EFFECTIVENESS OF CASH TRANSFER PAYMENT CHANNEL FOR PERSONS WITH SEVERE DISABILITIES IN KENYA: A CASE STUDY OF NAIROBI COUNTY

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ABSTRACT

As governments approach the question of which policy parameters to select when designing a new cash transfer and how to fine-tune existing transfers, information about the parameter design options available, the contribution of specific Conditional Cash Transfer (CCT) parameters to outcomes, and the implementation details that facilitate these linkages is critical. The purpose of this study therefore was to assess the effectiveness of cash transfer payment channel for Persons with Severe Disabilities in Kenya. The study specifically sought to evaluate the influence of technology, accessibility, cost efficiency and cash transfer timeliness on effectiveness of cash transfer payment channel. The study adopted a descriptive research design. The target population of the study was all the 1495 beneficiaries in Nairobi County. Random sampling was used to obtain a sample size of 150 beneficiaries. Both qualitative and quantitative data was collected using questionnaires. Quantitative data was analyzed using for both descriptive and inferential statistics. Correlation analysis and regression were used to assess the effectiveness of cash transfer payment channel for persons with severe disabilities. The study findings indicated that the respondents were able to access their cash payments through the cash payment method that has been put in place. This was demonstrated by the extent of agreement with the statements in the questionnaire in cash payment channels. Results indicated that technology, level of accessibility, cost effectiveness and cash transfer timeliness affects cash transfer payment channel positively. Results also led to a conclusion that technology increased efficiency in cash transfer payment channel. It was possible to conclude that if the distance to access the service is shortened the barrier to lack of access is killed. This further leads to a conclusion that future plans in terms of accessibility is a key determinant factor influencing cash transfer payment channel. Based on the findings it was possible to conclude that there was a positive and significant relationship between cost effectiveness and cash transfer payment channel. Results led to the conclusion that the cash transfer channel adopted should be one that minimizes the costs of administration. It is recommended that the Government should switch to innovative mechanisms of electronic delivery of cash transfer. This will reduce the administrative costs and "leakage" corruption and fraud and the care givers to be educated and trained on the new technologies adaptations especially in the cash/money transfer sectors.

 Keywords*: Technology, Level of accessibility, Cost efficiency, Cash transfer timeliness, Cash transfer payment channel*

INTRODUCTION

The benefits of cash transfer programs in the world have received much attention. These cash transfer programs have been designed to benefit the world poor thus help in alleviating poverty. These cash transfer programmes have been regarded as a leading-edge social policy tool for their ability in influencing both income of the poor in the short run and for improving human capabilities of the poor in the medium and long run. These programmes have been praised for the ability to focus on the poor, for making it easier to integrate different types of social services, and for their cost-effectiveness and their ability to avoid price distortion that stem from policies such as food subsidies (Aguero, Carter & Woolard, 2006). Britto (2005) noted that in developed Latin American countries the adoption of cash transfers that are targeted and conditional was largely supported by the promise such policies hold to address poverty both in the short and long run. This perceived potential is captured by a widely cited definition of CCTs, which also points to the purposes of their subcomponents: "The cash transfer is aimed at providing short term assistance to families in extreme poverty, while the conditionalities aim to promote longer term human capital investments, especially among the young (Rawlings, 2005).

In Africa, there is growing interest in SP and within this in providing predictable social assistance to poor and vulnerable populations. This has been articulated in the African Union Social Policy Framework, thus making SP a key strategy in poverty reduction across Africa. So far, the most popular SP interventions are social cash transfers and public works, although other interventions, including reforms to pension schemes, are also being explored (Ellis, 2012). In Kenya, cash Transfer for Persons with Severe Disabilities (PWSD-CT) was launched in June 2011 as a pilot programme with 2,100 beneficiaries all over the country i.e. 10 beneficiaries per constituency. Between the years 2012 and 2013 the programme was up scaled to 14,700 beneficiaries and further to 27,200 beneficiaries in the years 2014 and 2015. In the current year 2016, the Government is targeting 47,000 beneficiaries (Ministry of Labour and East African Affairs). It targets adults and children with severe disabilities and who require full time support of a caregiver.

STATEMENT OF THE PROBLEM

Designing a public cash transfer involves many decisions. These include setting transfer levels, identifying beneficiary selection strategies and deciding whether to condition or not and the nature of conditionalities. As governments approach the question of which policy parameters to select when designing a new cash transfer and how to fine-tune existing transfers, information about the parameter design options available, the contribution of specific CCT parameters to outcomes, and the implementation details that facilitate these linkages is critical (Croome & Nyanguru, 2007). The evaluation of cash transfer programs has received considerable attention from the developed and transitioning economies, however, little attention has been directed towards empirical investigation of social cash transfers in the developing countries despite several programs being in place. Among the few studies that have been carried on in the developing countries have mainly examined the impact of social transfers on the social welfare of the beneficiaries (Aguero, Carter & Woolard, 2006; Burns, Keswell, & Leibbrandt, 2005; Croome & Nyanguru, 2007; Samson, Mac Quene & Van Niekerk, 2005). These studies have focused on the impact of social cash transfers with little focus on the effectiveness of the cash transfer payment channel. The social environment in these countries is different from the Kenyan context. The positive effects that have been established in the programmes may therefore not be applicable to Kenya and other Sub-Saharan African countries.

Studies conducted within the Kenyan context include those of Haushofer and Shapiro (2013); Jensen, Barret and Mude (2014); Asfaw, Davis, Dewbre, Federighi, Handa, and Winters (2012) and Davis and Pozarny (2012). Haushofer and Shapiro (2013) investigated the household response to income changes resulting from unconditional cash transfer program, this study however, was limited in scope as it failed to examine the effectiveness of cash transfer payment channels. Further, the study's focus was on households and no reference was made to persons living with severe disabilities. Jensen, Barret and Mude (2014) focused on the Index Insurance and Cash Transfers at the Northern parts of Kenya, they thus failed to examine the effectiveness of cash transfer payment channels. Further the scope of the study was only in the Northern parts of Kenya and as a result failed to look at cash transfers from the perspective of persons living with disabilities. Asfaw, Davis, Dewbre, Federighi, Handa, and Winters (2012) in their study examined the impact of the Kenya CT-OVC programme on productive activities and labour allocation, while Davis and Pozarny (2012) looked at the economic impacts of cash transfer programs in Sub-Saharan Africa with a special focus to Kenya.

From these studies it is evident that empirical studies within Kenya are limited and with the few studies conducted they have failed to assess the determinants to effectiveness of cash transfer payment channels yet the Government has on several occasions switched from one Payment Service Provider to another in search for payment services that will ensure that the objectives of the Cash Transfer Programme are met. Prior to an impact assessment, it's vital to ensure that payments successfully reach the rightful recipients. On average over the five years, payment collection for PWSD-CT stands at 64% (Ministry of Labour and East African Affairs) 26% of the Cash Transfer funds have remained uncollected. The main focus of previous studies has been mainly on the impact of the cash transfers on the recipients. Due to the paucity of empirical analysis on this subject matter the current study sought to assess the effectiveness of cash transfer payment channel for persons with severe disabilities cash transfer programme in Nairobi County.

RESEARCH OBJECTIVES

1. To evaluate the influence of technology on effectiveness of cash transfer payment channel.
2. To determine the influence of level of accessibility on effectiveness of cash transfer payment channel.
3. To establish the influence of cost efficiency on the effectiveness of cash transfer payment channel.
4. To determine the effect of cash transfer timeliness on effectiveness of cash transfer payment channel.

LITERATURE REVIEW

Theoretical Framework

Financial Intermediation Theory

Current financial intermediation theory had seminal contributions from Akerlof (1970), Spence (1973) and Rothschild and Stiglitz (1976). It builds on the notion that intermediaries serve to reduce transaction costs and informational asymmetries. This theory is considered relevant to the study in the sense that cash transfers can be implemented through various channels or financial intermediaries such as M-Pesa, or via the banking systems. This theory therefore supports the accessibility, technology and cost effectiveness variables in the current study as it ensures that recipients or

beneficiaries of cash transfers can access their dues conveniently and in a manner that is deemed to be most cost-effective.

Diffusion of Innovations theory

Diffusion of Innovation (DOI) theory was formulated by Rogers' (1995). It is another popular m odel used in information systems research to explain user adoption of new technologies. Rogers d efines diffusion as 'the process by which an innovation is communicated through certain channel s over time among the members of a social society' (Rogers, 1995). This theory is considered rel evant to the study as it support the use of technological innovations in ensuring that transfers reac h the recipients on time. This theory therefore supports accessibility, technology and cost effectiv eness variables in the current study in the sense that the adoption of these technological innovatio ns ensures that recipients or beneficiaries of cash transfers can access their dues conveniently and in a manner that is deemed to be most cost-effective.

Empirical Review

A study done in Mexico by Gelb and Decker (2011) revealed that 66 percent of recipients are stil l paid in cash, while 34 percent are paid into mainstream financial accounts. Of these, 16 percent are paid via magnetic-stripe cards linked to Bansefi no-frills interest-bearing savings accounts (D ebicuenta). Payments through Debicuenta accounts are offered only to recipients in areas (mostly urban) where there is bank infrastructure since payments are made online from any point in the c ountry's national payments network. Twelve percent are paid via smart cards linked to Bansefi pr epaid noninterest bearing no-frills accounts.

Payment arrangements involve ensuring that regular delivery of the cash transfer is made to the c aregiver within the household who will most effectively allocate it in line with the programme ob jectives. Samson et al (2006) argues that regular and reliable payments provide the recipients (car egivers) with the security and choice that provide the greatest flexibility and developmental impa ct, maximizing benefits and value to the beneficiaries. Regularity facilitates more planning. Late or irregular payments can foster a reliance on informal credit, often at high interest rates which er ode benefits and can create debt traps. The reduced frequency (compared to monthly payments) r educes administrative and private costs, thereby releasing more money to the needs of the OVC.

According to Samson et al. (2006) the channel through which cash transfers should be made to th e recipients should be one that ensures timeliness in receipt on the transfers. He further asserted t hat a timely transfer is more likely to have a positive impact on the recipient's welfare. He theref ore noted that Governments are thus switching to innovative mechanisms of electronic delivery o f cash transfer. This reduces the administrative costs and "leakage" corruption and fraud. In Brazi l electronic transfer helped cut administrative costs by nearly sevenfold from 14.7% to 2.6% of gr ant value while in South Africa delivery cost reduced by over 62% (Arnold, Conway & Greensla de, 2011).

RESEARCH METHODOLOGY

The study adopted a descriptive research design. The target population for this study comprised o f all the beneficiaries of cash transfer programme in Nairobi County. The total population of the s tudy was 1495 individuals who are beneficiaries of cash transfers as indicated by the payroll of N airobi County at the Ministry of Labour and East African Affairs. The sampling frame of the stud y was from the payroll of Nairobi County which was obtained from the Ministry of Labour and E ast African Affairs. A sample size of 150 was selected through simple random sampling. This rep

resents 10% of all the beneficiaries in Nairobi County. The study used both qualitative and quantitative primary data for analysis. It was collected by use of semi-structured questionnaires. Quantitative data was analyzed using Statistical Package for Social Sciences (SPSS) version 20 software. Descriptive findings were presented using frequency tables, bar graphs, pie charts and graphs. In order to test the strength of the relationship between the dependent and independent variables, regression coefficients were used. The regression model was of the form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where Y represents effectiveness of cash transfer payment channel, X_1, X_2, X_3 and X_4 represents Technology, Level of Accessibility, Cost effectiveness and Cash Transfer Timeliness and ε is the error term,

RESULTS

Response Rate

One hundred and fifty questionnaires were circulated and 102 were duly completed and returned. This converts to a response rate of 69% as shown on Table 4.1. According to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of 50% is adequate for a descriptive study. Babbie (2004) also asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on these assertions from renowned scholars 69% response rate is adequate for the study.

Table 4.1: Response Rate

Response Rate	Frequency	Percentage
Returned	102	68
Unreturned	48	32
Total	**150**	**100**

Demographic Characteristics

Gender of the Respondent
Finding implies that there is a gender balance as far as cash transfer is concerned. The gender distribution does meet the constitutional threshold of 66%. The study also implies that majority of the caregivers of the beneficiaries of cash transfers are female. There is a growing body of evidence that indicates women participation is consistently associated with better governance (Grimes, M. and Wängnerud L., 2009). Some studies also indicate that cash transfer programmes have empowered women to more effectively assert their rights and entitlements and to demand and negotiate better services from public providers (Barber, S.L., Gertler P.J., 2008).
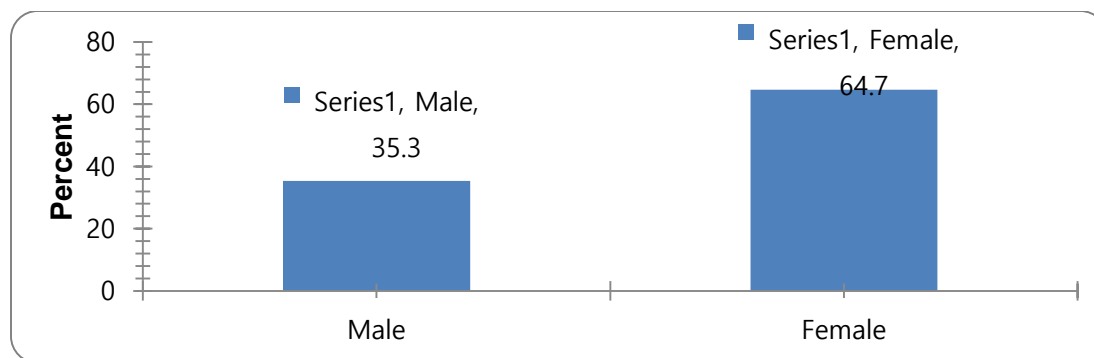
Figure 4.1: Gender of the Respondent

Age of Respondents

The respondents were asked to indicate their age category. Figure 4.2 illustrates that majority (34 %) of the respondents were aged above 40 years. 30% of the respondents were aged below 18 ye ars and 15% of the respondents were between 18-25 years, 14% of the respondent were between 31-35 years and 7% of the respondent were between 26-30 years. This implies that respondents w ere well distributed in terms of their age.
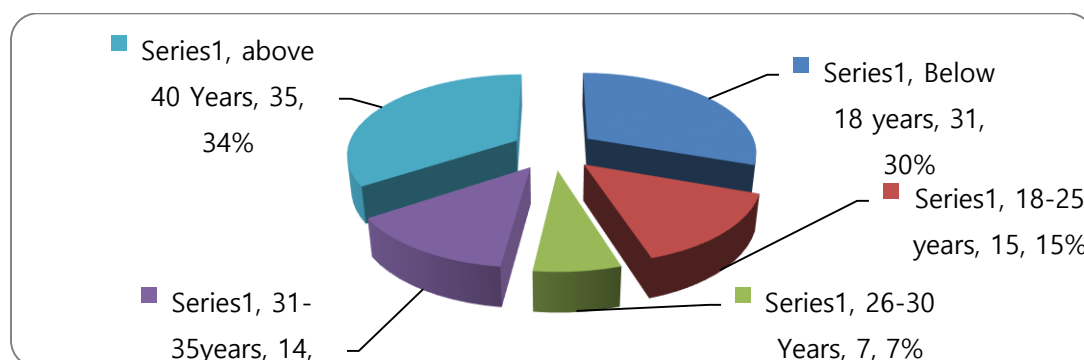

Figure 4.2: Age of the Respondent

Level of Education

The Figure 4.3 below shows that 43% of the respondents had attained tertiary level whereas 34% had attained high school education while only 23% of the respondents had attained university le vel of education. The result implies that most of the respondents were literate and so this was of benefit to the research subject and findings. This concurs with the assertion of Pickens, Porteous & Rotman (2009), that despite concerns that the use of technology would pose a barrier for benef iciaries with only basic education, most of the recipients do not face severe problems.
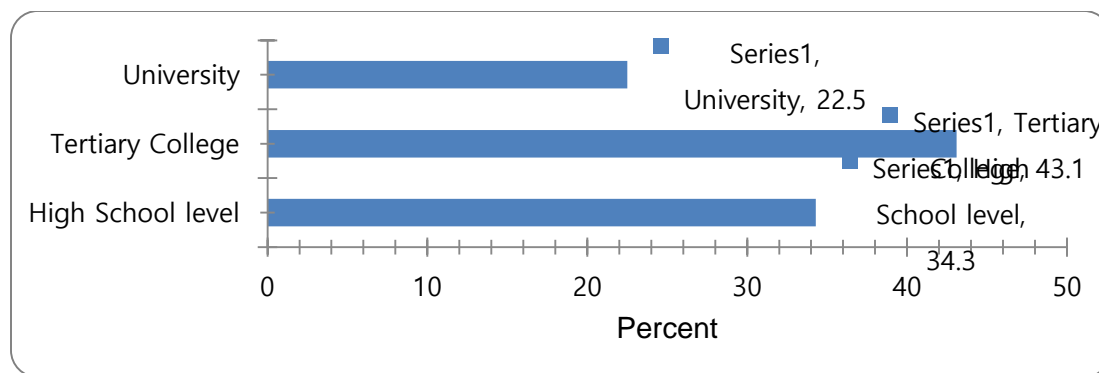
Figure 4.3: Level of Education

Years Benefited

The respondents were asked to indicate the years that they have benefited from the cash transfer programme. Results in figure 4.4. illustrates that 38% of the repondents indicated more than 5yea rs, 24% of the respondents had benefited for 3-5years, 23% of the respondents had benefited bet ween 1-3 years and 15% of the respondents had benefited for less than one year. The results impl ies that most of the respondents had payment experience for a longer period of time.
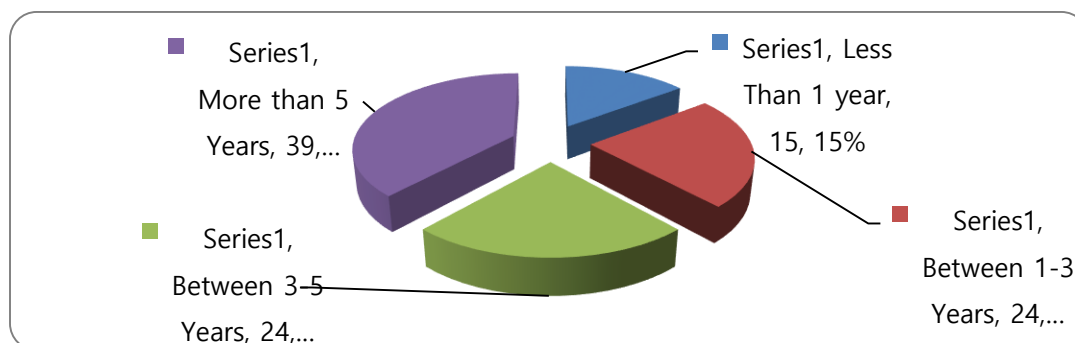

Figure 4.4: Years Benefited

Influence of Technology on Cash Transfer Payment Channel

The first objective was to evaluate the influence of technology on effectiveness of cash transfer p ayment channel. Table 4.2 shows that 83.4% agreed that the current technology used to send the cash transfer is convenient, 86.3% of the respondents agreed with the statement that the technolo gy associated with the current cash transfer payment channel is easy to use, 78.4% agreed that th e technology adopted in the transfer of cash by the provider is secure, 65.4% of the respondents a greed that they are well versed with the technology used currently therefore do not require assista nce to get cash transfer, 83.4% of the respondents agreed that they prefer that other technologies be adopted in ensuring that recipients get their transfers, 94.3% of the respondents indicated that they prefer payment through a bank account as a mode of cash transfer payment, 86.3% agreed th at they prefer Mpesa as a mode of cash transfer payment and 90.2% agreed that they preferred Ca rd technology as a mode of cash transfer payment. The mean score for the responses was 4.0 whi ch indicate that many respondents agreed to the statements on influence of technology on effectiv

eness of cash transfer payment channel. The results findings conquer with those of Arnold, Conway & Greenslade, (2011) Kenya; various models of payments have been used.

Table 4.2: Technology on Cash Transfer Payment Channel

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean
The current technology used to send the cash transfer is convenient	1.0%	11.8%	3.9%	11.8%	71.6%	4.41
The technology associated with the current cash transfer channel is easy to use	1.0%	3.9%	8.8%	53.9%	32.4%	4.13
The technology adopted in the transfer of cash by the provider is secure	2.0%	9.8%	9.8%	12.7%	65.7%	4.3
I am well versed with the technology used currently and I therefore do not require assistance to get my cash transfer	3.9%	12.7%	17.6%	22.5%	43.1%	3.88
I prefer that other technologies be adopted in ensuring that recipients get their transfers	2.0%	9.8%	4.9%	66.7%	16.7%	3.86
I prefer payment through a bank account as a mode of cash transfer payment	0.0%	4.9%	1.0%	61.8%	32.4%	4.22
I prefer Mpesa as a mode of cash transfer payment	3.9%	2.0%	7.8%	34.3%	52%	4.28
I prefer Card payment as a mode of cash transfer payment	2.0%	2.0%	5.9%	39.2%	51%	4.35
Average	**2.0%**	**7.1%**	**7.5%**	**37.9%**	**45.6%**	**4.18**

Regression Analysis on Technology

In order to establish the effect of technology on cash transfer payment channel, a regression model was estimated. The results in Table 4.3, 4.4 and 4.5 are the model summary results, goodness of fit results for the estimated regression model and the regression estimates respectively. The results in Table 4.3 show that technology explains 63.6% of the variations in cash transfer payment channel as indicated by an R-Square of 0.636. This implies that 36.4% of the unexplained variations in cash transfer payment channel is accounted for by the other variables including level of accessibility, cost efficiency and cash transfer timeliness as further explained.

Table 4.3: Model Fit for Effect of Technology

Indicator	Coefficient
R	0.880
R Square	0.636
Adjusted R Square	0.630
Std. Error of the Estimate	0.26109

Before estimation of the regression analysis, analysis of variance (ANOVA) was conducted which is an F-test that establishes whether the regression model estimated was significant. ANOVA results presented in Table 4.4 indicates that the overall model was significant, that is, the independ

ent variable was a good joint explanatory variable for cash transfer payment channel since the F s tatistics was larger than the critical F value of 3.88 (F = 87.676, p-value = 0.000) as indicated in the Table 4.4 below.

Table 4.4: ANOVA for the Effect of Technology

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.607	1	6.607	87.676	0.000
Residual	13.038	100	0.13		
Total	19.646	101			

After it was established that the regression model was significant the following regression estima tes as indicated in Table 4.5 below was obtained. In particular, the estimates indicated that techno logy was positive (β=0.642) and significantly (p=0.000) related to cash transfer payment channel. This implied that change in use of technology by one unit leads to improved cash transfer payme nt channel effectiveness by 0.642, units. The results findings agree with those of Arnold, Conway & Greenslade, (2011) Kenya, various models of payments have been used. These include the use of Government district treasuries, State corporations, commercial banks and E-wallets. Between 2005 and 2010, Kshs. 17.8 Billion was channeled through different delivery models, 11% throug h district treasuries and 10% through Postal Corporation of Kenya (Kenya Social Protection secto r review 2012). The regression analysis can be summarized in functional form as indicated below ;

Cash Transfer payment channel = 1.409 + 0.642 Technology+ ε

Table 4.5: Regression Analysis of Effect of Technology

Variable	Beta	Std. Error	t	Sig.
Constant	1.409	0.378	3.724	0.000
Technology	0.642	0.09	7.119	0.000

Influence of level of accessibility on Cash Transfer Payment Channel

The second objective was to determine the influence of level of accessibility on effectiveness of c ash transfer payment channel. Table 4.6 shows that 81.3% agree that the payment point of the cas h transfer is near from where they reside, 58.8% of the respondents agreed with the statement tha t waiting times at the payment point is short, 80.2% agreed that there are few requirements for co llection of payments making the collection of the transfer easy, 89.3% of the respondents agreed t hat they are always required to provide their identification documents before collection of payme nts, 82.4% of the respondents agreed that they have never missed a payment because someone els e signed for it and was paid without their knowledge, 79.4% of the respondents indicated that the y always receive the full expected payment amount entitled to them ,87.2% agreed that they take a short time to travel to the payment point as the distance is short and 90.2% agreed that they ha ve never paid a bribe in order to access payment. The mean score for the responses was 4.0 whic h indicate that many respondents agreed to the statements on level of accessibility on effectivene ss of cash transfer payment channel. The study findings are in line with those of Bastagli (2011) who asserted that shortening the distance to cash-out points lowers the barrier to access especiall y for individuals unable to walk long distances or with busy work.

Table 4.6: Level of Accessibility on Cash Transfer Payment Channel

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean
The payment point of the cash transfer is near from where I reside.	3.9%	8.8%	5.9%	62.7%	18.6%	3.83
Waiting times at the payment point is short	9.8%	27.5%	3.9%	41.2%	17.6%	3.29
There are few requirements for collection of payments making the collection of the transfer easy.	2.0%	6.9%	1.0%	50.0%	40.2%	4.2
I am always required to provide my Identification documents before collection of payments.	2.0%	8.8%	0.0%	52.0%	37.3%	4.14
I have never missed a payment because someone else signed for my payment and was paid without my knowledge	2.0%	5.9%	9.8%	20.6%	61.8%	4.34
I always receive the full expected payment amount entitled to me	9.8%	4.9%	5.9%	20.6%	58.8%	4.14
I take a short time to travel to the payment point as the distance is short	2.0%	4.9%	5.9%	58.8%	28.4%	4.07
I have never paid a bribe in order to access payment	0.0%	4.9%	4.9%	53.9%	36.3%	4.22
Average	3.94%	9.08%	4.66%	44.9%	37.38%	4.03

Regression Analysis of Level of Accessibility

In order to establish the effect of level of accessibility on cash transfer payment channels a regression model was estimated. The results in Table 4.7, 4.8 and 4.9 are the model summary results, goodness of fit results for the estimated regression model and the regression estimates respectively. The results in Table 4.7 shows that the level of accessibility explains 54.6% of the variations in cash transfer payment channel as indicated by an R-Square of 0.546. This implies that 46.4% of the unexplained variations in cash transfer payment channel is accounted for by the other variables including technology, cost efficiency and cash transfer timeliness as further explained.

Table 4.7: Model Fit for Effect of Accessibility

Indicator	Coefficient
R	0.694
R Square	0.546
Adjusted R Square	0.540
Std. Error of the Estimate	0.22369

Before estimation of the regression analysis, analysis of variance (ANOVA) was conducted which is an F-test that establishes whether the regression model estimated was significant. ANOVA results presented in Table 4.8 indicates that the overall model was significant, that is, the independent variable was a good joint explanatory variable for cash transfer payment channel since the F statistics was larger than the critical F value of 3.88 (F = 69.404, p-value = 0.003) as indicated in Table 4.8 below.

Table 4.8: ANOVA for the Effect of Accessibility

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.695	1	1.695	69.404	0.003
Residual	17.951	100	0.18		
Total	19.646	101			

After it was established that the regression model was significant, the following regression estima tes as indicated in Table 4.9 below were obtained. In particular, the estimates indicated that level of accessibility was positive (β=0.574) and significantly (p=0.003) related to cash transfer payme nt channel. The findings imply that an increase in level of accessibility by one unit leads to impro ved cash transfer payment channel effectiveness by 0.574 units. The study findings are in line wit h those of Bastagli (2011) who asserted that shortening the distance to cash-out points lowers the barrier to access especially for individuals unable to walk long distances or with busy work. The regression analysis can be summarized in functional form as indicated below;

Cash Transfer payment channel = 2.986 + 0.574 Accessibility+ ε

Table 4.9: Regression Analysis of Effect of Accessibility

Variable	Beta	Std. Error	t	Sig.
Constant	2.986	0.362	8.242	0.000
Accessibility	0.574	0.089	3.072	0.003

Influence of   Cost efficiency on Cash Transfer Payment Channel

The third objective was to establish the influence of cost efficiency on the effectiveness of cash tr ansfer payment channel. Table 4.10 shows that 81.4% of the respondents agreed that the travel co sts to the payment pay point are low, 86.3% of the respondents agreed with the statement that the re are no extra charges associated with collection of payment, 86.3% of the respondent agrees tha t they don't have to pay someone to stay with the beneficiary so that they are able to go and colle ct payment as the time they take is short, 86.4% agreed that foregoing some activity or some wor k so that they are able to go and collect payment is a small sacrifice for them as the time they tak e is short and 49% of the respondents agreed that they spend little money in total for them to acc ess the payment. The mean score for the responses was 4.0 which indicate that many respondents agreed to the statements on cost efficiency on the effectiveness of cash transfer payment channel .

The findings agree with those of Pickens, Porteous and Rotman (2009) in their study they asserte d that the cash transfer channel adopted should be one that minimizes the costs both for administr ation and for the recipients.

Table 4.10: Cost efficiency on Cash Transfer Payment Channel

Statement	strongly Disa gree	Disagre e	Neutral	Agree	Strongly a gree	Mean

My travel costs to the payment pay point are low	1.0%	13.7%	3.9%	56.9%	24.5%	3.9
There are no extra charges associated with collection of payment	1.0%	6.9%	5.9%	27.5%	58.8%	4.36
I don't have to pay someone to stay with the beneficiary so that am able to go and collect payment as the time I take is short	3.9%	3.9%	5.9%	29.4%	56.9%	4.31
Foregoing some activity or some work so that am able to go and collect the payment is a small sacrifice for me as the time I take is short	3.9%	3.9%	5.9%	35.3%	51.1%	4.25
I spend little money in total for me to access the payment	9.8%	37.3%	3.9%	22.5%	26.5%	3.19
Average	3.9%	13.1%	5.1%	34.3%	43.5%	4.00

Regression Analysis on Cost Efficiency

In order to establish the effect of cost efficiency on cash transfer payment channel a regression model was estimated. The results in Table 4.11, 4.12 and 4.13 are the model summary results, goodness of fit results for the estimated regression model and the regression estimates respectively. The results in Table 4.11 shows that cost efficiency explains 57.7% of the variations in cash transfer payment channel as indicated by an R-Square of 0.577. This implies that 43.3% of the unexplained variations in cash transfer payment channel is accounted for by the other variables including technology, accessibility and cash transfer timeliness as further explained.

Table 4.11: Model Fit for Effect of Cost Efficiency

Indicator	Coefficient
R	0.813
R Square	0.577
Adjusted R Square	0.542
Std. Error of the Estimate	0.20373

Before estimation of the regression analysis, analysis of variance (ANOVA) was conducted which is an F-test that establishes whether the regression model estimated was significant. ANOVA results presented in Table 4.12 indicates that the overall model was significant, that is, the independent variable was a good joint explanatory variable for cash transfer payment channel since the F statistics was larger than the critical F value of 3.88 (F = 60.529, p-value = 0.000) as indicated in the Table 4.12 below. The findings agree with those of Pickens, Porteous and Rotman (2009) in their study they asserted that the cash transfer channel adopted should be one that minimizes the costs both of administration and for the recipients. He therefore asserted that the use of mobile money or through the banks should be guided by the cost-benefit of using either of the channels.

Table 4.12: ANOVA for the Effect of Cost Efficiency

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.346	1	3.346	60.529	0.000

Residual	16.3	100	0.163
Total	19.646	101	

After it was established that the regression model was significant the following regression estima tes as indicated in Table 4.13 below was obtained. In particular, the estimates indicated that cost of efficiency was positive (β=0.662) and significantly (p=0.000) related to cash transfer payment channel. The findings imply that an increase in cost efficiency by one unit leads to improved cash transfer payment channel effectiveness by 0.362 units. The regression analysis can be summariz ed in functional form as indicated below;

Cash Transfer payment channel = 2.609 + 0.662 Cost Efficiency+ ε

Table 4.13: Regression Analysis of Effect of Cost Efficiency

Variable	Beta	Std. Error	t	Sig.
Constant	2.609	0.33	7.918	0.000
Cost efficiency	0.662	0.08	4.531	0.000

Influence of Cash Transfer Timeliness on Cash Transfer Payment Channel

The fourth objective was to determine the effect of cash transfer timeliness on effectiveness of ca sh transfer payment channel. Table 4.14 shows that 86.3% of the respondents agreed that the pay ment dates are known and predictable, 83.4% of the respondents agreed with the statement that th ey receive payment immediately it is declared ready for collection, 86.4% agreed that the waiting time at the payment pay point is short as the queues are short, 81.4% of the respondent agreed th at getting the payment is easy as the technical requirements are few and 74.4% of the respondents agreed that there are minimal delays at the payment point in receiving payment. The mean score for the responses was 4.0 which indicate that many respondents agreed to the statements on influ ence of cash transfer timeliness on cash transfer payment channel.

The findings conquer with those of Samson et al. (2006) that the channel through which cash tran sfers should be made to the recipients should be one that ensures timeliness in receipt of the trans fers. He further asserted that a timely transfer is more likely to have a positive impact on the recip ient's welfare. He therefore noted that Governments are thus switching to innovative mechanisms of electronic delivery of cash transfer. This reduces the administrative costs and "leakage" corru ption and fraud.

Table 4.14: Cash Transfer Timeliness on Cash Transfer Payment Channel

Statement	strongly Dis agree	Disag ree	Neut ral	Agr ee	Strongly a gree	Me an
The payment dates are known and predictable	3.9%	3.9%	5.9%	54.9 %	31.4%	4.29
I receive payment immediately it is declared ready for collection	2.9%	10.8%	2.9%	27.5 %	55.9%	4.23
The waiting time at the payment pay point is short as the queues are short	1.0%	9.8%	2.9%	14.7 %	71.6%	4.46

Getting the payment is easy as the technical requirements are few	2.9%	10.8%	4.9%	44.1%	37.3%	4.02
There are minimal delays at the payment point in receiving payment	2.9%	8.8%	12.7%	10.8%	64.7%	4.25
Average	**2.7%**	**8.8%**	**5.9%**	**25.7%**	**56.9%**	**4.25**

Regression Analysis on Cash Transfer Timeliness

In order to establish the effect of cash transfer timeliness on cash transfer payment channels a regression model was estimated. The results in Table 4.15, 4.16 and 4.17 are the model summary results, goodness of fit results for the estimated regression model and the regression estimates respectively. The results in Table in Table 4.15 shows that cash transfer timeliness explains 62.8% of the variations in effectiveness of cash transfer payment channel as indicated by an R-Square of 0.628. This implies that 37.2% of the unexplained variations in cash transfer payment channel is accounted for by the other variables including technology, accessibility and cost efficiency as further explained.

Table 4.15: Model Fit for Effect of Cash Transfer Timeliness

Indicator	Coefficient
R	0.757
R Square	0.628
Adjusted R Square	0.609
Std. Error of the Estimate	0.11398

Before estimation of the regression analysis was conducted analysis of variance (ANOVA) which is an F-test that establishes whether the regression model estimated was significant. ANOVA results presented in Table 4.16 indicates that the overall model was significant, that is, the independent variable was a good joint explanatory variable for cash transfer payment channel since the F statistics was larger than the critical F value of 3.88 (F = 74.635, p-value = 0.000) as indicated in the Table 4.16 below.

Table 4.16: ANOVA for the Effect of Cash Transfer Timeliness

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.508	1	2.508	74.635	0.000
Residual	17.138	100	0.171		
Total	19.646	101			

After it was established that the regression model was significant the following regression estimates as indicated in Table 4.17 below were obtained. In particular, the estimates indicated that cost of efficiency was positive (β=0.724) and significantly (p=0.000) related to cash transfer payment channel. The findings imply that an increase in cash transfer timeliness by one unit leads to improved cash transfer payment channel effectiveness by 0.724 units. The findings conquer with those Samson et al. (2006) that the channel through which cash transfers should be made to the recipients should be one that ensures timeliness in receipt of the transfers. He further asserted that a timely transfer is more likely to have a positive impact on the recipient's welfare. The regression analysis can be summarized in functional form as indicated below;

Cash Transfer payment channel = 2.704 + 0.724 cash transfer timeliness+ ε

Table 4.17: Regression Analysis of Effect of Cash Transfer Timeliness

Variable	Beta	Std. Error	t	Sig.
Constant	2.704	0.365	7.409	0.000
Cash Transfers	0.724	0.085	3.826	0.000

Cash Transfer Payment Channel

The respondents were asked to indicate how often they receive cash transfer. Figure 4.7 illustrate s that majority 31% receive on quarterly basis, 27% receive on bi-monthly basis, 25% of the resp ondents receive on bi-annually, and finally 17% of the respondents receive cash annually. This re sults show that the cash transfer payment frequency is not standard as it is distributed across diffe rent periods in a year. Getting payments reliably to recipients is a necessary precondition to meet most other program priorities and objectives, including ultimately any financial inclusion objecti ves. In Haiti, unreliable payments hampered the e-payment system as well as the customer and P SP experience and may have lessened the probability that recipients would eventually use the fin ancially inclusive features offered to them (Zimmerman, Jamie M., Kristy Bohling, and Sarah Ro tman Parker 2014)
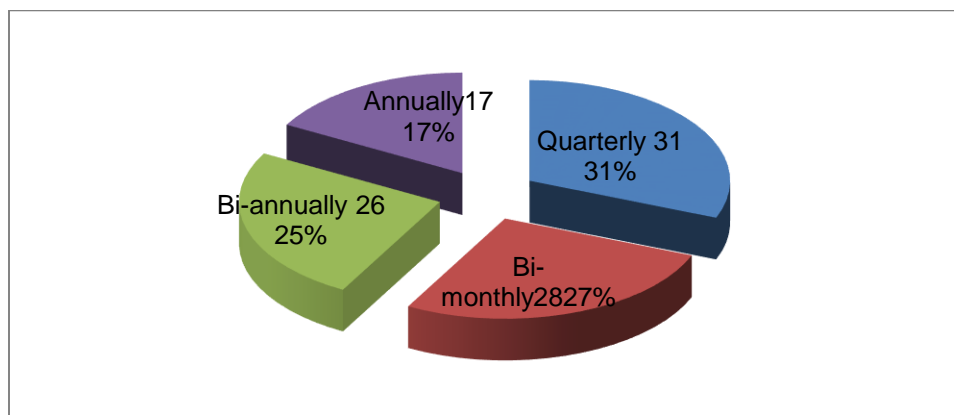

Figure 4.7: Receive cash transfers

The general objective of the study was to assess the determinants to effectiveness of cash transfer payment channel for Persons with Severe Disabilities in Kenya. Table 4.18 shows that 86.3% of the respondents agreed that the cash transfer payment channel has ensured payments are received on time hence is perceived to be effective, 87.2% of the respondents agreed with the statement th at the cash transfer payment channel has ensured that payments are appropriate, reliable and acce ssible hence is perceived to be effective, 79.5% agreed that cash transfer has improved their fina ncial status and position in the society, 83.4% of the respondent agreed that cash transfer has resu lted to their social status in the society to be perceived to be higher, 87.2% of the respondent agr eed that cash transfer channel has adequate technical personnel and thus is perceived to be effecti ve and 85.3% of the respondents agreed that cash transfer payment has improved their social wel

l being. The mean score for the responses was 4.0 which indicate that many respondents agreed t o the statements on effectiveness of cash transfer payment channel.

Statement	strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean
The cash transfer payment channel has ensured payments are received on time hence is perceived to be effective.	1.00%	5.90%	6.90%	56.9%	29.40%	4.08
The cash transfer payment channel has ensured that payments are appropriate, reliable and accessible hence is perceived to be effective.	2.00%	3.90%	6.90%	48.0%	39.20%	4.19
The cash transfer has improved my financial status and position in the society	3.90%	3.90%	12.7%	32.4%	47.10%	4.15
The cash transfer has resulted to my social status in the society to be perceived to be higher	2.00%	7.80%	6.90%	32.4%	51.00%	4.23
The cash transfer payment channel has adequate technical personnel and thus is perceived to be effective	2.00%	3.90%	6.90%	74.5%	12.70%	3.92
The cash transfer payment channel has improved my social well being	3.90%	2.00%	8.80%	61.8%	23.50%	3.99
Average	2.47%	4.57%	8.18%	51.0%	33.82%	4.09

Table 4.18: Cash Transfer Payment Channel

Bivariate Correlation

Table 4.19 displays the results of correlation test analysis between the dependent variable (Cash transfers payment channel) and independent variables and also correlation among the independent variables themselves. Results indicated that there was a positive and significant relationship between cash transfer channel and all the independent variables. This reveals that any positive change in technology, effectiveness, accessibility, cost efficiency and cash transfer timeliness leads to increased effectiveness of Cash transfer payment channel. The results indicated that there exist a positive and significant ($r=0.880$, $p<0.000$) correlation between Cash transfer payment channel and technology. The correlation between the variables indicates that if use of technology is enhanced in disbursing the cash then this would be associated with an improved and effective cash transfer payment channel as indicated by a positive correlation between the two variables.

The results also indicated that there exist a positive and significant ($r=0.694$, $p>0.003$) correlation between cash transfer payment channel and level of accessibility. The correlation between the variables indicates that if level of accessibility is improved and enhanced in disbursing the cash then this would be associated with an improved and effective cash transfer payment channel as indicated by a positive correlation between the two variables. Cost efficiency was also found to have a positive significant relationship with Cash transfer payment channel ($r=0.813$, $p<0.000$). The correlation between the variables indicates that if cost efficiency is improved and enhanced in disbur

sing the cash then this would be associated with an improved and effective cash transfer payment channel as indicated by a positive correlation between the two variables. This implies that if the costs of accessing the cash is minimized and reduced to manageable levels then this will lead to e ffective cash transfer payment channel.

Finally results indicated that there exists a positive and significant (r=0.757, p<0.000) correlation between Cash transfer payment channel and Cash Transfer timeliness. The correlation between t he variables indicates that if cash transfer timeliness is improved and enhanced in disbursing the cash then this would be associated with an improved and effective cash transfer payment channel as indicated by a positive correlation between the two variables. This implies that if the time for accessing the cash is minimized and reduced to manageable waiting times then this will lead to ef fective cash transfer payment channel.

Table 4.19: Bivariate Correlation

Variable		Cash transfers payment channels	Technology	Accessibility	Cost effectiveness	Cash Transfers Timeless
Cash transfer payment channel	Pearson Correlation	1				
	Sig. (2-tailed)					
Technology	Pearson Correlation	0.880	1			
	Sig. (2-tailed)	0.00				
Accessibility	Pearson Correlation	0.694	0.386	1		
	Sig. (2-tailed)	0.003	0.00			
Cost effectiveness	Pearson Correlation	0.813	0.354	0.19	1	
	Sig. (2-tailed)	0.00	0.00	0.055		
Cash Transfers Timeliness	Pearson Correlation	0.757	0.514	0.222	0.188	1
	Sig. (2-tailed)	0.00	0.00	0.025	0.058	

Regression Analysis

In order to establish the statistical significance of the independent variables on the dependent vari able (Cash transfer payment channel) regression analysis was employed. The results presented in the Table 4.20 below shows the amount of variance in effectiveness of cash transfer payment cha nnel as explained by the variance in the set of independent variables used in the study (i.e. techno logy, accessibility, cost efficiency as well as cash transfer timeliness). The R square of 0.744 indi cates that 74.4% of the variance in effective cash transfer payment channel is jointly accounted fo r by the variations in technology, accessibility, cost efficiency and cash transfer timeliness. From the model summary table below adjusted R^2 was 0.72 this indicates that the combined effect of pr edictor variables (technology, accessibility, cost efficiency and cash transfer timeliness) explains 72% of variations in cash transfer payment channel.

The correlation coefficient of 86.3% indicates that the combined effect of the predictor variables has a strong and positive correlation with cash transfer payment channel. This also meant that a c hange in the drivers of cash transfer payment channel (technology, accessibility, cost effectivenes

s and cash transfer timeliness) has a strong and a positive effect on cash transfer payment channel
.

Table 4.20: Regression Model Fitness

Indicator	Coefficient
R	0.863
R Square	0.744
Adjusted R Square	0.72
Std. Error of the Estimate	0.20046

Prior to estimation of the regression model the goodness of fit was performed and the results are presented in the Table 4.21 below where the results indicated that the overall model was significant, that is, technology, accessibility, cost efficiency and cash transfer timeliness are good joint explanatory variables for an effective cash transfer payment channel since the F statistics was larger than the critical F value of 3.88 (F = 97.742, p-value<0.05). The findings imply that all the independent variables were statistically significant in explaining changes in Cash transfer payment channel. This is demonstrated by a p value of 0.000 which is less that the acceptance critical value of 0.05.

Table 4.21: ANOVA

Indicator	Sum of Squares	Df	Mean Square	F	Sig.
Regression	7.733	4	1.933	92.742	.000
Residual	11.913	97	0.123		

Table 4.22 below displays the regression coefficients of the independent variables. The results reveal that technology is statistically significant in explaining Cash transfer payment channel (beta =0.479 p value 0.00). The findings imply that an increase in use of technology by one unit leads to improved cash transfer payment channel effectiveness by 0.479, units. Regression results indicate that level of accessibility and cash transfer payment channel had a positive and significant relationship (beta=0.361 p 0.001). The findings imply that an increase in level of accessibility by one unit leads to improved cash transfer payment channel effectiveness by 0.361 units. Results further indicate that the relationship between cost efficiency and cash transfer payment channel was positive and significant (beta=0.204, p value 0.007). The findings imply that an increase in cost efficiency by one unit leads to an increased cash transfer payment channel effectiveness by 0.204 units. Finally, the results indicated that cash transfer timeliness had a positive and significant relationship with cash transfer payment channel (beta=0.369, p value 0.041). The findings implied that cash transfer timeliness was statistically significant in explaining Cash transfer payment channel.

Table 4.22: Regression Coefficients

Variable	Beta	Std. Error	t	Sig.
Constant	0.712	0.453	1.57	0.12
Technology	0.479	0.112	4.276	0.00

Variable	Beta	Std. Error	t	Sig.
Accessibility	0.361	0.08	0.757	0.001
Cost efficiency	0.204	0.074	2.745	0.007
Cash Transfers timeliness	0.369	0.084	0.827	0.041

After the analysis the model arrived at was as follows;

$Y = 0.712 + 0.479X_1 + 0.361X_2 + 0.204X_3 + 0.369X_4 + \mu$

Effectiveness of Cash Transfer payment = 0.712 + 0.479 Technology + 0.361 Accessibility + 0.204 Cost Efficiency + 0.369 Cash transfer timeliness + μ

The Y- intercept is 0.712 which is the predicted value of effective cash transfer payment channel when all the others variables are 0, implying that without inputs of the independent variables the effectiveness of cash transfer payment channel would be 0.712.

Conclusion

It was possible to conclude that technology is a significant tool in explaining effectiveness of cash transfer payment channel. Based on findings it was possible to conclude that there was a positive and significant relationship between level of accessibility and effectiveness of cash transfer payment channel. If the distance to access the service is shortened the barrier to lack of access is killed. Based on the findings it was possible to conclude that there was a positive and significant relationship between cost efficiency and effectiveness of cash transfer payment channel. Results led to the conclusion that the cash transfer channel adopted should be one that minimizes the costs both for program administration and for the beneficiaries. It was possible to conclude that cash transfer timeliness influences effectiveness of cash transfer payment channel positively.

Recommendations

From the findings it is recommended that the Government should switch to more innovative mechanisms of delivery of cash transfer. Every technology possesses specific strengths and weaknesses, which is why trade-offs can never be fully prevented. Thus, the main challenge of any CT initiative is to select the approach that best fits to the programme's specifications, local circumstances, and recipients' needs. This could mean partnering with two or more Payment Service Providers concurrently using innovative mechanisms of electronic delivery of cash transfer in order to reap full technological benefits to successfully implement the programme objectives. From the findings of this research, it is recommended that the Government should switch to more innovative mechanisms of delivery of cash transfer which would further reduce the cost of payment both for government and the recipients. Use of mobile money or through the banks should be guided by the cost-benefit of using either of the channels. From the findings it is recommended that the Government should ensure that the payment arrangements ensure that regular delivery of the cash transfer is made to the caregiver within the household who will most effectively allocate it in line with the programme objectives as getting payments reliably to recipients is a necessary precondition to meet most other program priorities and objectives, including ultimately any financial inclusion objectives.

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