INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 5, Issue 1, (2015) E-ISSN: 2222-6990

Impact Assessment of BPR on Federal Government Civil Servant's Pension Process

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DOI Link: http://dx.doi.org/10.6007/IJARBSS/v5-i1/1402

Published Date: 07 January 2015

Abstract

Survival of the fittest theory equally applies to the organizations which are working in this modern, volatile, competitive and technology driven era. Public sector as well as private sector organizations are equally interested in reengineering their business processes. The main objective behind this case study was to assess the impact of BPR implementation on Accountant General Pakistan Revenues (Public sector organization) pension process i.e. to check whether increased customer's satisfactions, reduce cycle time, reduce labour cost per case and increased efficiency have been achieved or not? Data for the analysis of impact have been collected before and after implementation of BPR. From the comparison of above mentioned data, it is concluded that BPR of pension process has increased customer satisfaction and efficiency and reduced cycle time and labour cost per case. Achievement of desired BPR result motivates other Public Sector Organizations to reengineer their processes and achieve excellence.

Keywords: BPR, pension process, public sector organization, SAP R/3, impact assessment.

1. Introduction

The Accountant General Pakistan Revenues [AGPR] is a public sector organization which works under the administrative control of Controller General of Accounts [CGA]. AGPR is accountable for centralized accounting and reporting of Federal transactions and consolidation of summarized financial information prepared by Federal self-accounting entities. District Account Offices [DAOs], Provincial Account Offices [PAOs], Federal Treasuries and SBP/NBP provide their reports and accounts to AGPR. Annual Accounts are furnished by AGPR to the Auditor General of Pakistan [AGP] and consolidated monthly accounts to the Finance Division. AGPR main office is located at Zero point, Islamabad and its sub-offices in each of the Province as well as in Gilgit (The Accountant General Pakistan Revenues [AGPR], 2013a). Operationally it performs following functions; the first function performed by AGPR is the pre-audit of all the claims and bills submitted by the Ministries and Divisions and then making payment to them. Secondly, it maintains records of all expenditure. Thirdly, it prepares accounting statements. The last and most important function

performed is the processing of pension, payroll and Gross Provident Fund [GPF] of Federal Government employees (Project to improve financial reporting and Auditing [PIFRA], 2012a).

The AGPR was a typical example of traditional public organizations. The accounting system and reporting system followed in AGPR was not in conformity with international standards. Data for Decision Support System was scattered, basic information about retired persons (Pensioners) were missing. Service record of all the pensioners was not available at one place. There was less transparency in the pension process payment, duplication of work was observed in each and every section of AGPR, and pensioners were not treated properly. They have to stand in long queues in scorching sun in front of any branch of NBP. Payment to the pensioner was not timely, system of internal control was not working properly, payment of monthly amount of pension was only possible through NBP branches, customer satisfaction was an alien word, all the work had to be done manually, and computation was manual so chances of error were high. In order to solve problems pertaining to old and obsolete pubic practices in AGPR in general and to reduce the miseries of old pensioner in particular Government of Pakistan launched PIFRA project in all the accounting offices in order to reengineer its processes. The pilot site for the Project was its head office located in Islamabad which was inaugurated by the Auditor General of Pakistan Muhammad Younis Khan on 20th January, 2003.

The purpose of this study was to investigate that whether by BPR of pension process by PIFRA, the problems mentioned above have been solved or not? Cycle time and labour cost/case have been reduced or not? Customer satisfaction and efficiency of the pension process have been increased or not?

Case study method has been adopted for this research, as this type of project requires an in depth exploration in which researcher has to reveal all the facts pertaining to issue under observation. Direct observation is the main element of evidence as it shows how the events are taking place in reality but its drawback is that, that it is not only time consuming but people behave differently when they know that they are under observation (Creswell, 2003).

From research point of view, this study is very significant as research on Federal employees pension process in the context of Business Process Reengineering has never been carried out before. In other words, it will enhance the literature in terms of case studies of impact analysis of BPR in Public Sector organization. Secondly, from the outcome of this reengineering more Public sector organizations will motivate and they will follow the suit to reap the fruit of BPR.

2. Literature Review

Literature review has been divided in three parts. First of all definition of all important concepts pertaining to Business Process Reengineering have been given. Secondly, the benefits/ outcomes of BPR have been discussed. Thirdly, examples of historical case studies similar to the one given below have been included.

BPR Definitions

Hammer and Champy (1993) defines reengineering as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical temporary measures of performance such as cost, service, quality and speed” (p. 46).

According to Reif (2001) BPR is a radical undertaking in which history, custom and traditions of an organization are peeled off to examine core processes with an aim to simplify them.

BPR & Public Sector

Many Scholars (Boyne, Gould-Williams, Law& Walker, 2005; Mack, Green & Vedlitz, 2008; Randor, 2010) observed that Public Sector Organizations [PSOs] are facing a demand of becoming more competent and effective as demand for performance related management, good service and financial restraint has increased.

Parys and Thijs (2003) proposes that for successful implementation of BPR in Public Sector Organizations, it must be kept in mind that these organizations are attached to many Ministries and Departments and a change in one Division requires relative change in interlinked organizations. So it is necessary to address these problems.

Process Map

Page (2010) defines " process map is a visual representation of a series of connected activities that, when strung together, deliver a meaningful outcome to the client/customer"(p.78)

"AS IS" Process

Before starting reengineering process the reengineering team must understand the existing process (Muthu, Whitman & Cheraghi, 1999)

"TO BE" Process

Development of to be phase involve one or more substitutes for the existing situation which is able to satisfy planned goals of an organization. The first stage of this phase is "benchmarking" in which performance of an organization's processes and mode of conducting those processes are compared with the relevant peer organizations to have an idea for process improvement (Muthu et al., 1999, p.4)

BPR & Performance

Ligus (1993) asserted that ''30–35% reduction in the cost of sales; 75–80% reduction in delivery time; 60–80% reduction in inventories; 65–70% reduction in the cost of quality; and unpredictable but substantial increase in market share'' (p.58).

Davenport (1993) states that one of BPR objective is "process cost reduction" in order to offer a "competitive advantage" (P.3)

BPR & Information Technology

The advantage of IT in BPR as cycle time reduction due to less number of jobs to carry out the process has been acknowledged by Gunasekaran and Nath (1997)

Hammer (1990) believe that if any organization wants to see drastic change in its operation than BPR is the main thing to do that.

BPR & Customer satisfaction

According to some scholars (Gerson, 1993; Herschel & Steenstrup, 2004) customer satisfaction is similar to satisfying customer hopes and it tells whether customer is satisfied with the business relationship or not?

Scherr (1993) advocate that "concern for customers and their satisfaction has prompted many enterprises to begin looking at processes from a customer point of view" (p.2).

Similar Historical Case Studies

Sicotte, Denis and Lehoux (1998) studied reengineering of four hospitals. The aim of reengineering was to make a paperless hospital and radical re-organization of professional work, enhancing quality, productivity and minimizing cost. The result was quite discouraging as it resulted in information overload and standardization, clerical task load increase, work organization rigidity and expert autonomy negation.

Pressy, Bartelme, Hardt and McLenighan (2008) conducted a case study to determine the effect that BPR can have on an enterprise service desk organization that provided information technology service support. His study used the human performance improvement [HPI] model to analyze the impact business process improvement have in two areas i.e. performance metrics (which was used to measure response time, resolution time and turnaround time) and customer satisfaction (which was measured qualitatively and quantitatively through interview and customer satisfaction survey).

3. Methodology

For conducting the research, first of all the information regarding pension process have been obtained by studying i.e. pension/classification of pension, audit of pension, pension rules, FR&SR etc. Research have been conducted by extensive interview of all the persons who are involved or a part of pension process from the point of view of BPR implementation i.e. implementer as well as on whom it is being implemented. Page (2010) technique of time and cost estimation along with verification of process map has been used with some modification. There were four research questions that drove this case i.e whether more customer satisfaction, reduce cycle time, reduce labour cost per case and more efficiency have been achieved or not?

Customer satisfaction has been measured indirectly by less number of steps after BPR of pension process. The number of steps has been counted by drawing flow chart of both the processes (before and after implementation of BPR) by Microsoft Visio. Pension process consists of two parts i.e commutation and monthly pension. To check the impact of BPR, cycle time of both parts prior and after implementation of BPR has been measured.

For measuring labour cost per case before and after implementation of BPR, pay and allowances of human resource involved in the pension process have been taken. As the Govt. servants are at different level of their service so according to budget estimation technique i.e average of the minimum and maximum of pay and allowances have been taken. Labour cost per case has been calculated by dividing the labour cost per month by the number of cases per month. The last research question of the study i.e efficiency has been measured by dividing the number of pension cases received by cases processed in the pension section in a month. Efficiency and labour cost measurement have been done on monthly basis. For calculation of cases, data of six months have been taken and then its average is calculated.

Pre- Implementation Pension Process

Many type of cases are handled in the pension section of the AGPR i.e. fresh pension/family pension cases, increase/ updating of pension and commutation restoration etc. In pension case payment consist of two parts. One is monthly pension and the other part is a lump sum payment made (once) to the pensioner i.e. commutation. Pension paper preparation starts six months before the expected date of retirement so that the pensioner can get his pension without delay. Pension process starts from the pensioner's Department. In the pre-implementation pension process most of the work was done manually. It consists of five phases. In the first phase pension documents are prepared by the Pensioner's Department which has to be send to AGPR after the approval of Head of Department [HOD]. In the 2nd phase, pension papers are received in the AGPR pension section where after verification of service statement and LPC from the GA section, manual computation is done and PPO as well as Commutation Authority is drafted. PPO (disbursal half) has to be dispatched to National Bank of Pakistan [NBP] for monthly pension payment, commutation

authority to the Drawing and disbursing officer [DDO] of the Pensioner's Department and PPO (pensioner's half) and commutation authority to the Pensioner. In the 3rd Phase, the DDO of pensioner's Department get sanction of commuted amount, prepare a bill of commutation and submit claim to AGPR counter. In the 4th phase on receipt of commutation claim, the AGPR Pension section get sanction of claim from DAG (Fund & Pension), after approval of sanction the cheque section prepares cheque manually and send it to the AGPR cheque counter from where the Pensioner's Department's Cashier take it and then hand it over to the pensioner after verification. In the 5th phase, the National Bank of Pakistan [NBP] takes confirmation of PPO from the AGPR. After confirmation payment is made and PPO is also handed over to pensioner for future monthly payments.

The pre-implementation pension process was very lengthy. A lot of time has been wasted due to movement of pension case between the Department, AGPR and Bank. Postal system and hierarchy of an organization made it more complicated and time consuming. Similarly monthly payment was possible only through NBP branches. Pension payment process before BPR was not that much transparent.

The data regarding pre implementation pension process is given in Table 1:

Table 1: Pre-implementation Pension Process Data

Activity	**Steps/Days/Rs/%**
No of steps of commutation	48 steps
No of steps of monthly pension	35 steps
Cycle time of commutation	23 days
Cycle time of monthly pension	26 days
Labour cost per case	Rs 2321.9
Efficiency	75.37%

The pre-implementation pension process flow chart drawn on Microsoft Visio (with the help of interviews taken from the AGPR and PIFRA persons who are directly or indirectly involved in the pension process) is given in figure 1 and figure 2.

Figure 2: Flow Chart of the Pre-implementation Pension Process at AGPR and NBP.

Post- Implementation Pension Process

In the post-implementation pension process, SAP R/3 software (world's chief Enterprise Resource Planning System) has been used in combination with HR module (AGPR, 2013b). All pensioner's record has been centralized through SAP R/3. The post-implementation pension process consists of 3 phases.

The first phase of pension process is similar to the pre-implementation process. In the 2nd phase, pension papers are sent to the AGPR pension Section or the pensioner himself takes the pension case to the AGPR pension facilitation centre where electronic token and queuing machine have been installed. The pensioner takes token from the above-mentioned machine and waits for his turn. On his turn pension case along with direct credit system [DCS] form is submitted at the pension facilitation centre. After initial pre audit, detailed pre audit and verification (in case of no objection) the case is sent for approval to AO (Pension). All computation i.e gross pension, net pension, commutation etc is calculated automatically through SAP. After simulation of data on SAP, credit advice (for monthly payment) is generated and sent to cheque section where cheques are generated electronically. Credit advices branch wise along with multiple cheques are issued to the main branch of all scheduled banks for payment of monthly pension. As far as pension commutation is concerned, commutation off cycle is executed, cheque advice (for commutation) is prepared and sent for approval to DAG (Fund & Pension). After approval cheque is prepared/signed and handed over to pensioner.

In the 3rd phase, the bank credits the given amount of monthly pension, directly to the pensioner's account. Now pensioner can take out amount through ATM/cheque whenever he/she needs. In the post-implementation pension process there is no need to fill voucher on monthly basis for getting monthly pension.

The data regarding post implementation pension process is given in Table 2:

Table 2: Post-implementation Pension Process Data

Activity	**Steps/Days/Rs/%**
No of steps of commutation	26 steps
No of steps of monthly pension	24 steps
Cycle time of commutation	9 days
Cycle time of monthly pension	8 days
Labour cost per case	Rs 1460.1
Efficiency	87.03%

The post-implementation pension process drawn on Visio is given in figure 3 and figure 4.

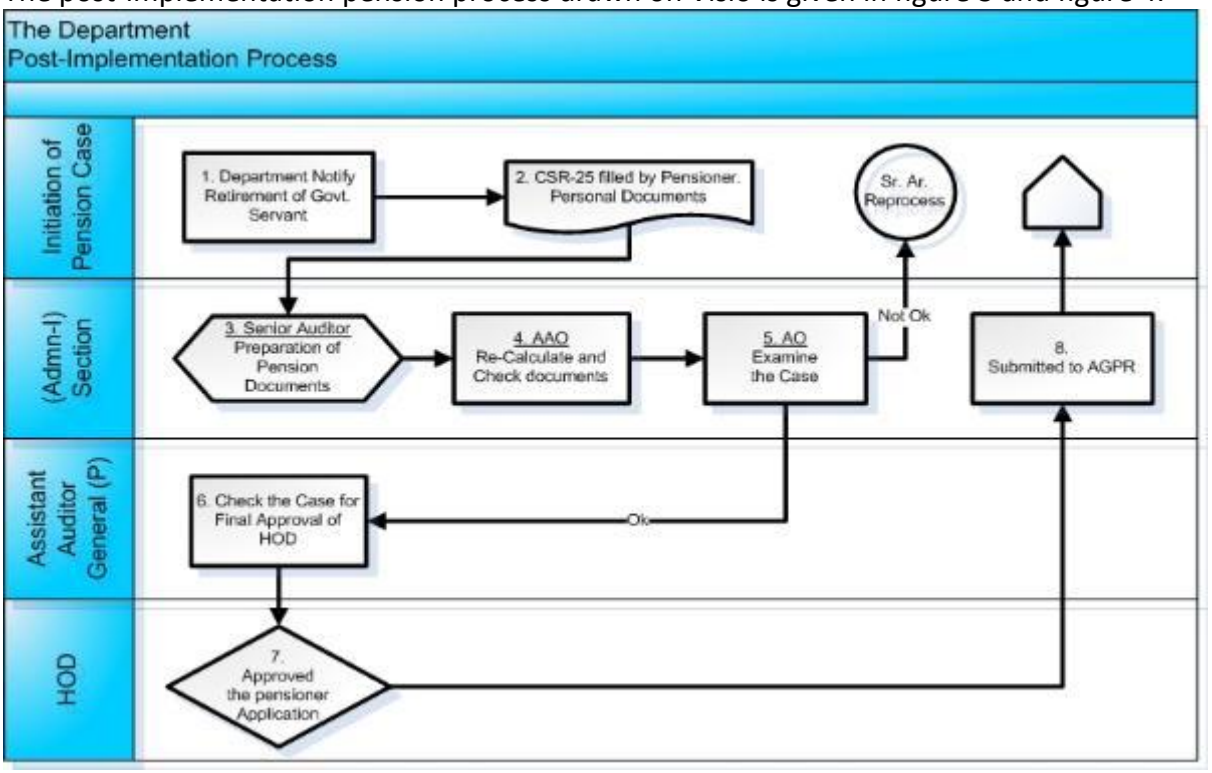

Figure 3: Flow Chart of the Post-Implementation Pension Process at Pensioner's Department

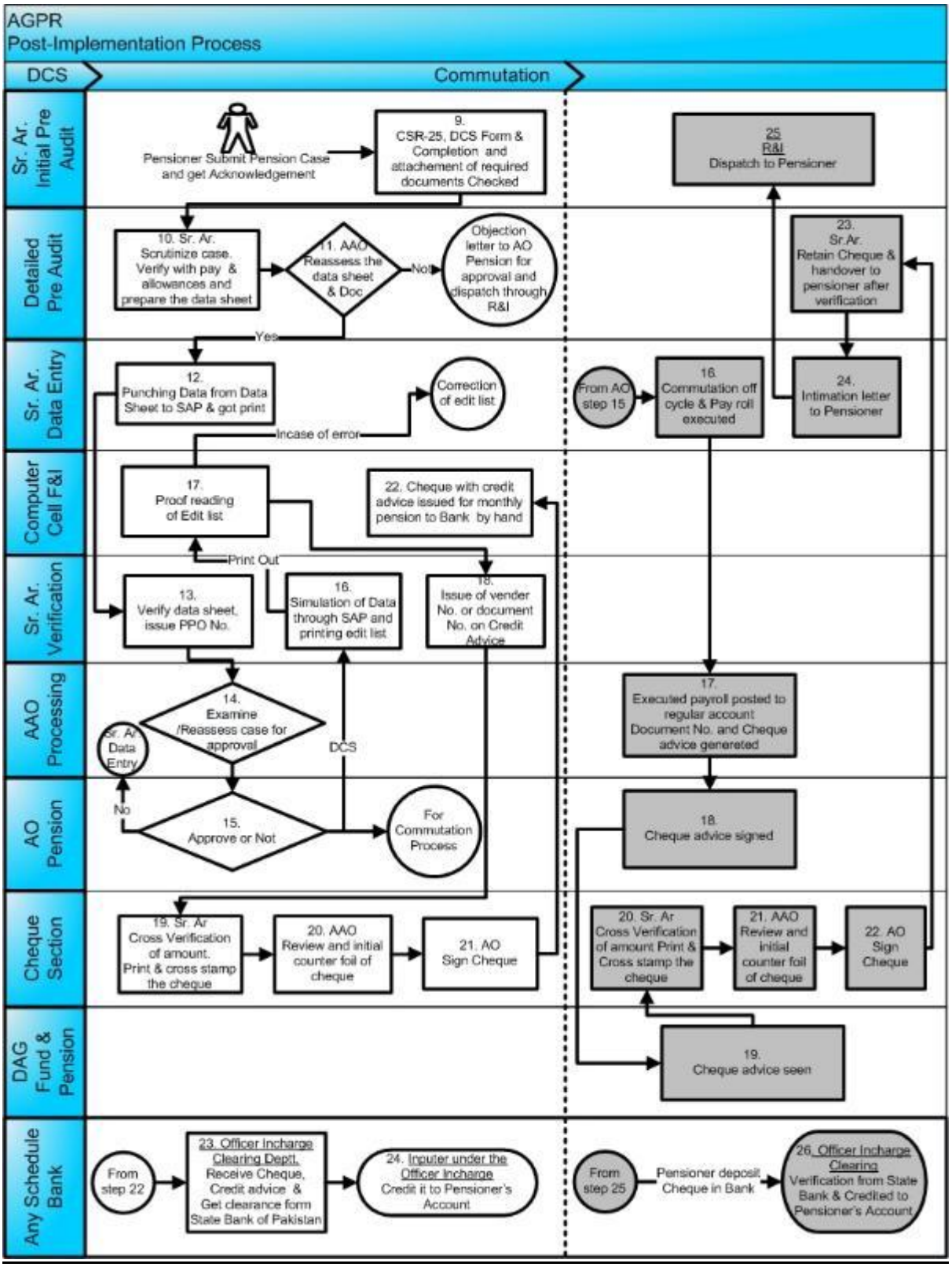

Figure 4: Flow Chart of the Post-Implementation Pension Process at AGPR and any Scheduled Bank.

Data Analysis

The data of pre-implementation and post implementation pension process have been placed in the table 3 for analysis.

Table 3: Data Analysis of Pre-implementation and Post-implementation Pension Process

Activity	Pre-implementation pension process	Post-implementation pension process	Impact (Increase/Decrease)
No of steps of commutation	48 steps	26 steps	46% (Decreased)
No of steps of monthly pension	35 steps	24 steps	31% (Decreased)
Cycle time of commutation	23 days	9 days	61% (Decreased)
Cycle time of monthly pension	26 days	8 days	69% (Decreased)
Labour cost per case	Rs 2321.9	Rs 1460.1	37.12% (Decreased)
Efficiency	75.37%	87.04%	11.67 % (Increased)

From the above-mentioned table it is concluded that customer satisfaction in terms of reduced number of steps of commutation and monthly pension have been increased by 46% and 31% respectively. Similarly cycle time of commutation and monthly pension have reduced by 61% and 69% respectively. Labour cost per case has decreased by 37.12% and efficiency of Pension process increased by 11.67%.

4. Conclusions and Recommendations

The analysis of data shows cycle time and labour cost per case have reduced and customer satisfaction and efficiency have been increased. The reengineered pension process is a big achievement as it is much more simplified. In the post implementation pension process instead of sending commutation authority, cheque is sent to the pensioner's Department. In the pre-implementation pension process a lot of time was wasted in sending commutation authority to the Pensioner's Department, preparation of claim by the Department, sending it back to AGPR counter followed by preparation of cheque and then finally forwarding it to pensioner's Department from where it is handed over to pensioner after verification. Not only procedure has been simplified but also transparency of system has increased a lot.

The post-implementation pension process by virtue of SAP made it possible to check at which level the pension case is? One can easily check the status of pension case.

Another big achievement of the SAP is that, that now pensioner service history is centralized so data for updating, increases and family pension is available at one place. SAP has made the preparation of accurate and timely reports possible. A report about an activity for e.g. number of cases approved, rejected and open can be generated with a click of mouse.

In the pre implementation process, all calculations were manual. In the post implementation process, all calculations are system calculated so chances of error or mistake have been reduced to almost zero. Counter checking of case has also become easy due to use of SAP.

In the post-implementation pension process, the pension case cannot be placed at a level for more than three days due to internal control by high ups.

Though post-implementation process has been simplified a lot, customer satisfaction and efficiency increased and cycle time and labour cost per case decreased but still there is room for improvement. My recommendation for further improvement of process is as under;

1. The initial pre audit and detailed pre audit should be merged. The new stage should be called pre audit and the senior auditors of that level should perform both activities i.e. initial pre audit and detailed pre audit. In this way one level will be reduced.
2. The AAO (Pre Audit) is an additional post as it scrutinizes or assesses the work of Senior Auditors of Initial Pre Audit and Detailed Pre Audit. Instead of AAO (Processing) and AAO (Pre Audit), one post i.e. AAO (Pension) should be created, who will assess the work of senior auditors regarding pre audit, data entry, verification and processing. After the assessment of AAO (Pension), case should be transferred to AO (Pension) for approval.
3. Staff should be more reduced in order to decrease the labour cost per case.
4. In the post-implementation pension process, for commutation cheque, pensioner is called to the AGPR, instead of it this amount should be directly credited to his account. In this way quality of service will improve more.
5. Training of the workforce is one of the most important factors for improving the quality of work. There should be extensive training of workforce so that they can do their work in a better way.
6. Public dealing should be limited to the counter only.

Appendix A

Table 4: Abbreviations used in the case study.

AAO	Assistant Audit Officer
AGP	Auditor General of Pakistan
AGPR	Accountant General Pakistan Revenues
AO	Audit Officer
BPR	Business Process Reengineering
CGA	Controller General of Accounts
DAOs	District Account Offices
DCS	Direct Credit System
DDO	Drawing and Disbursing officer
FR&SR	Fundamental Rules & Supplementary Rules
GPF	Gross Provident Fund
HOD	Head of Department
HPI	Human Performance Improvement
LPC	Last Pay Certificate
NBP	National Bank of Pakistan
PAOs	Provincial Account Offices
PIFRA	Project to improve financial reporting and Auditing
PPO	Pension Payment Order
SAP	Systems, Applications and Products in Data Processing

Appendix B

Pay and allowances of officers and officials working in Pension Section for calculation of labour cost/ case .

Table 5: Pre Implementation

BPS	Pay			Allowances									
	Minimum	Maximum	Average	HRA	CA	MA	Qualificati	Ad hoc -10	Ad hoc -11	Ad hoc -12	Total Average	Human	Total Cost
11	6600	20400	16800	1852	2720	1000	0	8400	3360	3360	37492	2	74984
16	10000	34000	27000	2727	5000	4050	0	13500	5400	5400	63077	15	946155
17	16000	40000	36000	4432	5000	5400	800	18000	7200	7200	84032	4	336128
18	20000	50000	45000	5809	5000	6750	800	22500	9000	9000	103859	2	207718
Total												23	1564985

Appendix C

Pay and allowances of officers and officials working in Pension Section for calculation of labour cost/ case

Table 6: Post Implementation

BPS	Pay			Allowances									
	Minimum	Maximum	Average	HRA	CA	MA	Qualification	Ad hoc -10	Ad hoc -11	Ad hoc -12	Total Average Pay	Human	Total Cost
11	66600	20400	16800	1852	2720	1000	0	8400	3360	3360	37492	2	74984
16	10000	34000	27000	2727	5000	4050	0	13500	5400	5400	63077	12	756924
17	16000	40000	36000	4432	5000	5400	800	18000	7200	7200	84032	2	168064
18	20000	50000	45000	5809	5000	6750	800	22500	9000	9000	103859	1	103859
Total												17	1103831

Acknowledgement

First of all I would like to thank Allah (SWT) for giving me strength and capability to complete this assignment. I would like to extend my gratitude to my supervisor Dr. Arshad Zaheer for his continuous support and guidance. My case study couldn't have been completed without his help. Special thanks to Shah Muhammad Najmi (Program Manager APCOM) and Muhammad Zaheer Tanoli for their technical help and suggestions. I am extremely thankful to all the staff working in the AGPR, Pension Section especially Iftikhar Ahmed, Shoukat Javed and Hamayun Habib Baig who helped me in collecting important data and for their useful comments. I am highly indebted to my Mother and siblings for their support and cooperation. All my achievements are because of them.

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