ICT, Civil Registration and Branchless Banking: Sustaining the Social Cash Transfer

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Abstract

Information and Communication Technology (ICT) is a driving force of transformation process towards knowledge-based information society, that impact on political, economic and social development. The Government of Nepal (GoN) has started social cash transfer programme to its target groups like senior citizens, widow, children, etc since 1995 A.D. The programme is very popular especially with senior citizens and children. The list of beneficiary is maintained at local level in register and physical cash is distributed on quarterly basis through manual basis. The trend of data shows that every year number of beneficiaries is increased which indicates sustainability of social cash transfer. Civil registration is a process of recording natural events like birth, marriage, death, divorce and migration. The civil registration report shows that number of death records of children and senior citizens is high as compared to others. The primary objective of this research paper is to explore linkage of civil registration with social cash transfer programme and design architecture for sustainability of social cash transfer through branchless banking in Nepal. The researcher has applied quantitative methods, adopted survey method to collect primary data, found that current practice of maintaining data of social cash transfer and civil registration is manual and both programmes data are maintained independently. The researcher concluded that there is a direct linkage between civil registration and social cash transfer and designed architecture for social cash transfer through branchless banking.

Keywords— ICT, Civil Registration, Social Cash Transfer, Branchless Banking

Introduction

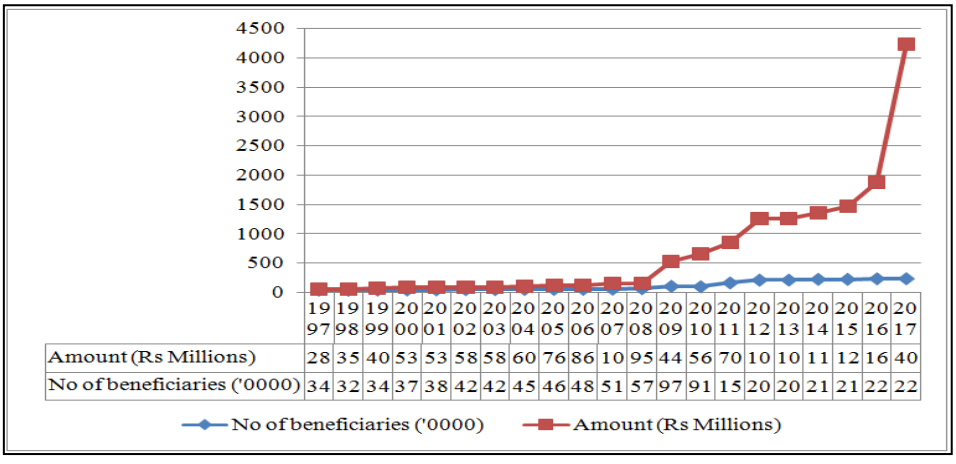
Information and Communication Technology (ICT) refers to the technology that provides access to information, primarily concerned with the storage, retrieval, manipulation and transmission of digital data (Ochieng & Gichoya , 2013) . It is a driving force of transformation process towards knowledge-based information society, that impact on political, economic and social development (Leipold, 2002). Jones and Williams (2005) stated that ICT enables public

service staff to offer a high quality, more efficient and more individualised service to the service seeking citizens. It can free up the time of service providing staffs from bureaucratic duties to create more 'productive' time for them.

ICT has transformed the way people live, work and spend their money. Public sector organizations have focused their efforts towards digitalizing their services to their customers or citizens through the Internet so that the users can get easy access to the available services from any place and at any time (Upadhyaya, Shakya & Pokharel, 2012). The public now expects ICT-enabled interactions, not just with each other or with businesses, but also with public services (Jones & Williams, 2005). The role of ICT in information exchange is manifested in the way information flows faster, more generously, and less expensively for decision-making and for development (Ogbomo, 2009). The advanced technologies have huge potential for delivering prompt, efficient and high quality services to vulnerable, poor and needy population of society (Sahu, 2011).

The social security is a fundamental right of a citizen. The government of Nepal has started distributing social security allowances to its target groups like senior citizens, widow, and children since 1995 (Mathema, 2012). The life style of poor people can be changed through social security (World Bank, 1997). The beneficiaries list have been maintaining by local bodies on manual basis, only few local bodies have adopted the process of digitizing the beneficiaries list. The social cash transfer has been carried out manually by local bodies. Since the process is manual, there is high chance of missing actual beneficiaries and changes of ghost beneficiaries, who may be benefitted twice or more (NPC, 2012).

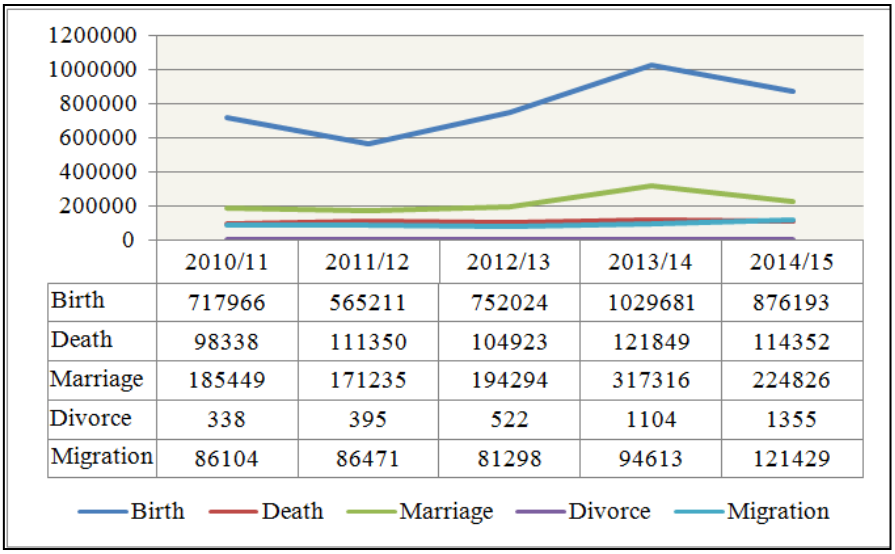
Figure 1 shows trend of social cash transfer. Every year number of social cash transfer beneficiaries is increasing with increased in amount being distributed. It shows that in 1997 number of beneficiaries was only 340,000 and amount distributed was 28 millions, where as in 2017, more than 40 billion was distributed to 2.28 million beneficiaries. Likewise, figure 2 shows trend of practice of civil registration. Every year number of death registration is increasing. In 2010/11, it was 98,338 where as in 2013/14 it was 121,849.



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Amount (Rs Millions)	28	35	40	53	53	58	58	60	76	86	10	95	44	56	70	10	10	11	12	16	40
No of beneficiaries ('0000)	34	32	34	37	38	42	42	45	46	48	51	57	97	91	15	20	20	21	21	22	22

Figure 1: Trend of Social Security Allowance Cash Transfer

Civil registration is universal, continuous, permanent and compulsory recording of occurrence like birth, death, marriage, migration, etc. It is a legal document and very much useful as a source of statistics for planning, monitoring social programme and socio- economic development (Gautam, 2016). Carrying huge amount of money from district headquarter to VDC office is very much risk for local bodies and local bodies are directly disturbing cash to beneficiaries. And carrying direct cash by old age people from VDC office to their home is also of high risk (NPC, 2012). The branchless banking is a new innovative idea to reach to poor and unbanked people of rural areas. It is a strategy of distribution channels which are used to provide financial services through the growth and development of technology and helps to expand the concept of the traditional bank branch (Deloitte, 2012). This technology has become a common mechanism to extend financial services to the economically deprived populations in the developing regions of the world (Anand & Sreenivas, 2013).



	2010/11	2011/12	2012/13	2013/14	2014/15
Birth	717966	565211	752024	1029681	876193
Death	98338	111350	104923	121849	114352
Marriage	185449	171235	194294	317316	224826
Divorce	338	395	522	1104	1355
Migration	86104	86471	81298	94613	121429

Figure 2: Trend of Civil Registration

Statement of the Problem

The social cash transfer programme is very popular especially with senior citizens and children. The list of beneficiary is maintained at local level in register and physical cash is distributed on quarterly basis through manual basis. The trend of data shows that every year number of beneficiaries is increased which indicates sustainability of social cash transfer. Civil registration is a process of recording natural events like birth, marriage, death, divorce and migration. The civil registration report shows that number of death records of children and senior citizens is high as compared to others.

Objective

The primary objective of this research paper is to explore linkage of civil registration with social cash transfer programme and design architecture for sustainability of social cash transfer through branchless banking in Nepal.

Literature Review

Service delivery is an essential function in relation between government bodies and citizens. It is a part of complex relation between government, society and citizens. The government as a key public service provider, citizens has a right to demand quality services fast, easy at moderate cost. The image of government depends on service delivery with quality services at affordable price to its citizens (Eigeman, 2007). Through the proper utilization and implementation of technology and digital tools, the service delivery of local government could be more effective and challenges could be minimized (McArthur & Snower, 2010). Effective public service delivery is one of the key parameters to measure the goodness of governance. Therefore, government should be willing to formulate new strategies for effective public service delivery (Prasanna, 2008).

The following are the basic elements, as defined by (Deloitte, 2012) for successful service deliveries are

- Friendly interface with service seekers
- Sustain communication
- Set expectations
- Process and organisation re-engineering
- Build staff capability to deliver services
- ICT as a key enabler
- The legal foundational structure
- Dedicated institutional structures
- Continued monitoring and evaluation

The continuous change in technology and its impact in business and societies have shown a huge importance of information management. As time passes away, competition increases and new businesses and industries appear in the market. Those firms are considered as successful who learn how to use the new technologies (Laudon & Laudon, 2012). With proper use of ICT, it increases efficiency, speed, and transparency in service delivery. It also assists in generation and dissemination of knowledge (Bhatnagar, 2014). ICT is a potential tool of efficient public service delivery. It offers new possibilities for communication between people and organization and increases the quality and quantity of interaction with people. It enhances the transparency and access to organization (Prasanna, 2008). The rapid development of ICT has helped in exploring new opportunities for service delivery and income generation (McArthur & Snower, 2010). With the implementation of ICT-enabled public service delivery, it improves access to public services, increases efficiency, transparency and accountability of government (Eigeman, 2007). Thus, service-oriented IT is helping to determine the directions in which numerous industries and the world economy in general will grow and develop in the future (Song, Baker & Davis, 2015).

The contribution of IT to service delivery is particularly visible in web services, computing services, business intelligence services, and information technology infrastructure (Song, Baker & Davis, 2015). In digital firm, business relationships with customers, suppliers and employees are digitally enabled and mediated. Core business process is accomplished through digital networks (Laudon & Laudon, 2012). With the help of ICTs, huge amount of information can be collected, stored, processed and disseminated to public through different means and media. This

information is vital and beneficial to social protection scheme to become successful (Sahu, 2011).

For the implementation of any social protection delivery system, it requires different types of ICT equipment like hardware, software, networks and applications like back-office systems, operational and management information systems (Sahu, 2011). At present, the main challenge is delivering the benefits effectively to the beneficiaries which require good and reliable data. The government of Nepal has started to distribute social security allowances in district headquarters and municipalities through commercial banks, and the provision of opening individual bank accounts for the beneficiaries was made mandatory. And this system is yet to expand at VDC level. At present in villages, there has been no alternative rather than mobilizing government employee for the distribution of allowances (Nepal, 2014). With the advancement of technology in various fields, innovative tools and solutions for development and commercials activities have been known and applied to make easy and fast. Hence, the potential of technology needs to be applied in the social protection and provide financial benefits in feasible and affordable way. Since ICT tools and techniques provide innovative solutions in delivering social protection assistance to the targeted beneficiaries, it has been very much popular (Sahu, 2011).

ICT tools are used to support process in social protection, huge amount of data and information can be collected, stored, processed and disseminated. Generally, the automation of processes results into better operational performance of social protection and improves quality of service delivery (Leipold, 2002). The transformation brought about by technology in the area of delivery of financial services has only been for the better (Kumar & Chitra, 2013).

With the innovation in technologies, globalization and regulatory disruption, there has been huge changes in global payments history. The global payment networks have transformed the lives of millions and billions people and many industries that were deprived of banking facilities (Michael & Paul, 2015). Technology helped banks to reach the doorsteps of the customer by overcoming the limitations on geographical/ physical reach in branch banking and easing the resource and volume constraints (Kumar & Chitra, 2013).

According to social security programme operational work procedure, there has been provision of cash transfer through banking channel to beneficiaries. However, the presence of banking channel has been very much minimal at rural areas of Nepal. Non-availability or limited availability of banking services in the rural areas has been the most common reason cited for considering payment “not feasible” through banks (NPC, 2012). Because of banking policy of maximizing profit, banking channels have been attracted towards urban areas only; social cash transfer of social security beneficiaries couldn’t be accomplished through traditional banking channel. The financial inclusion rate of Nepalese people is only 35% (Singh, 2015). Most of the beneficiaries are out of banking facilities and are below poverty line. Information technology has helped in expansion of financial inclusion through more conventional banking channels, such as branch and ATM (Pandey & Joshi, 2014). Internet banking complemented by core banking solutions implemented by banks, mobile banking, and card

based electronic transactions at any bank ATM and merchants' locations have offered a variety of channels to bank customers to conduct their payment transactions (Kumar & Chitra, 2013).

The Village Development Committee (VDC) secretaries have to carry huge amount of money from district headquarter to VDC office. So, there is always high risk of carrying huge amount of money. The usage of branchless banking services has the potential of improving service delivery, reducing overall fiduciary risks and leakage in the system. The payments are made directly into beneficiaries' accounts. It facilitates beneficiaries with access to the modern financial system and prospect for future financial inclusion (Pandey & Joshi, 2014). It has been designed around policies that facilitate easy inclusion and holds the promise to improve the standard of living for many in the developing world (Mas & Siedek, 2008).

In South Africa, branchless banking has been deployed as a means to distribute government subsidies and pensions. In order to ensure distribution to the right person, they implemented biometric verification, using Point of Sales (POS) terminals. The POS terminal is a must for branchless banking. It is easy to carry around, and provides a convenient easy-to-use interface for both customer and agent. The POS machine is very much popular for branchless banking because of its special characteristics such as light weight, resistant, equipped with printer and fingerprint sensor, online and offline mode of transaction and easy card reader (Leger, 2012).

Biometrics is one of the best ways to identify an individual. It uses physiological and behavioral characteristics of an individual, which are unique to individual only. The use of biometrics to authenticate an individual instead of passwords is now being studied as a way to improve security to protect the increased amount of sensitive data (Long, 2013). The biometrics is a feature measured from the human body that is distinguishing enough to be used for user authentication (Gorman, 1998). The use of fingerprints has been largely used for law enforcement applications ranging from small and inexpensive fingerprint capture device to fast computing hardware and internet applications (Gorman, 1998). So, as to better deal with illiterate people and to protect them against potential scams, the POS terminal with audio messages for confirmation of transaction and amount withdraw/deposit by beneficiaries may be enhanced (Leger, 2012).

Research Methodology

The researcher has applied quantitative methods, adopted survey method to collect primary data. The primary respondents are Village Development Committee (VDC) secretary, social mobilizer and computer operator. The researcher has reviewed related books, articles and reports to collect secondary data. Besides, researcher owns experience is also included in this research. He has worked with Department of Civil Registration (DoCR) for more than 4 years as a Management Information System (MIS) Specialist. The collected data have been entered into SPSS 22 and data analysis has been done. For preparing charts Microsoft Excel 2007 is also used.

Result and Discussion

The primary data have been collected from 12 districts of Nepal. The total number of

respondents was 373, out of them 350 (94%) were male and 23 (6%) were female.

Table 1: Current Social Security Allowance Beneficiaries' Data Maintained at Local Level

Beneficiaries Data Maintained in	No. of Respondents	Percentage
Hard copy	329	88.20
e-copy with MS-Excel	58	15.55
e-copy with MS-Word	15	4.02
DBMS	11	2.95

At local level, social security allowance beneficiaries' data has been maintained in hard copy, 88% of respondents maintain data in hard copy, 15% maintain in MS-Excel and only 3% use Database Management System (DBMS) software to maintain beneficiaries list. Since, the beneficiaries list has been maintained in hard copy, it is time consuming to get timely report from local level and there is more chance of editing data easily. This could be one of the reasons that there are high rate of ghost beneficiaries. Now, government needs to bring programme of deploying DBMS with necessary equipment with rigorous training at local level.

Table 2: Perception of Respondents for Updating Beneficiaries' Data

Updating Beneficiaries Ddata is	No. of Respondents	Percentage
Really difficult	21	5.6
Difficult	128	34.3
Moderate	189	50.7
Easy	34	9.1
Very easy	2	0.5

Since the use of DBMS software is very much minimal, around 40% of respondents feel difficult to update beneficiaries' data. DBMS software helps to maintain data easy, quick access and easy update. This indicates that maintaining beneficiaries' data in DBMS helps local employees to maintain and update data easily. Since, beneficiaries list are maintained manually in hard copy, it is very much natural feeling difficult to update the list.

Table 3: Perception of Respondents on Problems for Updating Beneficiaries' Data

Problems on updating beneficiaries data	No. of Respondents	Percentage
Lack of support staff	112	30.0
Non-registration of death beneficiaries	221	59.2
Non reporting from migrant households	173	46.4
Lack of timely contact by beneficiaries	192	51.5
Beneficiaries too old to visit the office	248	66.5
Age misreporting	43	11.5
No problem	4	1.1

Table 2 shows that 40% of respondents shared difficult to update beneficiaries' data, there were various problems on updating beneficiaries' data. 30% of respondents shared difficult due to lack of support staff, 59% shared problems because of non-registration of death beneficiaries, 46 % shared problems because of non-reporting from migrant households, and 52 % shared lack of timely contact by beneficiaries. Likewise, 67% of respondents shared difficult as beneficiaries too old to visit the office, 12% shared difficult because of age misreporting of beneficiaries. Table 3 clearly shows that social security programme has direct linkage with civil registration system. When civil registration system is strict or compulsory and linked with social security, the problems of non-registration of death beneficiaries, non-reporting from

migrant households, lack of timely contact by beneficiaries and age misreporting are solved automatically.

Table 4: Perception of Respondents on Problems for Updating Beneficiaries' Data

Payment to Beneficiaries	No. of Respondent	Percentage
Cash at VDC/ward office	301	80.7
Bank through bank account	39	10.5
Bank without bank account	35	9.4
Branchless (Agent)	0	0.0

According to social security guideline prepared by GoN, there is a provision of social cash transfer through banking channel to the beneficiaries. In this context, government facilitates beneficiaries opening personal bank account and transfer into the bank account so that beneficiaries can easily withdraw cash on their need basis. However, the practice of payment through personal bank account was only 10%. More surprise is that there was also practice of payment through bank without personal bank account, 10% of respondents shared such type of practice for social cash transfer. Still, traditional approach of direct physical cash payment to beneficiary hand is in practice, 81% of respondents were in practice of distributing physical cash at VDC office. It is also true that banks are not able to provide banking services from each VDC office. Banks are more profit oriented and have to do more exercise on opening bank branch office at rural areas. Moreover, the presence of branchless banking/ agent bank was 0%. However, branchless banking is a new innovative idea to reach to unbanked and poor people of rural areas. The government should motivate banks towards providing banking facilities at rural areas also.

It is clear that current practice of maintaining data of social cash transfer and civil registration is manual and both programmes data are maintained independently.

Proposed Architecture

An applicant/beneficiary fills "Birth information" form at local register office with necessary documents. The staff of local register office enters the applicant information form into the system and gets the filled form print. After verification from the applicant, the local register generates birth certificate from system with "Personal ID" and submits to the applicant after signatory of local register.

Likewise for other vital events, an applicant comes to local register office. e. g. if the applicant requires marriage certificate from system, initially it checks for "Personal ID". If "Personal ID" is present then local register uses the "Personal ID" and fills necessary fields based on information provided by applicant. If "Personal ID" is not present then local register needs to fill "Birth information" form to generate "Personal ID". Based on "Personal ID", events can be easily registered into system and generate marriage certificate. Likewise it applies for other events too.

In case of "social cash transfer", a beneficiary submits necessary documents like citizenship certificate, birth certificate, etc in order to be eligible for next fiscal year. If beneficiary has no "Personal ID" then he has to fill up "Birth information" form to get "Personal ID". After submission of necessary documents, VDC office staff duly checks those documents and approved. Only after approval, the beneficiary is eligible for next fiscal year.

Once the process of data entry of social security allowance beneficiaries have been finalized and approved by higher authority. Through the government channel, the required amount is transferred to the payment service provider's main account. Then the local payment service provider/ local register from DDC level generates beneficiary list with full details and amount payable and transfer to POS machine. Through POS machine, the local agent provides banking facilities to the beneficiaries. After the payment process, beneficiaries list is consolidated with the main beneficiary data list.

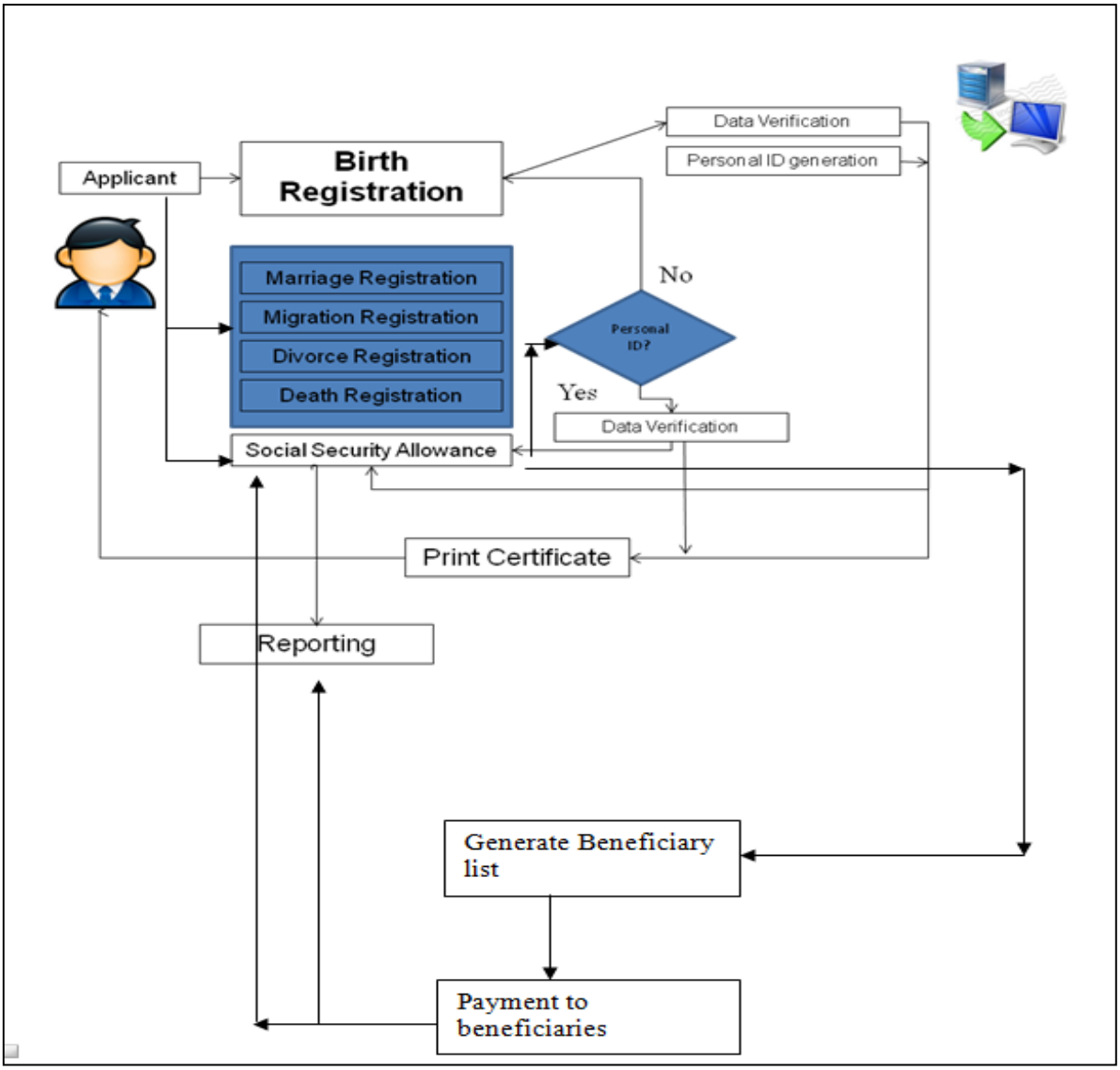


Figure 3: Proposed Architecture for Social Cash Transfer Programme Linked to Civil Registration

The figure 4 shows process of cash transfer through POS machine to social security allowance beneficiaries. The beneficiaries come with cards that have been provided to them at VDC office or any place that have been mentioned earlier so as to withdraw amount through the POS machine. The bank already has to have transferred amount into the beneficiaries' personal bank account prior distributing cash to the beneficiaries. The agent/ beneficiary swipes the card into POS machine and enters PIN code, then for verification the beneficiary finger print is used. After successful verification, the POS machine prints receipt with details like account number, cash withdraw/deposit, amount, etc. In this way, social security allowance can be easily distributed to exact beneficiary. It helps to make social cash transfer easy and transparent. If PIN code or fingerprint does not match then cash transfer stops here. It means that the beneficiary is not a true beneficiary rather a ghost beneficiary.

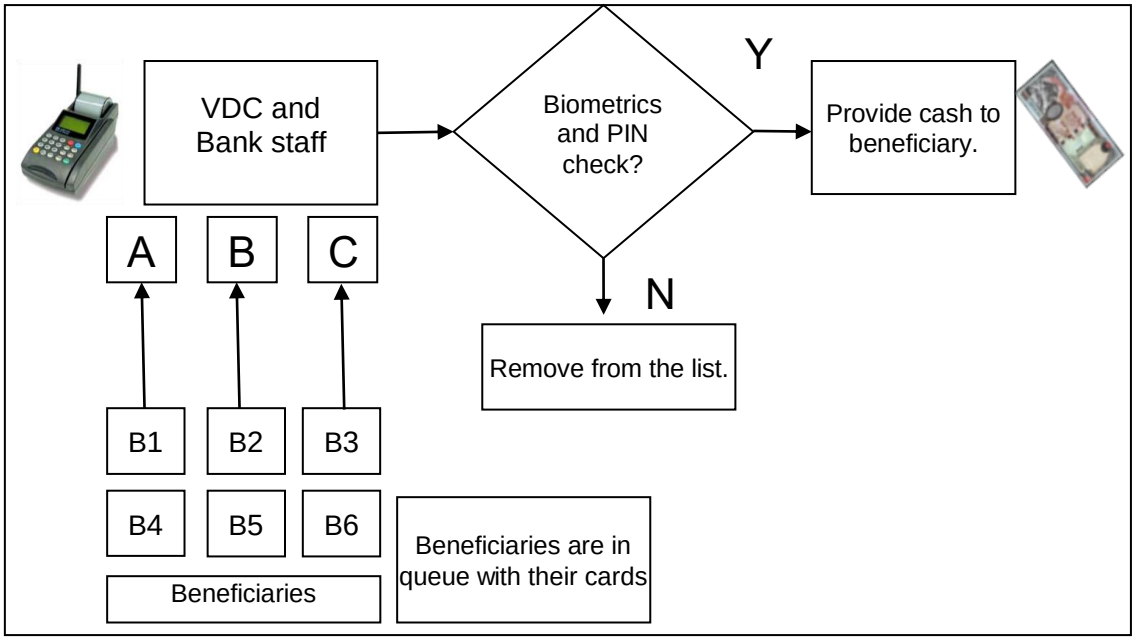


Figure 4: Process of Cash Transfer through POS Machine

Conclusion

With respect to time, new technologies have been emerging and new innovative tools and techniques have been developed. The ICT tools are used to provide quick, reliable and efficient services by local government to its citizens. The researcher concluded that there is a direct linkage between civil registration and social cash transfer and designed architecture for social cash transfer through branchless banking which monitor and control the exact beneficiaries and transfer social cash to them in easy and transparent way.

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