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Cheruiyot B, Muiruri L, Njuguna RS

Institution
Kenya Methodist University
Kemu Hub, Koinange St,
Nairobi, Kenya

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Abstract
Hospital Management Information Systems (HMIS) has the potential to improve the quality of services delivered, as well as the efficiency and effectiveness of healthcare providers through the integration of various hospital functional units. However, the benefits of this implementation in service delivery have not been adequately addressed. This study sought to appraise the impact of the implementation of HMIS, on service delivery in Moi Teaching and Referral Hospital, (MTRH). The objectives of the study were: to examine the level of implementation of HMIS in MTRH; to establish the strategies motivating implementation and utilisation of HMIS, to assess the benefits that have been realized in utilizing Hospital Management Information Systems, and to assess the effect of HMIS on service delivery in MTRH. Cross sectional descriptive research design was utilised in the study; the sample size formula proposed by Cooper and Schildler formula was used to obtain 240 respondents from a target population of 587 users of HMIS. A structured closed-ended questionnaire and interviews were administered. Quantitative data was obtained, coded using SPSS v.21. Data was analysed using descriptive statistics, *i.e.* mean and standard deviations and inferential statistics *i.e.* Pearson Correlation Analysis and Multiple Regression Analysis. Of the 240 questionnaires distributed, 192 were filled and returned, with most respondents familiar with HMIS. The respondents moderately agreed that the implementation of HMIS was done well and as per expectations. The Hospital Records module had the highest implementation level, while Consulting Doctor module scored the lowest. On the level of utilisation of HMIS, the result indicate that the mean values were above average on a five point Likert scale. The Further Records module had the highest implementation level, with the majority agreeing that the module had been adequately utilised. Conversely, the Consulting Doctor module posted the lowest utilisation level. On the strategies motivating the utilisation of HMIS results indicate that the strategy of allaying perceptions and fears among staff on the use of HMIS is the one mostly deployed by the hospital in order to improve the level of Utilisation of HMIS. Results indicated that the anticipated benefits of HMIS were all above average. The results of the regression analysis suggested that HMIS implementation (β=.215, $p<0.05$), HMIS Utilisation (β= ..697, $p<0.05$), motivation strategy (β= .193, $p<0.05$), and HMIS benefits (β= .045, $p<0.05$) had a positive significant effect on service delivery. Therefore, the null hypothesis is rejected. The value of the F-statistic is ($F=172.917$, $p<0.05$) is robust. The coefficient of determination value of $R2= .787$ means that 78.7% of the variation in service delivery at the hospital can be explained by HMIS. The study recommends that a policy be drafted to entrench HMIS implementation and utilisation in the country.

Key Words
Hospital Management Information Systems; Service Delivery; Implementation

Corresponding Author:
Mr Bethwel Cheruiyot; E-mail: bethwelc@gmail.com

Introduction
Developing countries face different challenges in their health sector. This has been immensely captured by the annual World Health Organisation (WHO) reports. In the reports, developing countries such as Kenya faced similar healthcare challenges in the year 2001 and 2014. However, investment in the health sector has rather remained stagnant with the 2011 statistics showing Total expenditure on health per capita at 77 United States Dollar (USD) and Total expenditure on health as a percentage of Gross Domestic Product (GDP) declining to 4.5 %. WHO reports further show that key health impact indicators suggest stagnation or

decline in the health status, such as maternal mortality and under five mortality has stagnated. According to Communication Authority of Kenya Report (CAK), (2014) there have been many liberalisation efforts which have resulted in a vibrant communications market in the country, such that in the period 2001 to 2014 internet and mobile computing utilizsation went up from approximately three hundred thousand users to more than nine million users currently.

With access to internet, integrated systems, mobile computing and cyberspace have been utilised to solve a number of challenges in other sectors in the country such as finance, communication, education, aviation, agriculture, mining, transport and manufacturing, which has resulted to betterment of the aforementioned sectors, while the healthcare sector is still facing the same challenges faced before widespread adoption of computers such management of funds, retrieval and accessing medical data, management of medical supplies, connectivity of various hospital units and availability of data for prompt decision making. In the global context, a number of hospitals have slowly adopted the utilisation of HMIS (WHO, 2014).

In Kenya, Moi Teaching and Referral Hospital (MTRH) among other hospitals, has implemented HMIS, with the intention of having dynamic health information solution that synchronises workflow across MTRH entire enterprise. It was envisioned that the system enhances patient care through integrating clinical, financial, therapeutic and diagnostic information.

Whereas a number of researchers have celebrated HMIS as the panacea of the varied challenges facing hospitals globally, and the ultimate solution to effective, timely and efficient service delivery, others have dismissed HMIS as unnecessary, capital intensive, and a fad that has no real ascribed benefits to the health sector (Gregory, 2008). This study will therefore assess the implementation of HMIS on service delivery in MTRH.

Statement of the Problem

MTRH faced diverse challenges in utilisation of manual-based systems such as delay in decision making, forgeries of financial records, loss of pharmaceuticals, dressings and sutures, delay in patient service delivery, among other challenges, (Kenya National Audit Office Report, 2011). In 2012, the hospital implemented an HMIS system (Funsoft) which was touted as the panacea of the challenges. However, diverse challenges continue to exist in the hospital, hence the need to understand the level of HMIS utilisation. MTRH's 2012-2017 strategic plan envisions that, by 2016, most of the operations should be automated. However, whereas the hospital has put in immense resources, total automation has not been achieved, while the hospital has not realised tremendous benefits in service delivery commensurate with the resources used. Therefore, a problem exists which requires understanding.

The hospital has deployed a number of HMIS modules in different operational areas including electronics medical records, in-patient and outpatient modules, pharmacy, laboratory and radiology management modules, nursing modules, accounts/finance management and supply chain management modules. Hypothetically, the areas in which the system has been implemented should be efficient with patients' medical records being retrieved as and when needed without duplication of data, past medical and referral data being available at the click of a mouse, there should be comprehensive follow-up of both inpatient and outpatient. In the pharmacy ideally, there should be no loss of drugs, while drugs should be traced to the patient and complete drug reports available, while in the laboratory and radiology, specimens should be traced to the patient while results should be transmitted to the doctor requesting the tests as soon as they are available, payment of creditors and billing of patients should be prompt and accurate, while nursing should triage patients and doctors clerk in patients electronically. It is therefore important to examine if the aforementioned objectives has been completely achieved with the adoption, implementation of HMIS in the hospital.

Hypothesis

The study tested the following hypothesis:
H_0: HMIS has no significant effect on service delivery in MTRH.

Literature Review

The adoption, implementation and benefits of HMIS in several sources of literature have been captured in most literature based on the more generic term Health Information System, as defined by Hanafizadeh and Saghaei, (2009). According to the authors, Health Information System is a more wide term which incorporates any system that captures, stores, manages or transmits data and information that relates to all activities in organizations involved in the health sector or the health of individuals. This is supported by WHO Health Metrics Network (2005), which presents that HMIS, can be viewed from the wider context as part of Health Information System which is an integrated endeavour to collect, process, report, send and use health information and knowledge for individual and public health outcomes, programme action, research and to influence policy and decision-making.

According to Kenya National Audit office report (2011) to MTRH management, the utilisation of manual-based methodologies in the management of hospital operations, and service delivery has been riddled with a myriad of challenges including high operational and human resource costs, ineffective and compromised service delivery and delayed decision making, furthermore this has negatively affected the level of inter-facility patient referral, medical history follow up, and data retrieval. Continued usage of manual systems is detrimental, therefore, to the wellbeing of the hospital.

In recognition that healthcare institutions, in an attempt to solve the challenges, have had reactive responses which entail automation of the various activities, these have however, created more challenges, with some institutions recording total failure on implementing hospital management information systems, others have partially implemented, while other hospitals still face the same problems before HMIS installation as argued by Bernstein, Mccreless, and Côté (2007). Hospitals' managements have been at a crossroads on whether to continue investing the limited available resources on implementing HMIS whose outcome is unpredictable, or to continue using manual based methodologies in their operations, resulting to compromising on service delivery.

Whereas there have been a number of steps and strategies adopted to overcome the aforementioned challenges, the hospital has not realised tremendous benefits commensurate with the resources, which have been utilised in the implementation of HMIS. Furthermore, whereas implementation of the system was publicised as an integrated system to automate all functions of the hospital within a short time, four years later, a number of functionalities are still manual based. There is also the problem of the expected beneficiaries of the system, the users, whose system implementation was expected to foster their work, being behind sabotaging the implementation of the system.

The benefits of implementation of HMIS are a contentious topic with various studies, researches and presentations having diverse understandings of what actually constitute HMIS. In a number of studies, HMIS is viewed from the general perspective that it is an important component of Electronic Health; in that all the modules of HMIS is what actually constitutes E-health. E-Health has recently become the new "buzzword." E-Health is defined in many different ways and there is no consensus on its definition.

Eysenbach (2001) defines E-Health as "an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state- of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve healthcare locally, regionally, and worldwide by using information and communication technology."

The benefits of HMIS as an ingredient of E-health is viewed through understanding "E" in E-Health apart from standing for electronic health also stands for other paramount factors including Efficiency. HMIS offers efficiency in healthcare delivery timely clinical interventions and costs reduction whereby utilizing HMIS in telemedicine reduces the need for travel and the need for referral to a secondary or tertiary health institution. Also, according to the European Commission, (2006) there is "hard evidence that proves E-Health is already providing real benefits to people as well as real savings in public expenditure" Another way E-Health increases healthcare efficiency is that it "can reduce the time required to perform health tasks and processes" as presented by Heeks, (2004), who opines that appointments and 24-hour emergency consultations can be offered from any geographical area. Through quicker data handling, decisions can be made faster and this could potentially save lives.

Empowerment; E-Health empowers consumers and patients by allowing them to have access to their medical records online. This empowerment enables the patient to be more involved in the decision making process, since both physicians and consumers can access health information online. They can access the information fast and for free. In fact, "about half of adults in the United States have looked for health information on the net, making this the third most popular online activity" (Ferguson & Frydman, 2004).

The benefits of HMIS is further expounded by Dobbs, (2004) who presents that HMIS fosters cost reduction in terms of administrative and clinical transactions planning while encouraging, better service to the patients, through improving operational control and streamlining operations. This is further highlighted through indirect benefits such as corporate image of the hospital and increased competitive advantage, and direct benefits reduced waiting time, reduced wastage, minimal inventory levels, reliable and timely information, greater organizational flexibility, reduced paperwork

and simplification of patient record management as presented by Leung, (2001).

Furthermore, Ferguson and Frydman, (2004) are in agreement that HMIS implementation fosters better revenue management, since it is impractical to utilise age-old manual systems, considering the magnitude of revenue transactions. HMIS offers fast and accurate transactional and management reports that provide real-time required financial and performance status of the hospital.

On the contrary, however, Rockwell and Alton (2003), maintain that, whilst there are various benefits of HMIS, the potential benefits of HMIS have rather been exaggerated in paper, with actual benefits not actually realised on HMIS implementations globally. The author is of the opinion that there are various challenges that impair successful implementation of such systems to enable health institutions claim to have achieved all the envisioned benefits at the beginning of the implementation. As such the intensive capital requirements, the need to totally alter the policies and the structure of the hospital, the frequent need to train and retrain the staff of the new system, incidences of system failures, intrusion and viruses as well as system inconsistencies have so much negative impacts to the extent that by the time the acclaimed benefits are documented so much shall have gone to the implementation such that the net effect is zero.

Methodology

Research Design

This study adopted descriptive cross-section study design with a quantitative approach. This is a research design that made it easy to obtain information of the current phenomena on HMIS for easy analysis, presentation and interpretation through obtaining information from a representative selection of the population (Keith, 2005).

The dependent variable of the study was Improved Hospital Service.

Delivery in terms of efficiency and effectiveness, in MTRH, which was measured through Outpatient Time spent per visit, Service availability per 100 cases, Inpatient Average Length of stay, Percentage of drug availability in drug formulary and Patient satisfaction Percentage. The independent variables were the strategies motivating utilisation of HMIS and the benefits that have been realised in utilising HMIS, and the level at which MTRH has been utilising HMIS.

The target population comprised of 587 respondents from management and the 12 Departments in the Hospital which directly interact with the HMIS, These include; Accident & Emergency, Health Records, Public Relations, Information Communication Technology, Finance, Surgery, Medicine, Pediatrics, Laboratory, Pharmacy, Radiology, and Supply Chain Management.

Stratified sampling technique was used whereby the target population was divided into strata according to functional departments, thereafter sample size was determined by applying Cooper and Schindler (2011) formula. Simple random method was used to select respondents for the study from respective strata.

The research used questionnaires, which were self-administered physically to the respondents, as well as check-list where HMIS modules were checked on implementation and utilisation status. The questionnaires were used for the purpose of collecting primary quantitative data. Additionally, the questionnaires were used for the following reasons: their potential to reach out to a large number of respondents within a short time their ability to give the respondents adequate time to respond to the items they offer a sense of security (confidentiality) to the respondent; and they are objective since no bias results from the personal characteristics, as explained by Earl (2010). A pilot test was carried out at the formerly Rift Valley Provincial General Hospital, Nakuru. Cronbach's alpha reliability test was used to determine the internal.

Results

Preliminary Results

Although the study intended to collect data from 240 respondents, data was successfully collected from 192 respondents. This represents a response rate of 80% and falls within the confines of a large sample size (n ≥30). This provides a smaller margin of error and good precision (Anderson, Sweeney and Williams, 2003). The demographic profile of the surveyed respondents which includes designation, education, organisational role, familiarity with HMIS, experience in the health sector, and experience working with HMIS. The results are presented in this section.

The respondents were asked to state their designation in the organisation. The study found that majority of the consistency of the question items that measured the variables of interest for this study.

The collected data was encoded and entered into computerised data analysis software, SPSS v23. Each dimension had various items measured on a 5-point Likert scale. Data analysis entailed inspecting, cleaning, transforming, and modeling the collected data with the aim of highlighting useful information, suggesting conclusions, and supporting decision-making. Regressions and Analysis of Variance (ANOVA) test will be used to determine the relationship between the independent variables and dependent variables.

Respondents, 52.6 %(103) were staff of low cadre. Table 1 summarises their responses.

The study sought to determine the highest qualification of the respondents. The results are summarised in Table 2. Results indicated that 34.7% had Diplomas and other lower, 41.3% held bachelor's degrees, 21.4% had masters degrees, while only 0.5% had PhD.

The respondents indicated the roles they play in the organisation as per the organogram of the hospital. The results are as depicted in Table 3. It was found that majority of the respondents (55.1%) were employees with no responsibility positions in the hospital. While 31.6 are at supervisory level, management role had 31.6% of the respondents, and only 0.5% were at executive level.

The level of familiarity with hospital management information system by the respondents was determined. The results are summarised in Table 4. The results indicated that 22.4% were very familiar with the HMIS, 37.8% were familiar, 21.4% had modest familiarity, 10.2% were unfamiliar, while 10.2% were very unfamiliar with the information system. It was, therefore, concluded that majority of the respondents were familiar with the system.

	Frequency	Percent	Valid Percent	Cum Percent
Director/Deputy Director	1	.5	.5	2.6
Senior Manager	5	2.6	2.6	5.1
HOD	21	10.7	10.7	15.8
Head of Section	44	22.4	22.4	38.3
Administrators	18	9.2	9.2	47.4
Staff	103	52.6	52.6	100.0
Total	192	100.0	100.0	

Table1: Designation of Respondent

	Frequency	Percent	Valid Percent	Cum Percent
PhD	1	.5	.5	2.6
Masters	42	21.4	21.4	24.0
Bachelors	81	41.3	41.3	65.3
Diploma/Others	68	34.7	34.7	100.0
Total	192	100.0	100.0	

Table 2: Education Level of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Executive	1	.5	.5	2.6
Managerial Role	21	10.7	10.7	13.3
Supervisory Role	62	31.6	31.6	44.9
Employee	108	55.1	55.1	100.0
Total	192	100.0	100.0	

Table 3: Role in the Organisation

	Frequency	Percent	Valid Percent	Cumulative %
Very Familiar	44	22.4	22.9	22.9
Familiar	74	37.8	38.5	61.5
Average	42	21.4	21.9	83.3
Unfamiliar	20	10.2	10.4	93.8
Very Unfamiliar	12	6.1	6.3	100.0
Total	192	98.0	100.0	

Table 4: Familiarity with HMIS

	Mean	SD	Skewness		Kurtosis	
			Statistic	SE	Statistic	SE
Implementation	3.8460	.95960	.415	.146	.616	.291
Utilisation	3.6033	1.02612	.282	.146	-.199	.291
Strategies Motivating Utilisation	3.5464	1.22850	.731	.146	.963	.291
Benefits of HMIS	3.5072	1.05684	.380	.146	-.079	.291
Service Delivery	3.1259	1.45470	.827	.146	.133	.291

Table 5: Service Delivery

Variable	Constructs	No. of Items	Alpha
HMIS	Implementation	9	.764
	Utilisation	9	.778
	Strategies Motivating Utilisation	12	.665
	Benefits of HMIS	6	.790
Service Delivery		12	.923

Table 6: Cronbach's Alpha Reliability Coefficient

Service Delivery

The dependent variable in this study was service delivery. It was, therefore, imperative to measure the level of this variable at the hospital. Table 5 indicates service delivery at the hospital. From the items used to measure level of service delivery in the hospital, the means were in the range 3.16 to 4.00 0on a 5-point likert scale. This indicated that the level of service delivery was above the average mark of 2.5 on a 5-point likert scale. The item on fewer complaints and increased revenue collection as a measure of service delivery posted the highest mean of 4.00 and 4.50 respectively.

Validity and Reliability Tests

As recommended by Malhotra (2007), the questionnaire pre-tests were done by personal interviews in order to observe the respondents' reactions and attitudes. All aspects of the questionnaire were pre-tested including question content, wording, sequence, form and layout, question difficulty and instructions. The feedback obtained was used to revise the questionnaire before administering it to the study respondents.

Cronbach's alpha reliability test was used to determine the internal consistency of the question items that measured the variables of interest for this study. Sekeran (2000) benchmark of Cronbach's coefficient value of greater than 0.7 indicates the tool was reliable to measure the variable. Table 6 presents the results of the reliability test.

From tabulated results in Table 6, alpha coefficient for all the variables were in the range .665 –.790. Hence are above the benchmark of 0.7 suggested by Sekeran (2000) and thus the scales were reliable for measuring the variables.

Test of Regression Assumptions

The data was tested to determine whether the assumptions of ordinary least square (OLS) are met. This was used as a precursor for regression analysis Both kurtosis and skewaness were used to determine the normality of the data distribution for the variable under study. The skewness statistic and kurtosis statistic obtained for the variables of interest in this study were in the range .282-.827 for skewness and -.199-.963 for kurtosis. According to Hair *et al.,* (2010) the requisite range for normally distributed data is between -1.00 and +1.00. All the values of skewness and kurtosis fell in the range -1.00 and +1.00 and it was concluded that the distribution of data for the variables was normal. The results are summarized in Table 6.

Further, Kolmogrov-Smirnov test was used to check the normality of the distribution for the variables.

Kolmogrov-Smirnov test compares scores in the sample to a normally distributed set of scores with the same mean and standard deviation and if the test is non-significant (p>0.5) then the distribution of the sample is not significantly different from normal distribution. The results of the

K-S test were as indicated in Table 7. The K-S test statistic for the variables integrated approach, online service, interactive participation, automation of records, transformational leadership, transactional leadership, and service delivery were not significant (p>0.05) and it was concluded that the variables are normally distributed. The fact that data on the key variables did not deviate significantly from normal distribution can be translated to mean that it is safe to use statistical tests such as correlation and regression that assume normality of these variables.

Multi-Collinearity Diagnostics

Multi-collinearity was assessed using Variance Inflation Factors (VIF). A threshold of Variance inflation factor of 10 is suggested Kleinbaum et al., (1988). The variance inflation factor values for integrated approach, online service, interactive participation, automation of records, transformational leadership, transactional leadership, and service delivery are in the range of 1.132- 3.318 and are less than the set threshold

		Implementation	Utilisation	Strategies	Benefits	Service Delivery
N		192	192	192	192	192
Normal Parameters	Mean	3.8460	3.6033	3.5464	3.5072	3.1259
	SD	.95960	1.02612	1.22850	1.05684	1.45470
Most Extreme	Absolute	.158	.142	.087	.102	.124
	Positive	.156	.141	.087	.102	.124
	Negative	-.158	-.142	-.036	-.098	-.081
KS- Z		2.630	2.361	1.453	1.702	2.065
Asymp. Sig. (2-tailed)		.670	.0790	.069	.089	.098

Table 7: One-Sample Kolmogorov-Smirnov Test Results

Variables	Tolerance	VIF
Implementation	.385	2.597
Utilisation	.301	3.318
Strategies Motivating Utilisation	.883	1.132
Benefits of HMIS	.605	1.652
Service Delivery	.574	1.74

Source: survey data (2016)

Table 8: Collinearity Statistic for Variables

	1	2	3	4	5
1. Service Delivery	1				
2. HMIS Implementation Level	.754**	1			
3. HMIS Utilisation Level	.834**	.775**	1		
4. HMIS Motivation Strategy	.437**	.354**	.219**	1	
5. HMIS Benefits	.602**	.372**	.568**	315**	1

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

Table 9: Correlation Coefficients

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887[a]	.787	.783	.09942

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.837	4	1.709	172.917	.000[b]
	Residual	1.848	187	.010		
	Total	8.685	191			

Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.434	.196		-2.221	.028
	Implementation	.215	.060	.205	3.572	.000
	Utilisation Level	.697	.080	.543	8.710	.000
	Motivation Strategy	.193	.037	.197	5.189	.000
	HMIS Benefits	.045	.013	.156	3.603	.000

Table 10: Regression Results

which indicate that multi-collinearity was not an issue. The results are presented in Table 9 .

Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship between the variables (Wong and Hiew, 2005; Jahangir and Begum, 2008). According to Field (2005), correlation coefficient should not go beyond 0.8 to avoid multi-collinearity. Since the highest correlation coefficient is .783, which is less than 0.8, there is no multi-collinearity problem in this research. The results are presented in Table 10.

All the associated pairs of variables were significant at level 0.01. Hence hypothesised relationships developed were found to be statistically significant at level $p < 0.01$. Service delivery and implantation of HMIS had a positive significant relationship ($r=.754$ $p < 0.01$). Service delivery correlated with

HMIS Utilisation significantly and positively (r=.834, p<.01). There was a positive significant relationship between service delivery and strategies motivating Utilisation of HMIS (r=.437, p< .01). Service delivery correlated benefits of HMIS significantly and positively (r=.602, p<.01).

Regression Results

The study sought to investigate the effect of HMIS on service delivery. The hypothesis (H01) stated that HMIS has no significant effect on service delivery. The results are presented in Table 10.

The results of the regression analysis suggested that HMIS implementation (β= .215, p<0.05), HMIS Utilisation (β= ..697, p<0.05), motivation strategy (β= .193, p<0.05), and benefits (β= .045, p<0.05) had a positive significant effect on service delivery. Hence the hypothesis is not supported. The value of the F-statistic showed that the model was robust enough to be used to explain the relationship between the variables (F=172.917, p<0.05). The coefficient of determination value of R2= .787 means that 78.7% of the variation in service delivery at the hospital can be explained by HMIS implementation, HMIS Utilisation, motivation strategy, and benefits combined.

The regression equation constructed from the regression results took the form:

$$Y = 0.028 + .215X_1 + .697X_2 + .193X_3 + .045X_3 + \varepsilon$$

Where:
Y = Hospital Service Delivery
X1 = HMIS a longitudinal rather than a Implementation extent
X2 = Level of HMIS Utilisation
X2 = Motivating Strategies
X4 = HMIS Benefits

Conclusions

The study found a positive and significant effect of HMIS on service delivery. It can, therefore, be concluded that implementation of HMIS, Utilisation of HMIS, strategies motivating use of HMIS, and benefits of HMIS are key to improving service delivery in MTRH.

Recommendation for Further Research

This study was carried out to investigate the effect of HMIS on service delivery in MTRH. The following areas of concern can be considered for further research:

1. The moderating effect of leadership style on the relationship between HMIS on service delivery needs to be researched on.
2. The tool used in this study was self-rated. There is need for further research to be done using a tool that allows the subordinates to rate the ICT department on implantation and Utilisation of HMIS
3. This study can be extended to others contexts and industries, such as: banking, hospitality, security and education.
4. Future studies could use the same basic hypotheses, but implement the study in terms of a longitudinal rather than a cross-sectional design. The longitudinal study would need to correct changes in data relative to the time element.
5. Only a single data collection was employed, and future research through interviews and observations could be undertaken to triangulate.

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