 (D) = Disagree, and 1(SD) = Strongly Disagree. Results obtained were interpreted using means and standard deviations where a mean value of 1-1.4 was interpreted as; (SD) =strongly disagree, (D)= disagree, N= neutral, (A)= agree and (SD) = strongly agree.

E-Record Systems Usability

Respondents were requested to give their opinion on the variable E-record systems usability. From table 1, the respondents unanimously agreement that E-record systems usability ensured performance of dairy farmers' and periodic review in Dairy farmers' in Trans Nzoia East sub-county, Kenya viable with agreement of a mean was 3.372, and Standard Deviation of 1.067 Through their experience in Dairy farmers' in Trans Nzoia East sub-county the respondents gave neutral response with a mean of 3.531 and Standard Deviation of.9206 their skill has contribution to the quality and innovation of the E-record systems usability with strongly agree a Mean of 3.902, and Standard Deviation of .9055; level of education in E-record systems usability it is important to put in place and maintain procurement the respondents gave a strongly agree with a Mean of 4.061, and Standard Deviation of . 7394; The management of Dairy farmers' in Trans Nzoia East sub-county, Kenya implements performance of dairy farmers the respondents disagreed with a Mean of 3.541 and SD=1.3018); and E-record systems usability enhances performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya, they agreed with a Mean of 3.566, Standard Deviation of .7015. This finding agrees with the findings of Nyile *et al.* (2022) who observed that clear description of E-record systems usability, enhance effective performance of Dairy farmers in Trans Nzoia East Sub- County, Kenya.

Table 1: E-record Systems Usability

Statement	Mean	Std. Dev.
Trans Nzoia East sub-county County ensures their experience Sharing through Real time basis	3.373	1.061
Dairy farmers' in Trans Nzoia East sub-county Kenya has been able to make decisions prudently	3.535	.9211
Level education has contribution to performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya	3.902	.9055
frequent & accurate data retrieval efficiency		
It is important to put in place E-record systems usability	4.051	. 7394
The management of strategic evaluation in virtual integration	3.541	1.3018
E-record systems usability enhances performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya.	3.566	.7014

Data retrieval efficiency

From table 2, respondents agreed that: The Dairy farmers' in Trans Nzoia East Sub-County, Kenya considers Strategic alliances on data retrieval efficiency with a mean of 3.551 and Standard Deviation of.8313; A data retrieval efficiency is likely to circulated based on tender period on performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya agreed with a Mean of 4.033 and Standard Deviation of .7390; how misappropriation is affecting performance of Dairy farmers' in Trans Nzoia East sub-county County, Kenya the respondents were neutral with a Mean of 4.041 and Standard Deviation of.7305; Through misuse of resources towards performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya; the respondents strongly disagreed with a Mean of 4.111 and Standard Deviation of .7118; allocation and performance of private hospital access to bids in the earliest possible has improved performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya, which agreed with a Mean of 4.094 and Standard Deviation of .8006;

Online strategy has enhanced performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya, the respondents strongly agreed with a Mean of 4.252 and Standard Deviation of 0.8166. These findings was in agreement with the findings of Ongeri and Osoro (2021) that the goal of Tender proactive planning is to ensure performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya. Effective data retrieval efficiency minimizes or eliminates problems and potential claims and disputes. This result agrees with the finding of Ominde et al. (2022). It is essential for data retrieval efficiency to understand the provisions of the strategic evaluation, have the ability to perform to all practices involved, and maintain control over the performance of Dairy farmers' in Trans Nzoia East Sub-County.

Table 2: Data Retrieval Efficiency

Statement	Mean	Std. Dev.
In Trans Nzoia East sub-county we considers performance of dairy farmers' in Trans Nzoia East Sub-County, Kenya	3.551	.8313
Early misuse of resource affects performance of Dairy farmers' in Trans Nzoia East sub-County, Kenya	4.033	.7390
Allocation of resource can enhance Performance of dairy farmers in Trans Nzoia East sub-county, Kenya	4.0431	.7335
Data retrieval efficiency enhances performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya	4.115	.7183
Proper process enhances performance of dairy farmers Trans Nzoia East sub-county, Kenya	4.094	.7062
Stability of process can boast procurement performance of Dairy farmers' performance, East Sub-County, Kenya	4.252	.9160

Training on Electronic Records

The findings presented in table 3 show that respondents agree that: training on electronic records has effect on performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya (M=3.505, SD=. 7390; serious commitment on performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya ; the respondents agreed with a Mean of 3.411 and Standard Deviation of .7393; don't care attitude on performance of Trans Nzoia East sub-county, Kenya gave a strongly agree with a Mean of 4.603, Standard Deviation of .25935; teamwork is significant when you want performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya; they gave strongly agree response with a mean of 4.603, Standard Deviation of .6908; training on electronic records enhances on performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya; the disagreed with a Mean of 3.596, Standard Deviation of .7023; and through chain responsibility, the organization is able to identify problems and find solutions in a timely manner to ensure high quality of the goods and services delivered Strongly disagreed with a Mean of 4-.0151, Standard Deviation of .7044.

The findings concur with the finding of Boit and Osoro (2021), who argued that it is critical to Training on electronic records to frequently and at regular intervals after award to ensure that the strategic is providing the goods and services on schedule and within the water, and that quality standards are being met, especially for the highest-risk and most complex contracts. Evaluating post-award performance entails several activities to ensure that the delivery of services meets the terms of the contract. These include identifying performance criteria, such as key performance indicators, at the time of formulation, and providing adequate monitoring resources and a capable workforce for overseeing vendor evaluation, by so doing performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya was improve communication systems.

Table 3: Training on Electronic Records

Statement	Mean	Std. Dev.
Our County uses training on electronic records on performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya	3.520,	. 7393
serious commitment on performance to performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya	3.494	. 7391
performance of Dairy farmers', Kenya	4.634	. 7391
Dairy farmers' in Trans Nzoia East sub-county , Kenya	4.635	.25980
performance of Dairy farmers , Kenya	3.549	.703
Training on electronic records best practise on performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya	4.153	.7046

Farmer Data Integration

From table 4, respondents, respondents agreed that farmer data integration ensure performance of dairy farmers' in Trans Nzoia East Sub-county , Kenya; the respondent gave a Mean of 4.037 and Standard Deviation of.7307; decision making on performance of dairy farmers, they gave strongly disagree with a Mean of 4.002 and Standard Deviation of .7307; output of farmer data integration can affect performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya; the gave strongly agree with a Mean of 4.206, Standard Deviation of . 25907; In cases of health workers systems to embrace a better performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya farmer data integration to performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya ;most of the respondents were neutral with a Mean of 3.925 and Standard Deviation of .7306; and to enhance market share results, our Trans Nzoia East sub-county has in recent time conducted modern sensitivity resolution towards performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya; they gave a Mean of 4.104 and Standard Deviation of .7055.

These findings are in line with the findings of Nyile *et al.* (2022) who observed that the characteristic of farmer data integration are the best value reaction to sort out non-performance of, after Farmer data integration, for resolving return on investment. The problem areas giving rise to disputes are mainly related to Dairy farmers' in Trans Nzoia East sub-county's matters.

Table 4: Farmer Data Integration

Statement	Mean	Std. Dev.
My Trans Nzoia East sub-county farmer data integration on performance of Dairy farmers' in Trans Nzoia East subcounty Uasin Gishi , Kenya.	4.038	.7307
My Trans Nzoia East sub-county embrace decision on performance of Dairy farmers' in Trans Nzoia East sub-county ,	4.037	.7306
performance of Trans Nzoia East sub-county, Kenya	4.097	. 7393
farmer data integration on performance of Dairy farmers' , Kenya	3.956	.8361
farmer data integration for money process on performance of dairy farmers' County, Kenya	4.104	.8053
To enhance farmer data integration processes on performance of Dairy farmers' in Trans Nzoia East sub county , Kenya	4.059	.7104

Performance of Dairy farmers' in Trans Nzoia East sub-county

Respondents gave their level of agreement on various statements relating with performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya. The results were as presented in Table 5 below:

From the research findings, respondents were in agreement that performance of dairy farmers' in Trans Nzoia, Kenya is being affect by supply chain agility, they gave 63.2%; when asked about customer satisfaction and its effect on performance of Dairy farmers' in Trans Nzoia East sub county, Kenya they gave strongly agree of 60.7 %; When the respondents were asked to show their level of agreement on how less complaints affects performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya they gave strongly disagreed of 9%; When also the respondents were asked to show their level of agreement on return on investment of the Trans Nzoia, Kenya government on performance of Dairy farmers' in Trans Nzoia East sub-county County, Kenya they gave agreed of 59.7%; Alternative strategy to contribute to Training on electronic records on performance of Dairy farmers' in Trans Nzoia East Sub-County Kenya they gave neutral of 42.5% and through strategic application, performance of private is measured by quality, flexibility, Training on electronic records on performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya they gave disagreed of 74.2%. The outcome is in line with the findings of Mutai and Osoro (2021) they observed that some of the factors that contribute to inefficiency in public procurement as corruption, delayed payments, poor planning, statutory amendments, insufficient use strategic evaluation low public participation, and improper payment procedures negatively affects performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya.

Table 5: Performance of Dairy farmers' in Trans Nzoia East sub-county

Statements	Yes (%)	No (%)
Customer Satisfaction an affects performance of Dairy farmers' in Trans Nzoia East sub-county,	32	68
No. of dairy farmers' can affects their performance Trans Nzoia East sub-county, Kenya	61	39
performance of dairy farmers, Kenya	44	56
affects performance of Dairy farmers' in Trans Nzoia East sub-count , Kenya	59	41
performance of Trans Nzoia East sub-county , Kenya	43	57
performance of Trans Nzoia Trans Nzoia East sub-county , Kenya	64	36

Pearson Correlation Analysis

The study further conducted inferential statistics entailing both Pearson and regression analysis with a view to determine both the nature and respective strengths of associations between the conceptualized predictors such as E-record systems usability, data retrieval efficiency, Training on electronic records and Farmer data integration and performance of Dairy farmers in Trans Nzoia East sub-county, Kenya.

Table 6: Correlation Coefficients

		Performance of Dairy farmers in T/Nzoia East sub	E-record systems usability.	DATA RETRIEVAL EFFICIENCY	Training on electronic records	Farmer data integration
Performance Of Dairy farmers' in Trans Nzoia East subcounty	Pearson correlation	1				
	Sig. (2-tailed)					
E-record systems usability	Pearson correlation	.534*	1			
	N.	259*				
	Sig. (2-tailed)	.000				
Data retrieval efficiency	Pearson correlation	.306**	.264	1		
	N	259	259			
	Sig. (2-tailed)	.002	.0 259			
Training on electronic records	Pearson correlation	.412**	.314	.335	1	
	N	259	259	259		
	Sig. (2-tailed)	.001	.041	.040		
Farmer data integration.	Pearson correlation	.152*	.240	.256	.253	1
	N	259*	259		259	
	Sig. (2-tailed)	.000	.035	.060	.070	
			259	259		259

**. Correlation is significant at the 0.01 level (2-tailed).

From the findings, a positive correlation is seen between each variable and performance. The strongest correlation was established between Training on electronic records and performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya (r = 0.534 and the weaker relationship found between Farmer data integration and performance of Dairy farmers' in Trans Nzoia East sub-county (r = 0.152). while data retrieval efficiency and performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya were found to be strongly and positively correlating with performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya correlation coefficient of 0.306 and 0.412 respectively. This is tandem with the findings of Ongeri and Osoro (2021), who observed that all independent variables were found to have a statistically significant association with the dependent variable at over 0.05 level of confidence.

Regression Analysis

Model of Goodness Fit

Regression analysis was used to establish the strengths of relationship between the performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya (dependent variable) and the predicting variables; E-record systems usability, data retrieval efficiency , Training on electronic records and

Farmer data integration (Independent variables). The results showed a correlation value (R) of 0.786 which depicts that there is a good linear dependence between the independent and dependent variables. This finding is in line with the findings of Ongeri and Osoro (2021). They observed that this also to depict the significance of the regression analysis done at 95% confidence level. This implies that the regression model is significant and can thus be used to evaluate the association between the dependent and independent variables. This finding is in line with the findings of Ittmann (2015), who observed that analysis of variance statistics examines the differences between group means and their associated procedures.

Table 7: Model of Goodness Fit

R	R2	Adjusted R	Std. Error of the Estimate
0.796	0.701	0.643	0.056

a. Predictors: (constants); E-record systems usability, Data retrieval efficiency, Training on electronic records and Farmer data integration

b. Dependent Variable: performance of dairy farmers'

With an R-squared of 0.701, the model shows that E-record systems usability, data retrieval efficiency , Training on electronic records and Farmer data integration an contribute up to 70.1% on performance of Dairy farmers' in Trans Nzoia East sub-county in while 29.9% this variation is explained by other indicators which are not inclusive in this study or model. A measure of goodness of fit synopses the discrepancy between observed values and the values anticipated under the model in question. This finding is in line with the findings of Mwakubo and Ikiara (2007).

Analysis of Variance (ANOVA)

Analysis of variance statistics was conducted to determine the differences in the means of the dependent and independent variables to show whether a relationship exists between the two. The P-value of 0.005 implies that organizational performance of Dairy farmers' in Trans Nzoia East sub-county have a significant relationship with E-record systems usability, data retrieval efficiency , Training on electronic records and farmer data integration which is significant at 95 % level of significance.

Table 8: ANOVA Test

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.155	4	1.051	1.982	.003
Residual	6.465	135	.530		
Total	**10.610**	**259**			

Regression Coefficients of Determination

To determine the relationship between the independent variables and the dependent variable and the respective strengths, the regression analysis produced coefficients of determination. Findings in table 9 revealed a positive relationship between the performances of Dairy farmers' in Trans Nzoia East sub-county, Kenya,

$Y = \beta_0 + \beta_{11} + \beta_{22} + \beta_{3\ 3} + \beta_{4\ 4} + \varepsilon$; where,

Y= performance of Dairy farmers' in Trans Nzoia East sub-county in

β_0 = constant;

β_1 - β_4 = Beta coefficients;

$_1$ = E-record systems usability

$_2$ = data retrieval efficiency

3 =Training on electronic records

$_4$ = Farmer data integration and

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ε = Error term,

From the result shown below, it's clear that when all the independent variables are regressed against the dependent variable the constant gives a negative result meaning there is a strong relationship and how each predator has an effect on the dependent variable.

Table 9: Regression Coefficient Results

Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta	
(constant)	-.134	.060	-1.144	4.004	.002
E-record systems usability	.413	.132	555	5.472	.003
data retrieval efficiency .	.212	.067	.1259	2.471	.001
Training on electronic records	.131	.059	.563	4.355	.004
Farmer data integration.	.256	.115	.321	2.657	0.001

a. predictors: (constants), E-record systems usability, data retrieval efficiency Training on electronic records and Farmer data integration

b. Dependent Variable: performance of West Pokotin Dairy farmers' in Trans Nzoia East subcounty Uasin Gishi , Kenya

A unit change in E-record systems usability would thus lead to a .413 effect on performance of Dairy farmers' in Trans Nzoia East sub county, Kenya sector ceteris paribus; while a unit change in data retrieval efficiency would have an effect of .212 change in performance of Dairy farmers' in Trans Nzoia East sub-county ; also unit change of training on electronic records would lead to .131 of performance of Dairy farmers' in Trans Nzoia East sub-county in further unit change in farmer data integration would lead to .256 of sector also a unit Training on electronic records would have an effect of .134 change in on performance of Dairy farmers' in Trans Nzoia East sub-county and finally a unit change in strategic resolution would have an effect of .254 of performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. This finding is in line with the findings of Ongeri and Osoro (2021). This implies that among other factors, E-record systems usability, data retrieval efficiency , Training on electronic records and Farmer data integration are significant determinants of performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya.

CONCLUSION AND REOMMENDATIONS

The study concludes that there is a positive relationship between E-record systems usability and Performance of Dairy farmers' Speciation identification, periodic design assessment, continues improvement and proactive assessment are among the E-record systems usability factors that significantly influenced the performance of Dairy farmers' in Trans Nzoia East sub-county , Kenya. The study further concludes that by implementing E-record systems usability has enhanced performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya, leading to operational increase in efficiency and effectiveness .Therefore, the study concludes that Dairy farmers' in Trans Nzoia East sub-county, Kenya has significantly increased their strategic ' quality management in the Trans nzoia, County, Kenya government in strategic management repetitions.

The research concludes that data retrieval efficiency influences performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. The strategic during evaluation was through adherence to the set criterion in the bid documentation during the advertisement focusing on data retrieval efficiency. A well-integrated internal supply chain should

provide excellence in data retrieval efficiency on performance of Dairy farmers' in Trans Nzoia East sub-count, Kenya. Through embracing data retrieval efficiency has benefited from facilitated teamwork, resource allocation and fulfilment of set goals between complementary functions. This has made it easy for the Trans Nzoia,County, Kenya to ensure increased Service delivery to the community. Therefore, the study concludes that Trans Nzoia East sub-county, Kenya has experienced significant increase in growth, through data retrieval efficiency in the supply chain observes in management.

Further, the researcher concludes that Training on electronic records had a positive effect on performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. The study established that competence reviews, strategic performance, Strategic skills, strategic knowledge, strategic training, Dairy farmers' in Trans Nzoia East sub-county, Kenya is able to identify problems and find solutions in a timely manner to ensures Training on electronic records of the goods and services delivered. From the findings, the study concludes that increasing Training on electronic records evaluation can leads to increased performance of Dairy farmers' in Trans Nzoia East Sub-County, Kenya by strategic practices.

The researcher concludes that there is a positive relationship between Farmer data integration and performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. Partnership enforcement policy, collective bargaining, alternative dispute resolution processes, free expression of concerns by involved practices are among the coordination factors that significantly influenced the performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. The researcher further concludes that by adopting alternative coordination and partnership mechanisms as it was observed at Dairy farmers' in Trans Nzoia East sub-county in the level of performance of dairy farmers in Dairy farmers' in Trans Nzoia East sub-county has increased. Therefore, the study concludes that Dairy farmers' in Trans Nzoia East sub-county, Kenya has been experiencing significant increase in service delivery through embracing proper coordination in the paradigm.

The study recommended that E-record systems usability formalizes relations between practices within a robust legal framework, it is an opportunity to define the arrangements that encompass every aspect of what outcomes the Dairy farmers' in Trans Nzoia East sub-county, Kenya want from the strategy and how it wants the relationship to work. This means that there is need to take an active role in the development of the quality mechanism early on; it should not be left as a supplementary activity post negotiation.

Effective data retrieval efficiency minimizes or eliminates problems and potential claims towards performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya perspective. It is essential for data retrieval efficiency to understand the provisions of the purchase document, have the ability to communicate financial obligations to all practices involved, and maintain control over the performance of Dairy farmers' in Trans Nzoia East sub-county. The procurement staff at Dairy farmers' in Trans Nzoia East Sub-County, Kenya should ensure that they do proper data retrieval efficiency by maintaining an updated form of the process; assessing and managing strategic involvement; strategic being paid on time; delivering at the right time; inspection or audit of all documents before settling payment.

There should be a thorough and independent review that is informed by those involved in establishing and managing the Training on electronic records. To get the best out of the evaluation, entities should: review all aspects of performance of Dairy farmers' in Trans Nzoia East sub-county and its management; provide feedback to the contractor; this should not be done as part of another procurement process; report to stakeholders; and identify lessons learned. The management of Dairy farmers' in Trans Nzoia East sub-county, Kenya should ensure regular strategic evaluation through well-established monitoring and

evaluation of performance of Dairy farmers' in Trans Nzoia East sub-county.

When relationships are not properly managed, they may cause strategic delays, undermine team spirit, increase delay costs, and, above all, damage business relationships. Research in preventing and resolving relationship disputes supports the effort for better understanding and harmonization of the different cultures. Therefore, this study recommends to the management of Dairy farmers' in Trans Nzoia East sub-county, Kenya to enhance and upgrade on the implementation of all applicable alternative disputes resolution mechanisms so to protect relationship with its stakeholders in the strategy practices.

Areas for Further Studies

This research focused on E-record systems usability, data retrieval efficiency, Training on electronic records and farmer data integration and performance of Dairy farmers' in Trans Nzoia East sub-county, Kenya. The study therefore recommends a further study to be conducted to other counties. Then get their findings and compare with this and agree or disagree. The study also recommends replication of the study in other sectors such as sub–Trans Nzoia East sub-county sector and public sector to allow comparison of research findings. Future researchers an investigate the factors affecting strategy best practices broadly in all areas of concern in this profession on performance of Dairy farmers within the strategic practices.

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