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Article · August 2025

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International Journal of Academic Management Science Research (IJAMSR)
ISSN: 2643-900X
Vol. 9 Issue 8 August - 2025, Pages: 37-52

Reconnoitering Biometric Management System and Funds Distribution to Refugees: Evidence from Parabek Refugees Settlement Camp in Uganda

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Abstract: *Over the last two decades, there has been an increasing concern about the Biometrics Management System and funds distribution to Refugees in Uganda empirical evidence from Parabek Settlement comp. The Biometrics Management System and Distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement. To establish the distribution of Refugee Monthly funds assistance rations in parabek Refugee Settlement. To examine the de-duplication funds distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement. In this study, a total number of 100 respondents were engaged into the study. The study adopted a parallel mixed methodology that enabled collection of both quantitative and qualitative data. A case research design was used, to enable in-depth data analysis and triangulation purposes. The study used survey, interview and focused group discussion in data collection. The SPSS and content data analysis were used. The findings revealed that registration, verification and de-duplication positively and significantly relate with the distribution of refugee monthly funds assistance rations in Parabek refugee settlement which rejects the null hypothesis. The dynamics approach helped the public as well as the NGO sectors to prepare and execute biometrics technology projects for the control of identity fraud, reducing beneficiaries missing funds assistance rations and reduced complaints. Biometrics technology has served as an appropriate tool for the authentication and maintenance of individual identities. Biometrics technology has helped to identify, authenticate, authorize, and enforce accountability of individuals. In inclusion distribution by use the technology have transformed how identity is credentialed in the distribution of refugee monthly funds assistance rations. The results of this investigation suggest that relevant action is required among these stakeholders to enable the extensive and successful adoption and the use of biometrics verification within the distribution of refugee monthly funds assistance rations in Parabek refugee settlement. This served as a model for effective distribution of funds refugees' settlements and the country as a whole. Recommendations: it will not be possible to adopt biometrics without significant and concerted efforts to inform and educate the stakeholders as well as the public. Workshops should be organized to educate people and raise awareness about the growing tendency of identity fraud and the function of biometrics technique as a control measure. Standard Operating Procedure need to be upgraded and should emanate from the ground. SOPs come from the top and there is also need for data cleaning as well as improve on network connectivity. Biometrics Identity Management System should be upgraded or improved to capture details of minors as well.*

KeyWords : Biometric Machine, Refugees Settlement, Parabek Camp, Operation system.

Introduction

Biometrics have been used in the humanitarian sector for almost two decades, yet expectations around their efficiency are not met in reality, particularly for end users as data protection and data responsibility need to be taken seriously to ensure those receiving funds assistance can do so with dignity and that their basic rights are respected (Wilk, 2021).In the recent years, Uganda government through UNHCR rolled out Biometric Identity Management System ("BIMS") to more accurately identify the size of refugee population, verify accuracy, duplicates, new births and deaths, prevent fraud and corruption in refugee settlements to enhance delivery of funds assistance to the right people in a timely manner and track it effectively (Kettl, 2025). While implementing this, UNHCR and WFP have always ensured that they have the required technical teams with technical knowledge in refugee information data capturing, refugee enrolment refugee data storage. Refugee biometric verification for eligibility and update of refugee biometric information and Refugee funds assistance rations in terms of right amount, timely processing, clear distribution scheduling, reduced operational costs and reduced complaints aimed at efficient and effective service delivery (Wilk, 2021). However, despite all these efforts, four years after the implementation of BIMS since 2018, there have been inconsistencies surrounding the distribution of refugee monthly funds assistance to refugees in Parabek resulting to refugees missing their Monthly funds assistance rations .A number of complaints have been raised by the refugees over the years to underpin the knowledge gaps including but not limited to beneficiary name mismatches against IDs, inconsistency in family sizes, un-clarified switching of beneficiaries between manifests and Assistance locations, beneficiary existence in more than one assistance manifest, shared accounts, wrong account and rations card numbers, family splits and mergers thus questioning the validity of their identity resulting to refugees missing Monthly funds assistance rations and later leading to loss of refugee status. (WFP U. , WFP helpline report, 2021).Litigation desks at the Distribution of refugee monthly funds assistance rations points were put in place to help assist refugees affected with these constraints to receive their funds rations, funds working groups have been formed from settlement to national level but these do not create a permanent solution but rather recurring missing of funds assistance rations by the refugees (Baehler, 2023). This kind of predicament has left the refugees more frustrated than ever before leading to chaos and sometimes resulting into riots attributed to missing monthly funds assistance rations. Whether the introduction of BIMS has helped to secure the plight of the refugees remain a big puzzle and an issue subject to debate in this study (Bowen et al., 2020). A number of empirical studies have been undertaken to investigate the effects of BIMS in the humanitarian secure but none has been particular. The document the examination of Biometrics Identity Management System and Distribution of Refugee Monthly funds assistance rations (Distler et al., 2020a). Consequently, it is against this background that the researcher sought to examine the relationship of BIMS and Distribution of Refugee Monthly funds assistance rations in Parabek Refugees Settlement as conducted by United Nations World Food Programme (Kettl, 2025). The study objective was to examine the Biometric Identity Management System and the Distribution of Refugee Monthly funds assistance rations in Parabek refugee settlement in the Republic of Uganda.

Methodology

This study utilized a mixed methodology that enabled collection of both sets of data the entails qualitative and quantitative in nature (Ahmed, 2023). A correlational case research design was employed to enable the in-depth and comprehensive study of the variables under investigations (Ahmed, 2023). The study adopted survey method that ennobled collection of the Quantitative data. Other research methods were interviews, focused group discussion and documentary reviews whose measurements were well aligned to the study objectives (Poth, 2023).

Data was gathered through different methods such as polls and questionnaires. Interpreting previous statistical data using different techniques was also being undertaken. This approach is centered on gathering statistical data to generalize it across groups of people to give details on a particular phenomenon (Abakoumkin & Green, 2021), (Poth, 2023),.The method was best suited for this study because I was able to effectively examine the relationship between a dependent variable and an independent variable. The goal of the study was to determine the relationship between Biometrics Identity Management System and Distribution of Refugee Monthly funds assistance rations in Parabek refugee settlement (Resources, 2021).

The qualitative and quantitative data was analyzed, using a quantitative analysis and drawing information the enabled deeper understanding of the study under variables. The data variables used statistical packages of social scientists the variables under investigations. The content data analysis was used to analyes the qualitative data (Muthu, 2025). The findings from the analyzed data allowed more stakeholders especially refugees to participate in the study and provide the opportunity to receive more responses from refugee who fail to receive their monthly funds assistance rations due to BIMS. The suggested sample size was based on a 95% confidence level. The three types of correlation that were identified are positive correlation, negative correlation, and no correlation (Muthu, 2025). Positive correlation can be explained as when an increase in one variable leads to an increase in the other, and a decrease in one leads to a decrease in the other. Negative correlation is when an increase in one variable leads to a decrease in another and vice versa.

Finally, no correlation is when a change in one variable does not lead to a change in the other and vice versa. In a correlational study a correlation coefficient that varies between + 1 and -1 is usually used. A strong positive correlation is a value close to +1 and a strong negative correlation is a value close to; if variables are uncorrelated a value near zero will be shown (Boardman et al., 2018) . In order to conduct study examining the question surrounding BIMs and distribution of Refugee Monthly funds assistance rations, a correlational quantitative study was used to investigate these relationships within the Parabek refugee settlement. The study observed the scientific ethical consideration required in social research, which included seeking for permission to research participants and consent in the study.

Results

The article explored and critically analysed the Biometric management system and funds distribution to the refugees in Uganda. The results were presented in the table below with the frequencies and percentages according to the responses collected.

The findings reveal that, the registration of refugees using BIMS, it was found that 59% of respondents agreed, while 38% strongly agreed. Only 13% were neutral, and none strongly disagreed or disagreed. The mean score of 4.35 suggested that the registration process was mainly conducted by OPM and UNHCR. The low standard deviation of 0.539 indicated a limited variation in responses,

implying a consistent perception among respondents that OPM and UNHCR were responsible for this registration (Haug & Merten, 2020). The lesson learned here is that the majority of respondents acknowledge OPM and UNHCR as key actors in refugee registration.
In terms of the process of recording refugee biometric data in the settlement, 76% of respondents strongly disagreed, indicating a lack of agreement that they were taken through this process. Only 11% agreed, and the mean score was 1.69, suggesting a lack of consensus. The high standard deviation of 1.383 indicated a wide variation in responses, implying that there was mixed perceptions. The lesson here is that there is a significant disagreement or uncertainty among respondents about their involvement in the biometric data recording process (Kożuch & Sienkiewicz-Małyjurek, 2024).
Concerning the open access of registration data in BIMS, 81% of respondents strongly disagreed, while 16% disagreed. No respondents agreed or strongly agreed with this statement. The mean score of 1.22 indicated that respondents generally believed that there was limited access to registration data. The low standard deviation of 0.484 implied a relatively consistent perception among respondents. The lesson learned is that respondents perceived restricted access to registration data in BIMS (Benetto et al., 2018).
When it came to registration using BIMS capturing details of refugees and asylum seekers but not nationals, 24% of respondents agreed, and 13% strongly agreed, with 33% being neutral. Only 17% strongly disagreed, suggesting general agreement with the statement. The mean score of 3.03 reinforced this perception. However, the high standard deviation of 1.259 indicated variability in responses, suggesting mixed opinions on the matter. The lesson here is that a significant proportion of respondents believed that BIMS mainly focused on refugees and asylum seekers but did not capture details of nationals (OECD, 2020).
Regarding the freedom to make recommendations for improving BIMS in the context of distributing refugee monthly funds rations, 70% of respondents strongly disagreed, while 11% disagreed. Only 3% strongly agreed, and 13% agreed. The mean score of 1.68 suggested that most respondents agreed with the item, but the high standard deviation of 1.197 indicated considerable variation in responses (Arredondo et al., 2024). The lesson learned is that many respondents did not feel they had the freedom to provide recommendations for BIMS improvement, indicating potential limitations in their involvement in the decision-making process (Research, 2023).
Responses to the question about involvement in the design processes of BIMS showed that 73% strongly disagreed, and 8% disagreed. Only 10% agreed, and none strongly agreed. The mean score of 1.46 indicated that respondents generally believed they were not involved in the design processes. The low standard deviation of 0.968 suggested a relatively consistent perception. The lesson here is that most respondents felt excluded from the design processes of BIMS (Baehler, 2023).
In summary, the findings reveal varying degrees of involvement, access, and agreement among respondents regarding their participation in BIMS-related activities. These results highlight the importance of ensuring transparency, inclusivity, and active involvement of stakeholders in decision-making processes, particularly in systems that impact refugees and asylum seekers (Agnes et al., 2022a).

Qualitative data

A respondent emphasized the positive registration in the context of distribution of refugee monthly funds assistance rations. Registration has brought greater accountability to both the persons of concern (PoCs) and the donors. Previously, distribution of refugee monthly funds assistance rations occurred in groups, leading to complaints and issues like strong individuals using force to the detriment of others (Fund, 2021). Biometrics has transformed the process, making distribution of refugee monthly funds assistance rations more dignified for refugees and asylum seekers. It has significantly reduced fraud and duplication, ensuring that assistance reaches those who are entitled to it. This implies that registration enhances accountability, dignity, and fairness in distribution of refugee monthly funds assistance rations (Al-Emran et al., 2023).
Another respondent provided insights into the registration process, which starts with the Office of Prime Minister (OPM). The registration process involves data capture through fingerprints and iris scans. This data is then shared with UNHCR and uploaded into a restricted system called Pro GressV4, which is shared with the administration in Geneva. The central server in Geneva stores the data, and protection-related information is shared, while certain data is provided to partners like WFP (Bureau et al., 2023).
However, not all information is shared. This implies that the registration process involves multiple stages and data sharing, with different levels of information disclosure. This emphasizes the importance of understanding the data flow and access control within the registration system (Bureau et al., 2023).
Table 1: Regression Analysis for registration and distribution of Refugee monthly funds assistance rations.

	Summary Out put					
	Correlation statistics					
	Pearson Correlation	.555				
	Sig. (1-tailed)	.000				
	Regression Statistics					
	R	.555				
	R Square	.308				

International Journal of Academic Management Science Research (IJAMSR)
ISSN: 2643-900X
Vol. 9 Issue 8 August - 2025, Pages: 37-52

	Adjusted R Square	.301				
	Standard Error	2.10598				
	ANOVA					
		Sum of square	Df	Mean Square	F	Sig
1	Regression	193.282	1	193.282	43.579	.000b
	Residual	434.646	98	4.435		
	Total	627.928	99			
Step	Variable	B	SE	Beta	T	Sig
1	Constant	12.709	.688		18.479	.000
	Legal Framework	.354	.054	.555	6.601	.000

Source: Primary Data (2024)

The findings indicates that the study findings revealed that there is as reflected in the table above that there is statistical relationship between registration and the Distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement.

The obtained correlation co-efficiency of .555 (**) with a significance value of .000, explains the positive nature of relationship that exists between the two variables. This implies that the null hypothesis that stated that there was no statistical relationship between registrations and the distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement (Arredondo et al., 2024). The findings is rejected and alternative was accepted that there was a significant statistical relationship between registration and the Distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement(Haene & Rousseau, 2020).

Also indicates the R value (coefficient) of 0.555 henceforth R denotes the correlation between predicted and observed distribution of refugee monthly funds assistance rations. Since this is a high correlation, our model predicts the distribution of refugee monthly funds assistance ration rather precisely (Allison, 2019). The coefficient of determination (R square of .308) indicates the proportion of variance in the distribution of refugee monthly funds assistance rations in the Parabek refugee settlement can be "explained" by registration. The R Square value (coefficient of determination) was 0.308. The R square value of .308 indicates how much of the dependent variable, the distribution of refugee monthly funds assistance ration in Parabek refugee Settlement can be explained by the independent variable registration (Porter et al., 2023). Therefore, the square value of .308 implied that registration predicts/explains the variance in the distribution of refugee monthly funds assistance rations in Parabek refugee settlement by 30.8%. The relationship between registration and the distribution of refugee monthly funds assistance ration in Parabek refugee settlement is statistically significant (Barling, 2023). The moderate R square of 0.308 tells us that the model does a fair job in predicting the distribution of refugee monthly funds assistance ration in Parabek refugee settlement.

The Coefficient for registration and the distribution of refugee monthly funds assistance rations.

As per the SPSS output generated above, the equation ($Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + \varepsilon$) becomes: Y= 12.709 + .354. Overall, registration affects the distribution of refugee monthly funds assistance ration in Parabek refugee settlement (beta=.555). The average class size (registration, b=.555) is significant (p=0.00), but only just so, and the coefficient is positive which would indicate that larger class sizes is related to the distribution of refugee monthly funds assistance ration in Parabek refugee Settlement. As a rule of the thumb, we say that a b coefficient is statistically significant if its p-value is smaller than 0.05. The b coefficients tell us how many units of distributions of refugee monthly funds assistance ration in Parabek refugee settlement increases for a single unit increase in each predictor (Agnes et al., 2022b). The beta coefficients allow us to compare the relative strengths of our predictors. The regression equation above has established that taking all factors into account (adoption of registration) constant at zero effective to the distribution of refugee monthly funds assistance ration in Parabek refugee Settlement will be 12.709. The findings presented also show that taking all other independent variables at zero, a unit increase in the scores of registration would lead to 0.708 increases. The effect of registration (beta=.555, p=0.000) is statistically significant and its coefficient is positive indicating that the greater the registration, the higher the distributions of refugee monthly funds assistance rations in Parabek refugee settlement (Haene & Rousseau, 2020). The magnitudes of the respective betas suggest that the relationship between registration and the distribution of refugee monthly funds assistance ration in Parabek refugee settlement is statistically significant. The t-test for registration equals 6.601 is statistically significant.

Distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement.

In this study, the items were categorized based on verification and the distribution of refugee monthly funds assistance rations. Participants used a five-point Likert scale to rate these items, with code 1 denoting 'Strongly Disagree,' 2 for 'Disagree,' 3 for 'Undecided,' 4 for 'Agree,' and 5 for 'Strongly Agree.' The collected responses were then analyzed, and the results are presented in **Table 2: Displays the frequencies and percentages of each response category.**

International Journal of Academic Management Science Research (IJAMSR)
ISSN: 2643-900X
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The table 2.Summary Statistics on verification

Items	SA	A	N	D	SD	Mean	Std. Dev
Does verification with BIMS ensure that the right refugees receive the right monthly funds assistance rations?	11%	88%	0%	1%	0%	4.09	.379
Verification with BIMS has reduced the service waiting time for the distribution of the funds assistance rations?	11%	78%	3%	8%	0%	3.92	.677
In this settlement there are reduced operational costs during verification with BIMS.	12%	49%	37%	2%	0%	3.70	.692
There have been reduced complaints during verification using the BIMS in this settlement.	15%	74%	5%	5%	1%	3.97	.703
There are reduced cases of fraud as a result of verification using BIMS in this settlement.	14%	71%	11%	4%	0%	3.95	.642

Source: Primary Data (2024)

With respect to whether verification with BIMS ensures that the right refugees receive the right monthly funds assistance rations, 1% disagreed, 88% agreed and 11% strongly agreed. The mean = 4.09 which indicated that the majority of the respondents agreed that verification with BIMS ensure that the right refugees receive the right monthly funds assistance rations. The low standard deviation of 0.379 suggested a relatively consistent perception. In this aspect of the study, the majority of respondents, representing 88% who agreed and 11% who strongly agreed, emphasized the effectiveness of BIMS in ensuring that the appropriate beneficiaries receive their monthly funds assistance rations (Chitakure, 2021). This result indicates a high level of confidence in the system's ability to accurately target the right individuals. The low standard deviation of 0.379 suggests that respondents' views on this matter were consistent, reinforcing the notion that BIMS is a reliable means of preventing assistance from reaching the wrong hands. This has significant implications for maintaining fairness and transparency in humanitarian aid distribution (Deo & Gündüz, 2024).

As to whether verification with BIMS has reduced the service waiting time for the distribution of the funds assistance rations, 8% disagreed, 3% were neutral, 78% agreed and 11% strongly agreed. The mean = 3.95 which means that verification with BIMS has reduced the service waiting time for the distribution of the funds assistance rations. The low standard deviation of 0.642 suggested a relatively consistent perception. The findings indicate that the use of BIMS has resulted in a tangible reduction in the waiting time for the distribution of refugee monthly funds assistance rations (Bourne et al., 2021). A total of 78% of respondents agreed, while 11% strongly agreed, signifying widespread satisfaction with the system's ability to streamline the process. The mean score of 3.95, supported by a relatively low standard deviation of 0.642, suggests that respondents consistently perceive BIMS as an efficient solution to minimize service waiting times. This improved efficiency not only enhances the recipients' experience but also optimizes resource allocation in the program.

As to whether there are reduced operational costs during verification with BIMS, 2% disagreed, 37% were neutral, 49% agreed and 12% strongly agreed. The mean of 3.70 indicated that in the camp, there are reduced operational costs during verification with BIMS. The low standard deviation of 0.692 suggested a relatively consistent perception. The study reveals that a significant proportion of respondents, 49% who agreed and 12% who strongly agreed, acknowledged that BIMS has led to a reduction in operational costs within the refugee camp. This outcome highlights the financial benefits of implementing the system (Bess & Dee, 2023). With a mean score of 3.70 and a low standard deviation of 0.692, it is clear that there is a consistent perception that BIMS offers a cost-effective solution. Lower operational costs can free up resources for other critical aspects of the assistance program, potentially benefitting more refugees.

With respect to whether there have been reduced complaints during verification using the BIMS in this settlement, (1%) strongly disagreed, 5% disagreed, 5% were neutral, 74% agreed and 15% strongly agreed the mean = 3.97 which indicated that the majority of the respondents agreed that verification using the BIMS has reduced complaints. The low standard deviation of 0.703 suggested a relatively consistent perception (Billups, 2023). Respondents largely agreed with the idea that BIMS has effectively reduced the number of complaints in the distribution of refugee monthly funds assistance rations. A substantial 74% agreed, and 15% strongly agreed, signifying that the system has contributed to improved satisfaction and fewer grievances among beneficiaries. The mean score of 3.97, coupled with a low standard deviation of 0.703, reinforces the notion that BIMS has provided an efficient mechanism to address concerns and resolve issues, resulting in a more harmonious and efficient distribution of refugee monthly funds assistance rations. As to whether there are reduced cases of fraud as a result of verification using BIMS in this settlement, 4% disagreed, 11% were neutral, 71% agreed and 14% strongly agreed. The mean = 3.95 meant that BIMS verification has helped to reduce cases of fraud in the distribution of refugee monthly funds assistance rations in the settlement (Velazquez, 2019). The low standard deviation of 0.703 suggested a relatively consistent perception. The study findings show that BIMS has had a notable impact on curbing cases of fraud in the distribution of refugee monthly funds assistance rations. The majority of respondents, with 71% agreeing and 14% strongly agreeing, believe that the system has enhanced program integrity by reducing fraudulent activities. With a mean score of 3.95 and a low standard deviation of 0.703, the consistent perception among respondents underscores the significance of BIMS in maintaining the program's credibility and trustworthiness. By minimizing fraud, more resources can be directed toward genuinely supporting those in need.

In summary, the study's detailed analysis highlights that BIMS has positively affected multiple aspects of the distribution of refugee monthly funds assistance rations. It ensures the correct beneficiaries receive funds , reduces waiting times, saves operational costs, minimizes complaints, and mitigates fraud (Agrawal & books, 2024). The consistency in respondents' perceptions underlines the system's effectiveness in enhancing both the efficiency and integrity of these critical humanitarian initiatives. When asked about the relevancy of verification, a respondent pointed out that (OPM)

the introduction of verification was driven by the necessity to improve service delivery, accountability, and transparency in the distribution of refugee monthly funds assistance rations. The use of biometrics has significantly enhanced these aspects, leading to better management of refugees and increased accuracy and speed in the process. The biometric identity Management system plays a crucial role in verifying refugees' identities and preventing unauthorized bypasses during the distribution of refugee monthly funds assistance rations. This, in turn, empowers employees to more effectively handle funds distribution, identifying and addressing issues of concern. As a result, the system has fostered greater accuracy and accountability in the distribution of resources.

Respondents emphasized that the initial purpose of verification was to combat corruption and ensure that the right beneficiaries receive funds assistance. Before its implementation, a significant challenge was the misuse of others' cards and the use of cards belonging to deceased individuals. The introduction of the Biometric Information Management System (BIMS) has successfully addressed this challenge by cleaning up the system and ensuring that benefits reach the intended recipients.

The distribution of Refugee Monthly funds assistance rations.

The full model is statistically significant (F = 34.641, df = 1, sig.= .000). F-Statistics is 34.641, given the strength of the correlation, the model is statistically significant ($p=0.000 < .05$)

Coefficient for verification and the distribution of Refugee Monthly funds assistance rations

As per the SPSS generated in Table 4.11 above, the equation ($Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4+ \varepsilon$) becomes: Y= 5.581 + .695. Overall, verification contributes to the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement (beta=.513). The average class size (verification, b= .513 is significant, but only just so, and the coefficient is positive which would indicate that larger class sizes is related to the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement. As a rule of the thumb, it can be said that a b coefficient is statistically significant if its p-value is smaller than 0.00. The b coefficients tells how many units of the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement increases for a single unit increase in each predictor (verification). The beta coefficient allows comparing the relative strengths of the predictors. The regression equation above has established that taking all factors into account (adoption of the verification) constant at zero, effective the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement will be 5.581. The findings presented also shows that taking all other independent variables at zero, a unit increase in the scores of verification would lead to 0.681 increases. The effect of verification (beta=..695, p=0.000) is statistically significant and its coefficient is positive indicating that the greater the verification, the higher or more the distributions of Refugee Monthly funds assistance rations in in Parabek Refugees Settlement (Yamamoto, 2019). The magnitudes of the respective betas suggest that the relationship between verification and the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement is statistically significant. The t-test for verification equals 5.886 is statistically significant.

The Distribution of Refugee Monthly funds assistance rations in in Parabek **Refugee Settlement.**

The items were structured basing on de-duplication variable of the study. Items were measured on a five-point Likert scale where code 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree and 5 = Strongly Agree and analysed basing 5 questions which are statistically tabulated and presented in the table below with the frequencies and percentages according to the responses collected.

Table 3. Summary Statistics on de-duplication

Items	SA	A	NS	D	SD	Mean	Std. D

There is a significant number of refugees registered more than once in this settlement.	0%	42%	11%	45%	2%	2.92	.976
There is a significant number of refugees with two or more registration numbers used in this settlement.	0%	32%	10%	54%	4%	2.70	.969
There are refugees that share account numbers in this settlement.	0%	73%	10%	15%	2%	3.54	.822
There are refugees that receive monthly funds assistance twice every month in this settlement.	0%	56%	24%	17%	3%	3.33	.865
There have been some losses in funds assistance rations incurred in this settlement as a result of wrong registration in BIMS.	0%	30%	66%	4%	0%	3.26	.525
I understand and know about updates of refugee information in family splits and mergers on BIMS.	18%	76%	3%	2%	1%	4.08	.614

Source: Primary Data (2024)

The findings indicate, that with respect to whether there is a significant number of refugees registered more than once in this settlement, (2 %) strongly disagreed, 45% disagreed, 11% were neutral, 42% agreed and 0% strongly agreed the mean = 2.92 which corresponded to agreed, indicated the majority of the respondents agreed that there was a significant number of refugees registered more than once in this settlement.

The lower standard deviation of 0.976 indicated that there was limited variation in responses. The data reveals that a significant majority of respondents, 42%, agreed that there is a significant number of refugees registered more than once in the settlement. This perception suggests potential issues with the accuracy and reliability of the registration process within the Biometric Information Management System (Sarkar et al., 2023). This issue is critical because accurate registration is fundamental for ensuring that refugees receive the assistance and services they require. As to whether there is a significant number of refugees with two or more registration numbers used in this settlement, (4%) strongly disagreed, 54% disagreed, 10% were neutral, 32% agreed and 0% strongly agreed.

The mean = 2.70 indicated that there is a significant number of refugees with two or more registration numbers used in this settlement. The lower standard deviation of 0.969 indicated that there was limited variation in responses. The majority of respondents, 54%, disagreed with the statement that there is a significant number of refugees with two or more registration numbers. However, 32% of respondents agreed, indicating a substantial concern that some refugees may possess multiple registration numbers. This raises questions about the system's ability to maintain a unique and consistent identification for each individual, which is crucial for delivering services and tracking beneficiaries accurately (Wang & Berman, 2020).

With respect to whether there are refugees that share account numbers in this settlement (2%) strongly disagreed, 15% disagreed, 10% were neutral, 73% agreed and 0% strongly agreed. The mean = 3.54 which corresponded to agreed indicated that the shortcoming in the BIMS are used in improving its performance in this camp. The lower standard deviation of 0.822 indicated that there was limited variation in responses. In this case, 73% of respondents agreed that there are refugees sharing account numbers within the settlement. This perception indicates a significant concern related to the security and integrity of the BIMS. The fact that account numbers are being shared among refugees raises the risk of fraudulent activities and undermines the reliability of the system (Fong et al., 2025).

As to whether if there are refugees that receive monthly funds assistance twice every month in this settlement (3%) strongly disagreed, 17% disagreed, 24% were neutral, 56% agreed and 0% strongly agreed. The mean = 3.33 meant that there are refugees that receive monthly funds assistance twice every month in this settlement. The lower standard deviation of 0.865 indicated that there was limited variation in responses. According to the data, 56% of respondents agreed that there are refugees receiving monthly funds assistance twice every month. This suggests inefficiencies in the distribution process, potentially leading to overpayments and administrative challenges. Addressing this issue is essential to ensure the fair and efficient allocation of resources (Soni, 2024).

As to whether in this settlement, there have been some losses in funds assistance rations incurred in this settlement as a result of wrong registration in BIMS, 4% disagreed, 66% were neutral, 30% agreed and 0% strongly agreed. The mean = 3.26 which means that there is always group exchange about improving the operationalization of the BIMS among the employees. The lower standard deviation of 0.525 indicated that there was limited variation in responses. This point presents a more mixed response. While 66% of respondents were neutral, meaning they neither agreed nor disagreed with the statement about losses in funds assistance due to wrong registration, 30% agreed. The neutral responses indicate uncertainty, and the significant agreement suggests a concern among a substantial portion of respondents (Wason et al., 2024). Investigating these losses is essential to understand the scope and nature of the problem and to take corrective measures where necessary.

As to whether in the camp the refugee understands and know about updates of refugee information in family splits and mergers on BIMS, (1%) strongly disagreed, 2% disagreed, 3% were neutral, 76% agreed and 18% strongly agreed with the item. The mean of 4.08 indicated that in the camp, there is emphasis on knowledge sharing with the rest of our colleagues.

The lower standard deviation of 0.614 indicated that there was limited variation in responses. The data indicates a positive aspect, with 94% of respondents either agreeing or strongly agreeing that refugees in the camp understand and know about updates in family splits and mergers on BIMS. This high level of understanding suggests effective knowledge sharing and communication within the camp, which can be leveraged to enhance overall project performance (President, 2016).

The distribution of Refugee Monthly funds assistance rations

As per the SPSS generated in Table 4.11 above, the equation ($Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4+ \varepsilon$) becomes: Y= 20.306 + -.197. Overall, de duplication contributes to the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement (beta=-.207). The average class size (de-duplication, b= -.207 is significant, but only just so, and the coefficient is positive which would indicate that larger class sizes is related to the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement (Vorhölter, 2014).

As a rule of the thumb, it can be said that a b coefficient is statistically significant if its p-value is smaller than 0.00. The b coefficients tells how many units of the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement increases for a single unit increase in each predictor (de-duplication). The beta coefficient allows comparing the relative strengths of the predictors (Allison, 2019).

The regression equation above has established that taking all factors into account (adoption of the de-duplication) constant at zero, effective the distribution of Refugee Monthly funds assistance rations in Parabek Refugee Settlement will be 20.306. The findings presented also shows that taking all other independent variables at zero, a unit increase in the scores of de-duplication would lead to 0.681 increases.

The effect of de-duplication (beta=-.197, p=0.000) is statistically significant and its coefficient is positive indicating that the greater the de-duplication, the higher or more the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement. The magnitudes of the respective betas suggest that the relationship between de-duplication and the distribution of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement is statistically significant. The t-test for de-duplication equals -2.088 is statistically significant (Chitakure, 2021).

The regression model result for de-duplication and the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement was positive and significant. The results of the R squared (R2) - which tells how a set of independent variables explains variations of a dependent variable yielded an adjusted R Square of =0.297 or 29.7%.

This means that the independent variable dimension of de-duplication accounts for 29.7% of the variations in the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement. The model further shows a standardized coefficient of value of de-duplication as being positive (.297). This suggests that holding other factors constant, one unit of improvement in de-duplication would result into an improvement in the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement by a magnitude of 0.297 units.

The regression finding was in agreement with the earlier correlation finding and therefore serves to further explain that the alternate hypothesis that 'de-duplication significantly contributes to the distributions of Refugee Monthly funds assistance rations in in Parabek Refugee Settlement' is confirmed and validated (Bulatao, 2019).

Whether the biometrics has helped in improving service delivery, a respondent pointed out that

The implementation of verification in humanitarian efforts has yielded valuable lessons learned, including improved beneficiary identification, enhanced data collection, real-time assistance tracking, the ability to tailor aid to individual needs, address verification and documentation, health monitoring, visual identification, and support for livelihoods. These lessons underscore the significance of biometric data in enhancing the transparency, effectiveness, and precision of assistance programs, ultimately enabling more efficient and informed decision-making to aid vulnerable populations.

In support a WFP staff pointed out that:

The implementation of biometric technology in our operations has yielded valuable lessons. Firstly, it has significantly improved our planning processes by facilitating the generation of essential documents, such as funds Release Notes (CRN), leading to increased efficiency and accuracy. Secondly, biometric verification has enhanced accountability, ensuring that aid reaches the intended beneficiaries while instilling trust among donors (Paul & Juran, 2025). Lastly, it has become a critical tool for data-driven and informed decision-making, particularly in rapidly changing humanitarian contexts, enabling adaptive responses to evolving needs. These lessons underscore the positive impact of biometric verification in our aid efforts, contributing to more effective planning, accountability, and decision-making to the benefit of both recipients and donors.

In collaboration, another respondent remarked that:

In agreement with another respondent's perspective, the integration of biometric verification has yielded valuable lessons. It has notably expedited the distribution process, upheld the dignity of service to refugees, and minimized fraud through heightened accuracy, thereby fostering efficiency, effectiveness, and accountability. This multifaceted improvement has culminated in increased overall satisfaction among all stakeholders involved and established an essential layer of transparency, making it arduous to circumvent the system and underscoring the critical importance of technological advancements in humanitarian operations.

In verification of the above findings another respondent noted:

The implementation of biometric verification in the funds distribution process has yielded significant benefits, as noted by respondents. It has brought order, convenience, and reduced complaints, leading to an improved quality of service. The system's ability to eliminate fraud and ensure accurate ration distribution is a clear advantage, and its capacity to verify beneficiaries even in the event of card loss has increased security. Card theft incidents have decreased, as the biometric system renders stolen cards useless for unauthorized access. Importantly, the inclusion of mechanisms for efficient complaint handling and real-time dispute resolution has minimized service interruptions, ultimately enhancing the overall beneficiary experience and program effectiveness.

The respondents were further asked about the challenges noticed with the use of Biometrics Identification Management System (BIMS). They responded thus;

The respondents identified several challenges with the use of the Biometrics Identification Management System (BIMS). These challenges include the high procurement cost of equipment, instances of missing names from the system's manifest, the need for specialized expertise for system operation, the presence of unclean data resulting from human errors, age limitations for beneficiaries (children below 18 years), occasional fingerprint reading failures, a strong reliance on internet connectivity, data immutability once captured, and difficulties in capturing biometric characteristics of children below 5 years due to their rapidly changing physical attributes. Addressing these challenges is vital for optimizing the effectiveness and efficiency of the system in accurately identifying and assisting beneficiaries.

Furthermore, another respondent pointed out that:

"Additionally, another respondent raised a concern regarding the system's functionality. They highlighted an issue with system updates that result in inconsistencies in reported family sizes. This inconsistency may lead to a beneficiary being listed as having a family size of one when, in reality, they have a family of ten. Furthermore, there seems to be a problem with a shift between funds manifests, which can create inconvenience and disrupt the distribution process. It was also noted that if a beneficiary misses funds assistance during a given cycle, they are required to wait until the next cycle when distribution reopens, which may result in delays and challenges for those in need. "The feedback from respondents highlights key lessons for the project, including the need for meticulous management of beneficiary data to prevent inconsistencies in family size records. It also emphasizes the importance of ensuring a smooth transition between food and funds distribution methods to prevent inconvenience for beneficiaries. Additionally, the feedback underscores the challenge of missed assistance, necessitating the consideration of mechanisms to accommodate beneficiaries who may have missed a distribution cycle. These lessons serve as valuable insights for improving the project's distribution systems and enhancing its responsiveness to beneficiary needs.

The table4: Distributions of Refugee Monthly funds assistance rations in the Parabek Refugee Settlement.

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Items	SD	D	N	A	SA	Mean	Std. Dev
The BIMS accurately captures the names of the refugees in this settlement.	6% (6)	73%	1%	18%	2%	3.63	.917
The sizes of the refugee family are not accurately captured in the BIMS.	2%	27%	35%	34%	2%	2.93	.879
The BIMS has enabled the refugees and their families always receive the recommended monthly funds assistance rations.	3%	81%	6%	10%	0%	3.77	.664
The refugees and their families receive the recommended funds benefits based on the BIMS.	2%	91%	2%	5%	0%	3.90	.482
There is always accuracy in Account number caption using the BIMS.	3%	22%	3%	68%	4%	2.52	.979
I asked an adequate number of questions about how BIMS and the distribution of refugee funds assistance rations relate.	7%	13%	0%	2%(2)	79%	1.69	1.361

Source: Primary Data (2024)

Regarding the accuracy of capturing the names of refugees in the camp using the Biometric Information Management System (BIMS), the feedback shows a predominantly positive sentiment. Only 2% strongly disagreed, 18% disagreed, 1% was neutral, while 73% agreed, and 6% strongly agreed that the BIMS accurately captures names. The mean score of 3.63 reflects the majority of respondents in agreement (Jawaid et al., 2016). Additionally, the low standard deviation of 0.917 indicates limited variation in responses. This feedback underscores the system's effectiveness in accurately recording refugee names within the camp, contributing to data quality and service efficiency.

The feedback from respondents concerning the Biometric Information Management System (BIMS) reveals concerns about the accuracy of family size capture. Among the respondents, 2% strongly disagreed, 34% disagreed, 35% were neutral, 27% agreed, and 2% strongly agreed that the system does not accurately capture family sizes. The calculated mean of 2.76 suggests that inaccuracies exist in family size capture. While there is room for improvement, the low standard deviation of 0.879 indicates a limited variation in responses. These findings underscore the importance of addressing data quality issues to enhance the effectiveness of service delivery and assistance.

BIMS Impact on Receiving Recommended funds Benefits. The feedback on the impact of the BIMS on the receipt of recommended funds benefits is generally positive. Only 10% of respondents disagreed, 6% were neutral, while 81% agreed, and 3% strongly agreed that the BIMS ensures that refugees and their families consistently receive recommended funds benefits (Arredondo et al., 2024). The mean score of 3.77 indicates a positive impact. Additionally, the low standard deviation of 0.664 suggests a consensus and limited variation in responses. This feedback highlights strength of the BIMS system, and the positive impact on benefits distribution should be maintained and improved.

Receipt of Recommended Food Benefits Based on BIMS. The data indicates that the BIMS is effective in ensuring that refugees and their families consistently receive recommended food benefits. The feedback reveals that only 5% of respondents disagreed, 2% were neutral, while 91% agreed, and 2% strongly agreed with this statement. The mean score of 3.90 reinforces the success of the BIMS in this aspect. The low standard deviation of 0.482 indicates a limited variation in responses. This achievement is vital, as it contributes to the well-being of beneficiaries and reflects positively on the BIMS system (Budson & Kowall, 2013).

The findings clearly indicate that, Respondents generally agree that there is accuracy in account number caption when using the BIMS. Only 4% strongly disagreed, 68% disagreed, and 3% were neutral, while 22% agreed, and 3% strongly agreed. The calculated mean of 2.52 corresponds to agreement. The low standard deviation of 0.979 suggests a consensus and limited variation in responses. This finding highlights a positive aspect of the BIMS system, but there is still potential for improvement to address the concerns of those who disagreed (Arredondo et al., 2024).

The feedback concerning the appropriate crediting of accounts using the BIMS indicates a range of responses. While 79% strongly disagreed, 2% disagreed, and 13% agreed, 7% strongly agreed that accounts are appropriately credited using the system. The mean

International Journal of Academic Management Science Research (IJAMSR)
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score of 1.69 suggests overall agreement. However, the high standard deviation of 1.361 indicates significant variation in responses. This variation implies that the system's consistency in crediting accounts should be reviewed and improved to provide a more uniform experience.

When asked about the ways to improve the use of BIMS in the management of the distributions of Refugee Monthly funds assistance rations in this settlement (Arredondo et al., 2024). A staff member of the World Food Programme (WFP) emphasized several key points. Firstly, the importance of sufficient funding, particularly for the establishment of new funds Distribution Points (FDPs), was highlighted.

This would help reduce the distance refugees must travel to receive funds assistance, improving accessibility. Secondly, there is a need for regular updates to the registration records, ensuring that the information remains current and accurate. Additionally, training is essential to ensure that all involved parties understand the concept of biometrics. Standard Operating Procedures (SOPs) should be upgraded and should be informed by ground-level needs and realities, as opposed to being solely top-down directives. This ensures that operational procedures align with the camp's unique circumstances. Furthermore, the importance of data cleaning and an improvement in network connectivity were underscored. Lastly, the BIMS system should be upgraded or improved to better capture the details of minors. The lesson learned here is that successful implementation of biometric systems, like BIMS, requires a holistic approach that encompasses funding, training, data maintenance, and adaptation to local conditions for optimal service delivery."

Multiple Regression analysis results

The hierarchical multiple regression analysis was carried out following Aiken and West (1991) and entered variables simultaneously within each hierarchical group. This tool is useful in evaluating the contributions of predictors above and beyond previously entered predictors, as a means of statistical control, and for examining incremental validity.

Table 5 Distribution of refugee monthly funds assistance rations

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	16.780	1.329		12.622	.000
	Gender of the respondents	.227	.537	.045	.422	.674
	Age of the respondents	.281	.351	.101	.801	.425
	Marital Status of the respondents	.122	.552	.024	.220	.826
	Religion of the respondents	.048	.316	.018	.151	.880
	Education level of the respondents	-.445	.262	-.207	-1.696	.093
	Years so far worked with refugees?	.251	.289	.105	.870	.387
2	(Constant)	3.774	2.968		1.272	.207
	Gender of the respondents	.204	.440	.041	.464	.644
	Age of the respondents	.343	.290	.123	1.184	.240
	Marital Status of the respondents	-.153	.444	-.030	-.345	.731
	Religion of the respondents	.023	.253	.009	.092	.927
	Education level of the respondents	.152	.229	.071	.663	.509
	Years so far worked with refugees?	-.120	.272	-.050	-.439	.661
	Registration	.305	.070	.478	4.332	.000
	Verification	.415	.130	.307	3.202	.002
	Deduplication	.088	.113	.093	.780	.437

Source: Primary Data (2024)

This model explains approximately 4.4% of the variance in the distribution of refugee monthly funds assistance rations. F = .702, p= .649 which show that the first model is not statistically significant. Model 1 shows the baseline model with only control variables of Years so far worked with refugees, Age of the respondents, Gender of the respondents, Marital Status of the respondents, Religion of the respondents, Education level of the respondents that potentially could contaminate the results of the study with distribution of refugee monthly funds assistance rations as the dependent variable (Distler et al., 2020b). As it turns out the control variables do not explain any significant variance on refugee monthly funds assistance rations. This suggests that the models are not sensitive to confounding factors and that the models are highly conceivable. In both models the control variables of Years so far worked with refugees, Age of the respondents, Gender of the respondents, Marital Status of the respondents, Religion of the respondents, Education level of the respondents are not significantly associated with distribution of refugee monthly funds assistance rations.

In model two, Registration, Verification, De-duplication were also included as the predictor variable, with BIMS performance as the dependent variable. The R value for model 2 is 0.640, and R Square is 0.409 explains a more sizeable part of the variance, about 40.9%. The second model (F) = 18.137, $p< .000$, which included physical illness ($b=0.47$, $t= 9.96$, $p< .001$) showed significant improvement. This study therefore explains 40.9% of the variance in the distribution of refugee monthly funds assistance rations.

Discussion

Study findings revealed that there is a significant positive relationship between registration and distribution of refugee monthly funds assistance rations in Parabek Refugee Settlement. Rregistration has gained significant prominence in the business world over the past few years. Its growing importance can be seen by the fact that there is growing biometric identification in Ugandan firms as (Okello, 2017) states. More than ever before, many companies are investing ambitiously in registration and are aiming to integrate biometric registration into all aspects of their businesses. Given the importance and ubiquity of biometric registration, a question that has prompted great interest from both academic researchers and market practitioners is whether such investments in biometric activities create value for the firm's shareholders or lower firm value.

While a number of meta-analytic reviews suggest that there is a positive (albeit small) relationship between biometric identification and management of distribution of refugee monthly funds assistance rations, this study found a significant strong positive relationship between biometric identity Management system and management of distribution of refugee monthly funds assistance rations.

The study established that as the company established biometric registration systems, it enhances its competitive advantage. The study looked at the distribution of refugee monthly funds assistance rations aimed at helping refugees get relief funds aid. For instance, (Distler et al., 2020b) cautioned against models that exclude refugees from getting funds aid while attempting to explain to them the importance of engaging in developmental projects. In this study, the researcher empirically investigated the relationship between registration dimensions and competitive and test the relative significance of different dimensions on firm value. The researcher explains and hypothesizes the link between registration and the distribution of refugee monthly funds assistance rations from both a theoretical and empirical lens. (Arredondo et al., 2024) The dimensions that relate to registration focused on the distribution of refugee monthly funds assistance rations. However, in contrast looked at four other dimensions, registration, and found out that was statistically insignificant in their association with the distribution of refugee monthly funds assistance rations. Also, none of the dimensions displayed a significant negative relation with the distribution of refugee monthly funds assistance rations. Furthermore, there was justification for the rejection of the hypothesis that there is significant relationship between registration and the distribution of refugee monthly funds assistance rations follows an inverted U-shaped relationship over time, suggesting that the relationship between registration and distribution of refugee monthly funds assistance rations increases positively and steadily to a maximum in the initial years after their adoption and gradually fades away in subsequent years.

The study established that biometrics helps in easy identification of clients and therefore no service delivery to companies that regularly use its service. Conversely, if there is to be service delivery to companies that regularly uses its service there is need for installation of a biometric system. This is because according to (Campbell, 2005), the availability of data bases containing biometric information makes them susceptible to other uses and of interest to other entities. For instance banks and other financial institutions are interested in biometric information as a way of adding further security to their transactions. Beckman & Long,(2023)also agrees that the need for creating a personal relationship with the clients has imposed the one-to-one marketing concept, which is based on up to date database. This means that with biometric systems, business is easily promoted. Study findings revealed that biometric registration systems are able to provide a higher degree of security compared to traditional forms of security authentication methods. Biometrics usually needs to have the physical presence of the authorised individual in order to gain access and this means that only the authorized person has access to the location, account or device. By using biometric registration system of authentication this eliminates the risk of having the biometric data being guesses or even stolen in the same manner as security tokens or passwords (Gopalakrishnan, 2016).

Distribution of refugee monthly funds assistance rations.

Study findings revealed that there was a positive significant relationship between verification and distribution of refugee monthly funds assistance rations. This study makes a number of theoretical and practical contributions. Verification, as a concept, is yet to gain a firm foothold in emerging economies with weak institutional systems, standards and appeal processes. A significant gap continues to exist in development and institutional environment between developed and developing economies. This study sheds greater light on the relative merits of particular biometric dimensions over others in their ability to boost verification in the context of and distribution of refugee monthly funds assistance rations. It was found out that verification can be useful in guiding managers in the prioritization of their efforts in developing socially and environmentally responsible practices that lead to greater assistance and help to the refugees. The findings are in line with (Lubulwa, 2015) who noted that verification relates with distribution of refugee monthly funds assistance rations. Institutions with good biometric verification are generally expected to increase value for their services rendered to the refugees. Well-designed biometric verification mechanisms are typically designed to help companies in ensuring that services reach the people. Institutions with good biometric systems may need to be in position to ensure transparency and accountability when it comes to the services they render to their people. In developed economies, the use of biometric registration has been identified as an important determinant of service quality in many cases.

Biometric verification is typically used as a mechanism through which institutions ensure that services reach the people and at the same time biometrics have helped institutions to effectively handle employee related matters. Similarly, (McWilliams, 2003) stress the importance of biometric verification in promoting greater awareness of satisfaction to the recipients and beneficiaries of particular services. Biometrics verification thus promotes better service delivery. Similar findings were observed by (Eynden, Biometrics Planning Project, Evaluation Report, Biometrics Field Trial. Ministry of Public Works and Government Service Canada, 2009) disposal of records does not always mean file plan. The study found out that when biometric verification systems are in place, there is convenience in the identifying of clients and this reduces fraud. This agrees with the views of (Maghiros, Detecting and Preventing Attacks Using Network Intrusion Detection Systems. International Journal of Computer Science and Security, Volume (2): Issue (1)., 2005) Who explains that biometric technologies are strong identification technologies and as such influence the level of ‘trust’ in transactions. They can help reduce fraud and thus help materialize the efficiency and equity gains of the Information Society. They help simplify things from the user’s perspective and minimize the likelihood of error.

Distribution of refugee monthly funds assistance rations.

Study findings revealed that there was a positive significant relationship between de-duplication and distribution of refugee monthly funds assistance rations. Over the past 40 years, over 200 published studies have empirically investigated the relationship between de-duplication and distribution of refugee monthly funds assistance rations, leading some to conclude that this relationship is one of the most elaborately researched areas in the field of automation and service delivery. However this study found a significant association between de-duplication and distribution of refugee monthly funds assistance rations. The results have been equivocal in terms of the magnitude and sign of the relationships that are supported. While some researchers have found a positive association between the two constructs, others have identified a negative association or no relationship between the constructs. (McWilliams, 2003) Warn of important theoretical and empirical limitations plaguing existing studies and highlight the risk posed by the omission of variables that are important determinants of distribution of refugee monthly funds assistance rations.

This can be achieved in a number of ways. First, there is a need to understand the mechanisms that link de-duplication and distribution of refugee monthly funds assistance rations. This study found that institutions strengthen their internal controls when de-duplication is used to improve their delivery systems, mitigate firm risk, and jumpstart innovation. These three factors fully support the association between the variables.

Second, this study established that there is a need to segregate biometric into institutional practice level measures deviating from the current practice of its evaluation in aggregate form. While the earlier approach of evaluating biometrics in aggregate form helps in developing an understanding of the effects at a macro-level, the revised approach of segregating biometrics into its individual dimensions aims to provide a more detailed and nuanced understanding of the effects at a micro-level. In this study, biometric de-duplication dimensions are in disaggregated form, thereby enabling a more detailed understanding of how each of these dimensions relate with the distribution of refugee monthly funds assistance rations. Multiple theoretical and empirical perspectives are used to justify these links. (Mwide, 2014)Proposed that the relationship between the two constructs (de-duplication and distribution of refugee monthly funds assistance rations) is likely to be more complex, and it is yet to be understood whether the relationship is truly causal. Based on the outcomes of these meta-analytic studies, some researchers claim that biometric de-duplication is a worthwhile investment as it enables institutions to “do well by doing good” and that it is in line with institutions’ pursuit of economic advantage. Theoretically, claims have been made in support of the diffusion of innovation theory developed by Rogers. Other researchers have used meta-analytic studies to urge caution in interpreting this effect. For example, (Ehrnann, 2015) show that there is significant publication bias towards studies that show a positive link between biometric de-duplication and the diffusion of innovation theory developed by Rogers. Quazi and Richardson (2018) demonstrate that the sample size and methodological approaches used in studies that have investigated this link significantly influence the size of the effect and its direction.

Similarly, (Wang, 2017) show that measurement strategies for the two constructs explain some variations in their relationship. (Wang, 2017)also show that the moderating effect of biometric de-duplication in different countries influence service delivery, with this relationship being stronger for non-government organizations in developed countries than for NGOs in developing countries. Overall, the meta-analytic studies, while clarifying some aspects of the relationship, highlight the need for further research to shed greater clarity. This research agenda is not suggesting that more of the same type of primary empirical studies that have been done in the past need to be conducted. Rather, it emphasizes the need to pursue a more nuanced analysis of the link. Finally, there is a need to overcome research methodological and data analysis flaws observed in earlier studies

Conclusions

The study concludes that Biometric identification enabled the stakeholders to determine whether each the refuges had received funds distributed among of the people. The study concludes that dynamics has helped the public as well as the NGO sectors to prepare and execute biometrics technology projects for the control of identity fraud. Biometrics technology has served as an appropriate tool for the authentication and maintenance of individual identities.

It also concludes that Biometrics technology has helped to identify individual persons, authenticate, authorize, and enforce accountability of individuals. The registration, adoption and usability of the technology have transformed how identity is credentialed in the distribution of refugee monthly funds assistance rations.

It concludes that, there is need for sensitization and training of the individual person from the foregoing study findings however, the growing importance of biometrics verification technology for recognizing and confirming identity was discussed in chapter four.

The concludes results of this investigation suggest that relevant action is required among these stakeholders to enable the extensive and successful adoption and the use of verification within the distribution of refugee monthly funds assistance rations in Parabek Refugee Settlement. This has served as a model for other major settlements, and the country as a whole.

It concludes that problem is that most de-duplication systems are optically based and have performed poorly when not well handled. The user acceptability is of primary importance to guarantee success of adoption and implementation.

The study concludes Identity fraud, however, may not be the only or even pressing national and international concern for mitigation. Crime is an impediment to economic and social stability. For a government to bring about positive social change, the unrest in the society resulting from law-breaking and its consequences must be addressed.

Recommendations

Basing on the significant findings the study recommends: The proper usage Biometric Identity machine to avoid fraud has become a significant track individual ravaging personal security, social and economic activities. The social implications of this study result from the identification of biometrics identification technology has a reliable and acceptable mechanism for the verification of a person, deterrence of identity deception, and protection of personal security.

It also recommends improving acceptance of this technology and the role of biometrics security system for identification and authentication will require awareness. It is necessary to publicize the increasing need for biometrics technology for identity management.

However, this will not be possible without significant and concerted efforts to inform and educate the stakeholders as well as the public. Workshops should be organized to educate people and raise awareness about the growing tendency of identity fraud and the function of biometrics technique as a control measure.

The policy development process should encompass a broad range of stakeholders to gain input that will help to formulate actionable strategies for disseminating information about the need to control identity fraud. Standard Operating Procedure (SOP) need to be upgraded and should emanate from the ground. SOPs come from the top and there is also need for data cleaning as well as improve on network connectivity.

The study recommends for adoption of these research significant findings help the NGOs develop actionable strategies to implement and maintain a biometrics database for refugees funds distribute. This will serve as credential identity and preserve the record of individuals who are denied access to the distribution of refugee monthly funds assistance rations.

The study recommends for proper analysis of established a biometric data base and identification of the refugees at settlement to help clear cases of de-duplication. BIMS should be monitored periodically to upgraded or improved to capture details of minors as well ensuring that every person has received what is meant to receive on monthly basis.

Last the study recommends for tracking and supervision the individual refugees' funds receipt and utilization of the refunds received for their wellbeing in paraberk settlement Camp in Uganda.

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