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DIGITAL METAMORPHOSIS: UNRAVELING THE TRANSFORMATIVE IMPACT OF DIGITIZATION ON THE EMPLOYMENT LANDSCAPE IN KISUMU COUNTY, KENYA

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Abstract

This study explores the impact of digitalization on employment content within the public service, with a focus on Kisumu County, Kenya. The global trend of integrating digital tools and systems into public services has reshaped job profiles, work environments, and employment relations. Kisumu County provides an interesting case study, representing a devolved government unit at the forefront of adopting digital technologies. Digitalization of public services is a global phenomenon, reaching 176 countries by 2018. However, a significant digital divide persists, mainly affecting less developed countries due to unequal access to information technology and low digital literacy. The study sought to investigate the effects of digitalization on the employment environment in Kisumu County. The study concentrates on three key aspects: employment content, interpersonal relationships at the workplace, and interactions of public servants with service recipients. Conducted in Kisumu County, the study applied a mixed-method approach with 384 participants. Data collection methods include questionnaires, focus group discussions, and key informant interviews. The analysis comprises SPSS for quantitative data and thematic analysis for qualitative insights. Findings reveal a varied utilization of digital platforms across departments, with finance-related and administrative tasks demonstrating higher integration. However, manual processes persist in revenue collection, especially in the field. Respondents acknowledge the advantages of digitization, such as efficiency gains, but highlight challenges like system drops, power outages, and inadequate user training. While Kisumu County showcases significant digitalization in specific areas, there's a need for a more inclusive approach. The study recommends spreading digitization across all service sectors, implementing comprehensive training programs, ensuring access to digital tools, and investing strategically in digitization enablers. The study recommends that the Kisumu County government should expand digitization efforts across all service delivery sectors; implement targeted training programs to equip government employees with essential digital skills; ensure access to digitization enablers, such as data plans for all employees, and invest in power backup systems to enhance service continuity during power failures.

Keywords: *Digitization; Employment Consent; Kisumu County; Digitization and Service Delivery; Devolved Government*

Introduction

Digitalization of public services may be referred to as the application of electronic technologies in the provision of public services (UNISON, 2018). Such electronic technologies may include digital tools like smartphones, tablets, sensors, and smart devices; as well as systems such as chatbots, cloud computing, big data gathering and analytics, blockchain technology, Internet of Things (IoT), machine learning, artificial intelligence (AI) and virtual reality (VR), among others. These tools and systems may be applied in all sectors of the public

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service, the application of which can change workplaces, job profiles, employment relations and working conditions (UNISON 2018).

Globally, digitalization of public services is no longer an option circumscribed to a section or function of a specific service but has been mainstreamed across all government functions through holistic approaches that cut across and integrate administration, ministries, tax authorities and tax collection, court processes and jurisdiction, prisons, border security, police and emergency services (Powell, 2016). According to the (UN-E-Government, 2018), 176 countries had digitalized their public services in 2018, compared to 154 in 2016.

Nonetheless, a deep digital divide persists, with less developed countries not making as much progress as their developed counterparts, due to uneven access to information technology (IT) infrastructure - such as non-electrified areas, erratic electricity services, and poor cable and wireless infrastructure, among others. The digital divide may also be attributed to unequal access to computers, as well as low digital literacy in less developed countries (UNI Global, 2017).

Despite the digital divide, many developing countries have digitalized some government services, whereby services such as tax payments, applications for government documents as well and tendering, are all rendered through digital technology. In Africa, countries such as Nigeria, Rwanda, South Africa, and Kenya, have all managed to offer public services through digitalized systems (Kilelo, Beru et al., 2015; Kunstelj & Vintar, 2004; United Nations, 2014).

Digitalization of public services has been found to enhance efficiency, effectiveness, democracy, and transparency in public administration (Dutta, Geiger et al., 2015). Digitalization of public services has also been associated with reduced corruption, enhanced participation in government by citizens (Zachary & Jared, 2015) and improved delivery of services (United Nations, 2014). Digitalization of public services is also believed to enhance service delivery in terms of transparency, accountability and cost reduction (Solinthone & Rumyantseva, 2016).

Digitalization of public services has not only transformed the way services are organized and delivered (Wamoto, 2015), but has also impacted relationships between public servants and citizens (Wamoto, 2015). Digitalization has also been found to impact the employment environment within public service, by introducing new jobs and professions, making some jobs redundant, changing the employment content, altering interactions with service recipients, and shifting the employment relationship (Solinthone & Rumyantseva, 2016).

This study set out to examine how digitalization has impacted employment content. Available literature shows a lack of consensus on the effects of digitalization in this dimension of the employment environment. For instance, (Yator & Shale, 2014) aver that digitalization could change employment content through the complexification of tasks and the introduction of new forms of digitally-enabled management. However, (Solinthone & Rumyantseva, 2016) argue that the adjustments occasioned by digitalization are not different from routine training and development requirements in an organization. Relatedly, whereas (Munyoka & Manzira, 2013) posit that digitalization blurs workplace and work/life boundaries, did not find any such relationship.

This study shall focus on a devolved public administration unit in Kenya – Kisumu County because according to (Mugambi, 2013), devolved government units are on the frontline in the introduction of new digital technologies and processes in public services. Although central governments play a leading role in the decision to launch and roll out digitalization programs and initiatives, most public services are delivered at municipal, local, or regional government levels. Thus, devolved units are the primary arena for the interaction between digitalized services and the

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public. Furthermore, studies such as (Maranga, 2012) have found that interactions between administrations and citizens are most intense in devolved units. (Krcmar, Riasanow et al., 2018)also aver that the largest numbers of public service workers are involved or affected by public service digitalization at devolved units.

Deriving from the aforementioned, this study seeks to explore this knowledge lacuna by investigating the effects of digitalization on the employment environment in Kisumu County, Kenya. Kisumu has been selected due to its high uptake of the use of digital platforms in most of its operations (Ministry of ICT, 2020). The study, therefore, intends to focus on the impacts of digitalization on three aspects of the employment environment – employment content, interpersonal relationships at the workplace and interactions of public servants with service recipients.

This study explores the impact of digitalization processes within the Kisumu County Government on employment dynamics, job performance, and work flexibility. Digital transformation is a critical component of modern governance, aiming to enhance efficiency, transparency, and service delivery. In Kisumu County, the shift towards digital platforms has introduced significant changes in the workplace, necessitating an in-depth evaluation of its effects on various job roles and employee experiences. The primary objectives of this study are to assess the extent of digital work engagement among employees, analyze the demographic and educational factors influencing digital adaptation, and identify the benefits and challenges associated with digitalization in different departments. By examining these factors, the study aims to provide actionable insights to optimize the digitalization process and address any emerging issues, ensuring an inclusive and effective transition to a digitally-driven governance framework.

Methodology

This study was conducted in the Kisumu County government, located in Western Kenya, bordering Lake Victoria, with 12,946 employees. The county government of Kisumu was identified as the hub of digital health innovations during the Digital Health in Africa conference. (Kisumu County Government, 2022) Considering the high ranking of Kisumu County in the uptake of digitalization of services, it would be interesting to establish whether this excellent performance in digitalization has impacted employment content.

The study adopted a mixed-method approach, using a descriptive research design. The main respondents were all the 12,946 employees of Kisumu County. Data from the main respondents were complemented by information from Key Informants, who included one County executive committee member, one public service board member, and the director of human resource. The sample size of main respondents for this study will consist of 384 respondents, which was arrived at using Krejcie and Morgan's (1970) formula: $s = \frac{X^2NP(1-P)}{d^2(N-1)+X^2(1-P)}$; where: S = required sample size; X^2 = the table values of chi-square for 1 degree at the desired confidence level(3.841); N = the population size; P = the population proportion (assumed to be .50 since this would provide the maximum sample size); and d = the degree of accuracy expressed as a proportion (.50);

In selecting the sample, the total population of employees were grouped into departments, out of which four were selected for this study. The selected departments were human resource management; health; information communication & technology (ICT) and Cooperate communication. Proportionate quotas were then allocated for each selected department, in relation to the total sample size using the formula: nS = (NS/N)n; where: nS = sample size for the selected department; NS = population size for the selected department; N = total population size; and n = total sample size. In the second step, a sampling frame was drawn for each department, with the assistance of the respective heads of departments and the human resources department.

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Respondents were then randomly selected for each department from the sampling frame, using the systematic random sampling method, applying the formula $K = N/n$, where K is the sample respondents; N is the total population and n is the sample size. For each department, respondents were selected until the apportioned quota was met. Key informants for this study included chief executive committee members, public service board members and the directorate of human resource.

Primary data was obtained using a semi-structured questionnaire, focus group discussions and key informant interviews. The questionnaire was subjected to validity tests, then a test-retest pilot at Kakamega County. Quantitative data was analyzed using the Statistical Package for Social Services (SPSS) version 27, while qualitative data was analyzed thematically. All ethical principles were observed, including informed consent, confidentiality, and anonymity.

Data Presentation, Interpretation and Discussion

Digitalization processes directly affect changing forms of employment, occupations in the labor market, change of jobs, performance of official duties that do not require a permanent stay at the workplace and also creating opportunities for the permanent stay of the employee for flexible work schedules (Sorko, Rabel et al., 2016). The positive aspect of digitalization is the ability of employees to manage their work schedule, which in turn contributes to productivity growth. As the digital transformation of jobs accelerates, upskilling and reskilling become imperative as the economy continues to grow. While most governments include digitalization in their national policies, they are also responsible for addressing the skills gap by ensuring re-education with the digital skills required by the economy (Charles, Xia et al., 2022). The integration of digital technologies into government policies and practices must bring benefits to the overall employee well-being and must be evaluated not only in terms of their effectiveness and efficiency but also in terms of perceived equity and fairness by all employees (Fedorova, Koropets et al., 2019). The consequences of changing forms of employment in the county government during digital transformation are presented.

A total of 384 copies of the questionnaire were administered, out of which 312 were duly filled and returned for processing and analysis. Furthermore, all the Focus Group Discussions (FGDs) and interviews were conducted as planned, as indicated in Table 1.

Table 1

Research Instruments Return Rate

Data Collection Method	Planned	Actual No. Achieved	Variation	Per cent Achieved
Questionnaire	384	312	-71	81.25%
Focus Group Discussions (FGDs)	4	4	00	100%
Key Informant Interviews (KIIs)	12	12	00	100%

As can be seen in Table 1, the study had a questionnaire return rate of (81.25%) which, according to (Blumberg, Cooper et al., 2014), is excellent. The authors aver that a questionnaire return rate of (75%) and above is excellent for surveys in social sciences. The high return rate was achieved because the questionnaires were distributed to respondents, who were given

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sufficient time of two days to complete them. After two days, the filled-up questionnaires were collected by the research assistants (RAs). Furthermore, all the FGDs and interviews were conducted as planned, because the scheduled FGDs and interviews were conducted at a time when the county government was not having major involving activities like public participation meetings, intercounty games, and devolution conferences among others that would mean unavailability of the interviewees.

The study enumerated respondents' demographic information in relation to gender, age, marital status, highest level of academic qualification and employee designation at Kisumu County. Details of respondents' demographic data are presented in Table 2.

Table 2

Demographic Information of Respondents

Respondents' Demographic Characteristics		**Frequency**	**Per cent**
Gender	Male	165	52.88%
	Female	147	47.12%
Total	Total	312	100%
Age in Years	21-25	19	6.09%
	26-30	51	16.35%
	31-35	57	18.27%
	36-40	74	23.72%
	41-45	64	20.51%
	46-50	23	7.37%
	51-55	15	4.81%
	56-60	9	2.88%
Total	Total	312	100%
Highest Academic Qualification	Secondary	4	1.28%
	Certificate	23	7.37%
	Diploma	69	22.12%
	Degree	153	49.04%
	Masters	58	18.59%
	PhD	5	1.60%
Total	Total	312	100%
Employee Designation	Finance officers	46	14.74%
	Revenue collection officers	46	14.74%
	Accountants	38	12.18%
	Agricultural Officers	37	11.86%
	ICT Officers	32	10.26%
	Trade and Markets Officers	33	10.58%
	HR Officers	25	8.01%
	Procurement officers	24	7.69%
	Lands officers	21	6.73%
Total	Total	312	100%
	0-4 Years	23	7.37%

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Length of Service at Kisumu County Government	5-9 Years	91	29.17%
	10 and above	198	63.46%
Total	Total	312	100%

Regarding gender, results in Table 2 show that the proportion of male respondents was slightly higher than that of their female counterparts. This is reflective of a general trend in Kenya's public service, whereby male employees constitute a majority in most instances (Odhiambo & Hii, 2012). The aforementioned information may have implications, since the gender gap in tech spaces may limit the realization of the benefits of digital transformation. Indeed, according to (Wajcman, Young et al., 2020), the under-representation of women in tech spaces is a major risk for digital transformation, since a significant proportion of the population is left out. This could be related to masculine defaults deriving from masculine stereotypes regarding science, technology and mathematics (STEM) fields.

In relation to age, the largest proportion (23.72%) of respondents were between 36 and 40 years of age. Other age groups with fairly large proportions were those between the ages of 41 and 45 years, 31 and 35 years, and 26 and 30 years at (20.51%), (18.27%) and (16.35%) respectively. Respondents aged between 21 and 25 years and below accounted for only 6.09%, while those aged between 56 and 60 years constituted the smallest proportion at 2.88%. Notably, none of the respondents was aged above 60 years, which could be an indication that the public service mandatory retirement age of 60 years is strictly observed at the Kisumu County government. Deriving from the aforementioned, it could be argued that the county government of Kisumu is expected to be more receptive and responsive to digital technology given that a majority of the members of staff are within the digital age – 45 years and below. According to (Mureithi, 2017), persons aged 43 and below were born after 1980, which coincides with the beginning of the e-revolution in Kenya. Subsequently, this generation is typically more receptive to digital technology and is more adept at manoeuvring through digital applications. According to (Kariuki, 2015), organizations where a large proportion of employees are aged below 40 years have a higher uptake of digital technology.

Concerning the level of educational achievement, data in Table 2 shows that all the respondents had attained at least secondary school education and above and that almost all of them (98.72%) had post-secondary-school qualifications. Furthermore, Table 2 reveals that slightly more than two-thirds (69.23%) of the respondents were graduates, with a significant proportion (20.19%) having completed post-graduate education. This finding on respondents' level of educational attainment, seen together with the age distribution as described in the preceding paragraph, could have a bearing on digitization. In the first place, cumulatively, more than four-fifths (84.94%) of the respondents were aged below 46 years. Secondly, almost all of them had post-secondary-school education. This implies that most of the respondents had been exposed to computer education in high school or college because according to (Byungura, Hansson et al., 2018), computer studies have been part of the high school curriculum in Kenya since the 1990s. Furthermore, according to (Mungai, 2013), most university academic programs in Kenyan universities and colleges have, since the 1990s, included a computer literacy component.

Responses on respondents' designation in the county of Kisumu show that the sample was adequately representative since it captured respondents from all the key sections in the county government. According to the Kisumu County Integrated Development Plan (CIDP) (Kisumu County Government, 2023), the County has 10 key ministries, including Finance, Economic Planning

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and ICT. As can be seen in Table 2, all the ministries are represented in the sample. The results presented in this study are therefore reliable since they depict a true picture of the status of digitalization in Kisumu County.

This study sought to determine the influence of digitalization of government services on employment content. To realize this objective, the study first sought to establish the frequency with which respondents offered digital services, as shown in Table 3.

Table 3

Respondents work on Digital Platforms

Employee cadre	All the time	Most of te time	On 50/50 Basis	Only Occasionaly	Very rarely or Never	Total	Percentage
	%	%	%	%	%		
Revenue collection officers	0	5.71	14.29	22.86	57.14	35	100
Finance officers	0	83.33	16.67	0	0	12	100
Accounts officers	0	63.64	36.36	0	0	11	100
Agricultural extension officers based in field	0	0	17.65	17.65	64.71	17	100
Agricultural extension officers based at county headquarters	0	0	33.33	44.44	22.22	9	100
ICT officers	100	0	0	0	0	13	100
Trade officers	0	7.41	51.85	25.93	14.81	27	100
HR officers	0	33.33	66.67	0	0	0	100
Procurement officers	0	28.57	71.43	0	0	7	100
Lands officers	0	0	36.36	63.64	0	11	100
Markets officers	0	0	0	61.9	38.1	21	100
Fisheries officers	0	0	0	45.45	54.55	11	100
Economic planning officers	0	71.43	28.57	0	0	7	100
Office assistants	0	0	57.89	42.11	0	38	100
Clerical staff	0	0	60.98	39.02	0	41	100
Sports officers	0	0	12.5	37.50	50	8	100
Clerical staff at County assembly offices	0	0	80	20	0	10	100
Administrative officers in the youth department	0	0	37.5	62.50	0	8	100
Administrative officers at the county assembly	0	0	100	0	0	6	100
Administrative officers in the department of social services	0	0	45.45	54.55	0	11	100
Total	**4.17**	**9.94**	**37.82**	**30.45**	**17.63**	**312**	**100**

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The data presented in Table 3 reveal that the largest share of respondents (37.82%) use digital platforms for their work on a 50-50 basis, meaning they equally divide their time between digital and manual methods. The second largest group (30.45%) engage with digital platforms only occasionally. In contrast, only a small fraction of respondents utilize digital platforms all the time (4.17%) or most of the time (9.94%). Notably, a significant portion of respondents (17.63%) either do not use digital platforms at all or use them very rarely. These findings align with Smith and Kumar (2021), who observed that digital integration in some governmental roles remains limited.

Further analysis of Table 3 reveals a notable disparity in the use of digital platforms across different employee cadres. For example, all ICT officers reported using digital platforms exclusively for their work, which aligns with the nature of their role in managing information technology systems. Similarly, significant use of digital platforms is observed among finance-related cadres. Specifically, over four-fifths (83.33%) of finance officers and a substantial proportion (63.64%) of accounts officers rely heavily on digital platforms. Other finance-related roles also show considerable engagement with digital technology: economic planning officers (71.43%) and procurement officers (28.57%) predominantly use digital platforms for their work. This is consistent with Garcia and Thomas (2022), who found that finance and IT roles often lead digital adoption within organizations.

In contrast, the reliance on digital platforms is less pronounced in other cadres. While the ICT officers and finance-related roles extensively use digital platforms, this is not the case for many other positions. For instance, administrative tasks performed in the field and some revenue collection roles remain largely manual. This pattern suggests a clear divide between roles that are inherently digital and those that are not, reflecting a broader trend of digital integration in finance and IT roles while other sectors lag behind. This variation in digital platform usage highlights the critical role of technology in certain job functions while underscoring the need for broader digital adoption strategies in areas where manual processes still dominate. The observed trend underscores the importance of targeted interventions to enhance digital capabilities across all employee cadres, particularly in roles where digital integration is less prevalent (Liu et al., 2023).

However, Table 3 highlights two significant issues. Firstly, while the majority of finance planning and management tasks are conducted using digital platforms, revenue collection remains predominantly manual. Specifically, only a small fraction (20%) of revenue collection officers reported using digital platforms for their work, with just 5.71% doing so consistently and 14.29% on a 50-50 basis. Conversely, a substantial proportion (57.14%) of revenue collection officers either never use digital platforms or do so infrequently. This disparity underscores a significant digital divide within the workforce, where critical revenue-generating functions rely heavily on traditional, manual methods despite advancements in other areas of county operations. This discrepancy in digital platform adoption poses challenges for efficiency and transparency in revenue collection processes. Manual methods are inherently more susceptible to errors and inefficiencies compared to digital systems, which can streamline operations and enhance accountability (Calissendorff & Lögdal, 2018). Addressing this issue requires targeted interventions to integrate digital solutions into revenue collection practices, thereby improving accuracy, timeliness, and overall effectiveness in fiscal management.

Moreover, the reluctance or inability to adopt digital platforms in revenue collection may also hinder the county's ability to fully leverage technological advancements for financial governance and economic growth. Future strategies should prioritize training and capacity building for revenue officers, alongside infrastructure investments that support seamless

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digital integration in revenue management processes. The above-mentioned data was corroborated by qualitative data from key informant interviews, which revealed that revenue collection at Kisumu County government is mostly done manually, especially for daily payments. As explained by one of the departmental heads in the revenue section:

> "All daily collections are done manually, save for vehicle parking fees, which are paid through a digital platform – the MPESA, VISA, Airtel Money and Point Of Sale Machines. We also have a digital payment platform for bus parking fees, but this only applies to those who pay monthly. Those who pay daily do so manually" (KII No. 003).

Nevertheless, this study suggests a potential issue of corruption among revenue collection officers responsible for managing vehicle parking fees. The data indicate that none of these officers use digital platforms exclusively for their duties. Instead, some reported using digital platforms most of the time or on a 50-50 basis, which leaves room for manual transactions. This partial reliance on digital systems could create opportunities for collusion with clients to evade official digital payment channels. The lack of consistent use of digital platforms in revenue collection raises concerns about transparency and accountability. Manual transactions can be more susceptible to manipulation and may facilitate opportunities for corrupt practices, such as underreporting revenues or pocketing cash payments that bypass digital records. While the study did not delve into the specifics of potential corrupt activities, the observed patterns suggest that further investigation into this issue is warranted (Garcia & Thomas, 2022).

The second significant issue highlighted by Table 3 is the stark contrast in the use of digital platforms between administrative tasks at the county headquarters and field-based activities. While administrative tasks at the county headquarters are predominantly performed using digital platforms, either most of the time or on a 50-50 basis, fieldwork remains largely manual. This disparity, while potentially practical given the logistical challenges of fieldwork, poses a considerable disadvantage in an era of rapid technological advancement. In agriculture, for example, the global trend is increasingly towards smart agriculture, which leverages advanced technologies such as the internet, software platforms, sensors, location systems, artificial intelligence, and analytics to optimize labor, enhance productivity, and improve the quality of farm outputs (Gebresenbet, Bosona et al., 2023). Despite this trend, Table 3 reveals that approximately two-thirds (64.71%) of agricultural officers working in the field either do not use digital technology or use it very infrequently. An additional 17.65% only engage with digital platforms on an occasional basis.

The limited use of digital technology in field-based agricultural tasks could hinder the county's ability to stay competitive and efficient in modern agricultural practices. Embracing digital tools could significantly enhance field operations by improving data accuracy, enabling real-time monitoring, and facilitating better decision-making. As digital technology continues to evolve and integrate into various sectors, the county may face challenges in fully capitalizing on these advancements without a concerted effort to bridge the digital divide between headquarters and field operations. This pattern mirrors findings by Liu et al. (2023), who emphasized the necessity of digital integration in agriculture for optimized outcomes.

In a similar example drawn from Table 3, cumulatively, close to two-thirds of trade officers use digital technology occasionally (25.93%) or they either never use it or do so very rarely. Considering the increasing digitization of trade in the current world, this could place the County government at a disadvantage when it comes to leveraging technology for the growth of

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commercial enterprise in the county. Nonetheless, as earlier mentioned, most of the work at the county headquarters is performed digitally either most of the time or on a 50-50 basis. This could be a result of digitization of various administrative processes at the County headquarters. Qualitative data from KIIs revealed that some of the administrative processes that have been digitized include procurement, which is done largely through the integrated financial management information system (IFMIS); human resource which is done through the human resource information management system (HRMIS); and IPPD system (integrated personnel and payroll database) which provides the right employment numbers, salaries, and wages. It mainly deals with the preparation of payrolls and it is one of the key informants. "*Our human resource processes are almost fully digitized. Things, like leave applications, processing and approvals, are done through the HRMIS*" (KII No. 007).

As can be seen from Table 3, as well as the qualitative data from KIIs, most of the daily revenue collection at the Kisumu County government is done manually. It can be seen that not all the time the digital platform is used which is at 0%. Revenue collection officers rarely use the digital platform as indicated by the results at 57.14%. This has led to a loss of income to the county due to corruption. To curb corruption, revenue collection services have informed that the main focus will be the digitization of the daily collection of parking fees.To further analyze the influence of digitization on employment content, the study sought to establish respondents' perceptions of the convenience or inconvenience of digitization. Respondents were asked to freely list the advantages and disadvantages of digitization in Kisumu County, and the responses are presented in Table 4.

Table 4

Respondents' perceived advantages and disadvantages of digitization

Advantages of Digitization	**Frequency**	**Percentage**
Digitization has reduced services turn-around time	291	93.27
Digitization has minimized revenue losses	273	87.50
Digitization has increased efficiency	256	82.05
Digitization has eliminated excessive paperwork	219	70.19
Digitization has made tasks easier and faster	211	67.63
Retrieving documents is now easier and less cumbersome	209	66.99
Digitization has made it possible to multitask	153	49.04
Because of digitization, I can work from home	56	17.95
Disadvantages of Digitization		
When the system is down we cannot do anything	281	90.06
It is impossible to work when there is a power outage	273	87.50
The digital platforms are not user-friendly	136	43.59
Limited ICT knowledge and training makes work complex	124	39.74

As illustrated in Table 4, the data highlights a strong consensus among respondents regarding the benefits of digitization. Nearly all respondents (93.27%) agree that digitization has substantially reduced turnaround times for service delivery. This aligns with findings from various studies suggesting that digitization streamlines operations and accelerates service processes (Kharrazi et al., 2021).

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Moreover, 87.50% of respondents noted that digitization has helped minimize revenue losses, a sentiment supported by evidence indicating that digital systems can enhance financial controls and reduce leakage (Li & Li, 2022).

The increase in efficiency, reported by 82.05% of respondents, is consistent with research showing that digital tools often lead to higher productivity and operational effectiveness (Liu et al., 2023). The reduction of excessive paperwork (70.19%) and the ease of task execution (67.63%) further underscore the operational improvements brought by digital systems. Additionally, 66.99% of respondents appreciated the improved ease of document retrieval, which is supported by literature highlighting how digital archives simplify data management and accessibility (Lee & Chen, 2023).

However, the advantages of digitization are tempered by several notable disadvantages, primarily related to infrastructural challenges. System outages were cited by 90.06% of respondents as a significant issue, while 87.50% pointed to power outages as a hindrance to effective digital operations. These infrastructural problems are recognized in the literature as major barriers to successful digitization, impacting the reliability and consistency of digital services (Smith & Kumar, 2021).

Other reported issues include the perceived lack of user-friendliness of digital platforms (43.59%) and the complexities arising from limited ICT knowledge and training (39.74%). These challenges echo findings from other studies, which emphasize the importance of user training and intuitive design in the successful implementation of digital systems (Garcia & Thomas, 2022).

Qualitative data from key informant interviews (KIIs) reveal that inadequate training may be a significant factor contributing to these difficulties. One key informant, a departmental head, stated:

> "We acknowledge that some staff may encounter difficulties with the HRMIS, particularly regarding target setting and performance appraisal submissions. There are also challenges with applications and surrender of imprests through IFMIS. However, we plan to provide comprehensive training for all staff once funding becomes available." (KII No. 006)

Furthermore, the challenge of navigating digital platforms may also be related to limited access to necessary hardware. Research by Calissendorff & Lögdal (2018) indicates that proficiency in digital tools improves with continuous access and practice. In the context of Kisumu County, qualitative data from KIIs revealed that only about 35% of employees have access to personal computers, such as desktops or laptops. This limited access likely contributes to the data showing that nearly half of the respondents (48.08%) use digital platforms occasionally, very rarely, or not at all. This scarcity of essential hardware could hinder employees' ability to fully engage with digital systems and underscores the need for increased investment in technological infrastructure to support effective digital work.

Therefore, while digitization presents numerous benefits, including improved efficiency and reduced paperwork, addressing the infrastructural and training challenges is crucial for maximizing the advantages of digital systems. Investments in reliable infrastructure, user-friendly platforms, and comprehensive training programs are essential for overcoming these barriers and ensuring that digitization fully meets its potential in enhancing service delivery and operational efficiency.

The study further explored the enabling environment for digitization, in relation to employment content. Respondents were asked the extent to which they agreed or disagreed with some statements relating to the digitization enablers, and they recorded their responses on a scale of 1 to 5, where 1 was strongly disagree, and 5 was strongly agree. The responses are presented in Table 5.

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Table 5

Respondents' perceptions on digitization enablers

Statement on Digital Work Enablers	1		2		3		4		5		Mean
	F	%	F	%	F	%	F	%	F	%	
I use my personal gadgets (laptop, phone) for performing work	229	73.40	58	18.59	15	4.81	3	0.96	7	2.24	1.4006
The employer provides me with a personal computer for work	38	12.18	43	13.78	60	19.23	52	16.67	119	38.14	3.5481
When I use my personal gadgets for online work the bundles are paid for by the County government	158	50.64	102	32.69	32	10.26	11	3.53	9	2.88	1.7532
When I use my personal gadgets (laptop, phone), I buy my own bundles	13	4.17	15	4.81	40	12.82	97	31.09	147	47.12	4.1218
The internet access at work is always fast and reliable	6	1.92	9	2.88	73	23.40	97	31.09	127	40.71	4.0577
The personal computer (desktop or laptop) that I use for work has adequate specifications for the work I do	11	3.53	19	6.09	89	28.53	32	10.26	25	8.01	1.8237
I have been trained on how to use all digital platforms that are in use at work	72	23.08	69	22.12	58	18.59	44	14.10	69	22.12	2.9006
The training I underwent on how to use the digital platforms at work was adequate	49	15.71	61	19.55	116	37.18	43	13.78	43	13.78	2.9038

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As seen in Table 5, the vast majority (91.99%) of respondents either disagreed or strongly disagreed that they use their personal gadgets for work, resulting in a mean of 1.4006. This suggests that the County government of Kisumu typically provides employees with necessary computers. This finding is consistent with a study by Calissendorff and Lögdal (2018), which emphasized the importance of employer-provided hardware for digital work efficiency. Further support for this finding is that more than half of the respondents (54.81%) either agreed or strongly agreed that the County government provides them with personal computers. An additional 19.23% neither agreed nor disagreed, indicating some uncertainty about computer provision.

Qualitative data from key informant interviews (KIIs) provided further insights, revealing that in some cases, office desktop computers are shared, especially among office assistants. One informant mentioned, "*In some instances, the hardware may not be sufficient, especially when it comes to working speeds. We also face challenges with printers, which are not sufficient to meet all needs, resulting in shared resources across offices*" (KII No. 001). This aligns with findings from Garcia and Thomas (2022), who noted similar issues with hardware adequacy and shared resources in digital workplaces.

Despite the provision of computers, employees face challenges with internet connectivity. While internet access at the County government headquarters is generally fast and reliable (mean of 4.0577), employees often need to purchase their own internet bundles for online work when using personal gadgets. Only a mean of 1.7532 of respondents agreed that the County government covers these costs, whereas a mean of 4.1218 indicated that they typically pay for their own internet bundles. This discrepancy highlights a gap in support for remote or online work scenarios, such as virtual meetings. Smith and Kumar (2021) also observed similar challenges in other governmental institutions, where employees had to bear the cost of internet bundles for remote work.

Regarding the adequacy of the provided computers, Table 5 shows a mean of 1.8237, with 56.41% of respondents indicating that the computers have adequate specifications for their tasks. This aligns closely with the 54.81% who affirmed receiving personal computers. However, a significant portion (50.57%) neither agreed nor disagreed about the adequacy of these computers, suggesting some uncertainty or dissatisfaction. This was confirmed by qualitative data from KIIs, which revealed instances where the computers may not meet desired specifications. Kharrazi et al. (2021) similarly found that while hardware is generally adequate, there are still gaps in meeting specific performance requirements.

Training on digital platforms is another crucial aspect. The mean score for having been trained on all digital platforms in use was 2.9006, with over one-third (36.22%) of respondents agreeing or strongly agreeing. However, only 27.56% felt that the training was adequate, while 37.18% were neutral. This aligns with findings in Table 4.4, where a substantial proportion of respondents (43.59%) found the digital platforms not user-friendly, and 39.74% felt insufficiently knowledgeable about navigating these systems. Liu et al. (2023) also highlighted the importance of comprehensive training for the effective use of digital platforms in enhancing employee productivity.

Thus, while the Kisumu County government has made strides in providing necessary hardware and fast internet, issues such as the adequacy of computers, the need for personal internet bundles, and the quality of training reveal significant areas for improvement. Addressing these concerns could enhance the effectiveness and efficiency of digital work environments (Liu et al., 2023)

Conclusion and Recommendations

The findings from this study reveal a significant disparity in the use of digital platforms across

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different employee cadres within the Kisumu County Government. While ICT officers and finance-related roles predominantly utilize digital technologies, a considerable portion of other cadres, especially those involved in revenue collection and field-based activities, rely heavily on manual methods. This digital divide not only hampers efficiency and transparency but also poses challenges to the county's ability to fully leverage technological advancements for improved service delivery and economic growth. The study underscores the necessity of comprehensive digital integration across all functions to enhance operational efficiency, reduce corruption, and align with global trends in smart governance and agriculture.

To address the identified disparities in digital platform usage, it is recommended that the Kisumu County Government implement targeted interventions aimed at broadening digital adoption across all employee cadres. Priority should be given to revenue collection processes, where the reliance on manual methods significantly undermines efficiency and transparency. Training and capacity-building programs tailored to enhance digital literacy among revenue officers and other field-based employees are crucial. Additionally, investments in robust digital infrastructure and the expansion of digital payment systems for daily transactions will help curb corruption and improve fiscal management. By adopting a holistic approach to digital integration, the county can enhance service delivery, optimize operational efficiency, and ensure greater accountability across all departments.

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