Improving public sector service delivery: A Developing Economy Experience

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Abstract

Purpose: The Pension Trust Company (PTC) in Ghana is the sole agency responsible for the management of the first-tier pension scheme as well as processing of claims submitted by beneficiaries for this scheme. The claim processing system at PTC was wrought with significant delays resulting in severe customer dissatisfaction and hardship to retirees. Hence, a new system – Age 54+ project – was developed to address the problems related to claims processing. This study seeks to report on the efficiency gains from the new claim processing system implemented at PTC and to use the philosophies behind the Lean Operations concept to explain the results.

Design/Methodology/Approach: Data for this study was obtained from the benefits system of PTC for the period 2009 to 2013. The data consists a series of benefits processing time for two (2) groups of fifty six thousand (56,000) claimants – those cleared under the Age 54+ project and those cleared under the old processing system. The processes of the two claim processing systems were analysed and their processing times compared.

Findings: The new system – Age 54+ – decreased the average processing time for new claims by 20%. The new system is a simple approach which is driven by a "Let's Start in Time" idea.

Originality/Value: The operations management literature suggests that process redesign approaches and the implementation of continuous improvement techniques represent mechanisms for achieving performance improvements at governmental agencies. This study shows and discusses the redesign of a social security scheme process using a lean operation concept of waste elimination method application of Kanban to deliver performance improvement.

Keywords: Claim processing time, Social Security, Lean systems, Ghana

Article Type – Research paper

Introduction

The Ghana National Pension Act of 2008 (Act 766) stipulates a contributory three-tier pension scheme consisting of: a mandatory basic national social security scheme; a mandatory occupational pension scheme, and lastly a voluntary provident fund and personal pension scheme. In Ghana, the agency responsible for the collection of contributions and the payment of retirement benefits under the first-tier scheme – basic national social security scheme – is the Pension Trust Company (PTC). The second and third-tier schemes – occupational pension scheme and the provident fund scheme, respectively – are usually privately managed by trustees approved by boards of organizations. This study therefore focuses on the social security scheme which is managed by PTC as it appears to be challenged by unduly longer claim processing time.

Globally the importance of social security and pension schemes cannot be overemphasized as they provide two important functions within societies: a source of funds, for possible borrowing, for development initiatives and a source of income for retirees. Social security and pension schemes provide important sources of finance for both the public and private sectors in most countries. PTC makes available to the government of Ghana long term loans for the financing of current and capital expenditures for national development. Social security schemes also serve as mechanisms by which individuals in the workforce are assured of some level of income when they retire from the workforce. In most social security systems, the contributions received from current contributors are, usually, used to provide benefits to those who are retired with the expectation that future contributions will also be available to support those in the workforce at that time. Consequently, Whitaker (1998) notes that it would be ideal, if every member of a community could be protected by social security as that fosters solidarity.

Dorfman and Palacios (2012) opine that pensions and social insurance programs aim to prevent a substantial loss in consumption power as a result of old age, disability or death and hence form an integral part of any social protection system. Rofman and Oliveri (2012) also argue that social security schemes are programs instituted by nations to transfer the responsibility of social risks (disabilities, old age, victim of natural disasters, among others) to the state where the informal or traditional systems of social protection are insufficient or not working properly. The PTC in Ghana is a governmental organization and as such is fraught with inefficiencies, especially in claims processing.

Given, the benefit of social security schemes, the issue of delays in processing benefits of claimants or beneficiaries remains a problem, especially in most developing countries. Undue delays in benefits processing, undermine the objective of social security schemes as the claimants or beneficiaries get worse off socially and economically by such delays. PTC, in Ghana, over a long time had a problem of bad image due to delays in claim processing. Therefore, the question of interest, in this study, is whether the implementation of operations management Lean principles and tools such as Kanban and Single-Minute Exchange of Die (SMED) can be used to bring efficiencies in the processes of governmental organisations. Hence, a project – Age 54^{+} project, based on the broad concepts of waste elimination, standardization, accountability and visibility (Hill, 2012) – was implemented by the Trust to address the problem of delays and the attendant customer dissatisfaction. Consequently, this study seeks to compare the claim processing times under two scenarios – the old claim processing system and the Age 54^{+} project.

The rest of the paper is organized as follows. We first provide a background of the social security scheme in Ghana and provide a brief reference on other schemes in developed countries. Secondly, the theoretical background of the lean principle, which informs the Age 54^{+} approach, is provided with special focus on public sector organisations. We then present an analysis of the general claim processing structure at PTC. This is followed by a description of the structure of the Age 54^{+} project processing system. The method and results of the study are then presented and discussed. The study then ends with conclusions and managerial implications for further improvement of the claim processing at PTC.

Social security scheme in Ghana

Social security schemes are available in most countries – both developing and developed countries though the extent of coverage varies in both developing and developed countries. The social security legislation in Ghana was enacted in 1965 (Asibuo, 1976). The emergence of the system was precipitated by the change in the socio-economic structure in Ghana – reflected in establishment of industries, urbanization, rural-urban migration, rapid population growth and the spread of formal education – that followed the attainment of independence from colonial rule in 1957. Boon (2007) observed that before the institution of a formal social security system in Ghana, the indigenous Ghanaian society had a traditional form of social protection. The traditional form of social security, in Ghana, had been based on the extended family system as well as one's children to address risks from disability, sickness, loss of a key bread winner of a household, old age, and victims of natural disasters. However, with the advent of globalization, the Ghanaian society is getting westernized. An impact of this is a gradual and systematic disintegration of the extended family structure which had been relied upon to provide the traditional social security, and thus necessitating the need for other means of attaining social protection (Boon 2007).

The shift away, largely, from the extended family structure to a more formal and public regulated system in respect of social protection has been in operation for some decades now in Ghana. However, this formal and regulated social protection system also has some setbacks. For example, the levels of social security benefits, in Ghana, are not usually connected to the prevailing economic conditions, hence creating economic challenges for retirees. This primarily is explained by the poor and unstable macro-economic environment and conditions in the country. The macro-economic conditions usually get worse to the extent that annual adjustments to benefits of retirees rarely provide equal and commensurate compensations for depreciated benefits of retirees. Besides, from a demographic standpoint, the social security pension scheme in Ghana should not be in distress and must provide better benefits to retirees as the ratio of contributors to beneficiaries stands at 40:1 (Atabugum, 1997). However, poor investment decisions by the Trust which are underpinned by political interferences coupled with the volatile economic situation in Ghana explain the financial distress of the Trust and the disconnect between the levels of social security benefits and the prevailing economic conditions.

In some developed countries such as Britain and New Zealand, the social security schemes cover almost every citizen and apply to most risks. However, in Ghana, even though under the Provisional National Defence Council (PNDC) law 247, workers in both the formal and informal sectors are permitted to be part of the scheme, the scheme is largely subscribed by workers in the formal sector and covers only such contingencies as old age, invalidity, death and survivors'

benefits. Ghana has two social security schemes running concurrently – the PTC scheme and the Government scheme (CAP 30). The CAP 30 scheme is funded by the consolidated funds of the government and is targeted toward military and police officers and others in the security agencies) (Kumado and Gockel, 2003). Under the PTC scheme, employee and employer contributions are 5.5% and 13% respectively. The annual indexation method is the main approach for adjusting the levels of pensions paid in Ghana and the Trust operates with a retirement age of 60 years.

The lean principle in public service organisations

Most public organisations, under the pressures of myriad stakeholders and their expectations, have struggled to achieve efficiency in their operations (Corrigan and Joyce, 2000; Radnor and McGuire, 2004; Greiling, 2005). Historically, public services seem to be lower on the ladder of efficiency relative to their counterparts in the private sector. This is because, for a very long time, most providers of public services have not faced the threat of competition. Usually the patrons of public services are more or less captive users with little or no choice of providers. This situation makes most public service organisations to be more supplier- driven than customer-driven. And very often there are no performance metrics to guide behaviour and decision making However, recent deregulation policies in public services – healthcare, insurance, banking, etc – coupled with pressures on public expenditures have made it imperative for managers of public service organisations to constantly search for new and better ways of driving productivity upward while at the same time ensuring effectiveness in meeting the needs of citizens (Lenk, 2002; Karwan and Markland, 2006). For example, in the United Kingdom, the government has introduced reforms that permit patients to choose where they go for medical treatments with provisions made to follow patients with funding (Bhatia and Drew, 2006). Similarly, in Ghana, with the establishment of the National Health Insurance Scheme (NHIS) in 2003, many private medical institutions have been admitted to the scheme and thus provide choices for patients.

The challenges in public services and how operations management principles could be used to address them have not received much attention in operations management literature. Slack et al. (2004) indicate the gap between research and practice is very wide, particularly as related to the provision of public services, even though the share of public services in respect of Gross Domestic Products (GDP) of countries is significant. Hence, the application and development of operations management (OM) theories to guide managers of public service organisations will be beneficial.

In this study, we demonstrate, using a detailed case study, how operations management lean principles can be used to ensure operational efficiency and effectiveness in the execution of the social security scheme service in Ghana.

Customers nowadays desire more from their service providers: high quality services, efficient and reliable delivery, reasonable cost, etc. This brings to the fore the importance of value creation in a supplier-customer relationship.

The fundamental thrust of lean thinking is “value” (Womack and Jones, 1996; Womack and Jones, 2003; Atkinson, 2004). Womack and Jones (2003) define “value” as the ability to deliver a product and service a customer wants with minimal time between the moment the customer asks for the product or service and the actual delivery at an acceptable price. Hence, “value” can also be simply

defined as the difference between expected benefit of a product or service and its cost. Value then is optimised, especially from customers' perspective, when the margin of difference between benefit and cost is increased. Associated with the concept of value is, of course, waste elimination where waste refers to anything that does not add value to the customer or client. In the case of claim processing at PTC, delays which are usually associated with frequent visits to PTC offices by claimants, reduce the margin of difference between the expected benefits of the service and the cost of it and hence take away from value and lead to waste. Thus, the aim of lean is achieved, in an operating system, by eliminating waste which includes reducing process time and simplifying operations (Womack et al., 1990; Seth and Gupta, 2005; Bhatia and Drew, 2006). The presence of waste in an operation reduces the value creation effort. Russell and Taylor (1999) and Taj and Morosan (2011) define waste as anything other than the minimum amount of equipment, effort, materials, part, space and time that are needed to add value to a product or service. The principle of lean rests on some critical pillars or underlying assumptions without which it is difficult to make lean work. Radnor & Boaden (2008) and Radnor & Osborne (2013) indicate these critical pillars as:

- Specifying the value desired by the customer
- Identifying the value stream for each product or service providing that value and challenging all of the wasteful steps
- Making the product or service flow continuously
- Introducing pull between all steps where continuous flow is impossible
- Managing towards perfection in order to ensure that the number of steps and the amount of time and information needed to serve the customer continually falls

Fulfilling these underlying assumptions and achieving the aim of lean require the employment of lean methods and a toolkit. Russell & Taylor (1999), and Radnor (2010) indicate these methods and toolkits, among others as:

- Kaizen
- 5S (Sort, Straighten, Shine, Standardise and Sustain)
- Value stream mapping (VSM)
- Visual control or management (Kanban)
- Poka yoke
- Single-Minute Exchange of Die (SMED) (setup time reduction through conversion of internal setup into external setup)
- etc

Some researchers (Womack and Jones, 2003; Kollberg et al., 2006) observe that lean methods have been gradually transferred from pure manufacturing environments to service environments, especially the public service. However, there is a dearth of research that highlights these applications in the service sector. Bhatia & Drew (2006) report of a UK government office processing large volumes of standard documents using lean methods through which lead times were reduced from forty (40) days to twelve (12) days. In the private sector, the same authors report of an European bank using lean methods and reducing the processing time for mortgage applications from thirty five (35) days to five (5) days.

Despite the moderate successes achieved by the application of lean principles in public service, Radnor & Boaden (2008), argue that lean, as it pertains in public service, is not "pure" when juxtaposed with what has been developed and implemented in manufacturing and some private

service organisations. The argument fundamentally is hinged on the fact that the assumptions that underlie public service operations differ from manufacturing and private service operations. This implies that the application of lean principles in public service operations should be more adaptive than adoptive. The absence of many studies of lean applications in the public service sector might be attributable to the adaptions that might be required and the uncertainty associated with the potential benefits of such implementations. In this study, we take a bold step to examine the impact of the lean approaches of SMED (i.e. changing internal setups into external setups) and the pull system facilitated by the use of Kanban which are adapted in processing claimants of social security benefits at PTC in Ghana under a project called "Age 54^{+}". The approach under this project was to flag out members of a social security scheme who were aged fifty-four (54) years and above for processing of retirement benefits. In other words, how can potential beneficiaries be identified early and how can they be pre-processed even before they reach their retirement age with the goal of minimizing the processing and waiting times associated with retirement claims.

General claim processing at PTC

We document in this section the process flow for the claim process at PTC, Ghana. The claim or benefit processing at PTC begins with the submission of an application letter by the claimant to the claimant's PTC branch. Upon the receipt of the letter, an application form (SS4) is filled at the PTC branch and the necessary due diligence or clearance including verification of credentials carried out before the final payment of benefit to the claimant. In the case where the member is not cleared under the Age 54+ project, the member is referred to the Trust's Clearance Office for clearance. After the branch receives clearance from the Clearance Office, the branch forwards the claimant's details to Pension House for final payment. Figure 1 is a flow chart of the entire process.

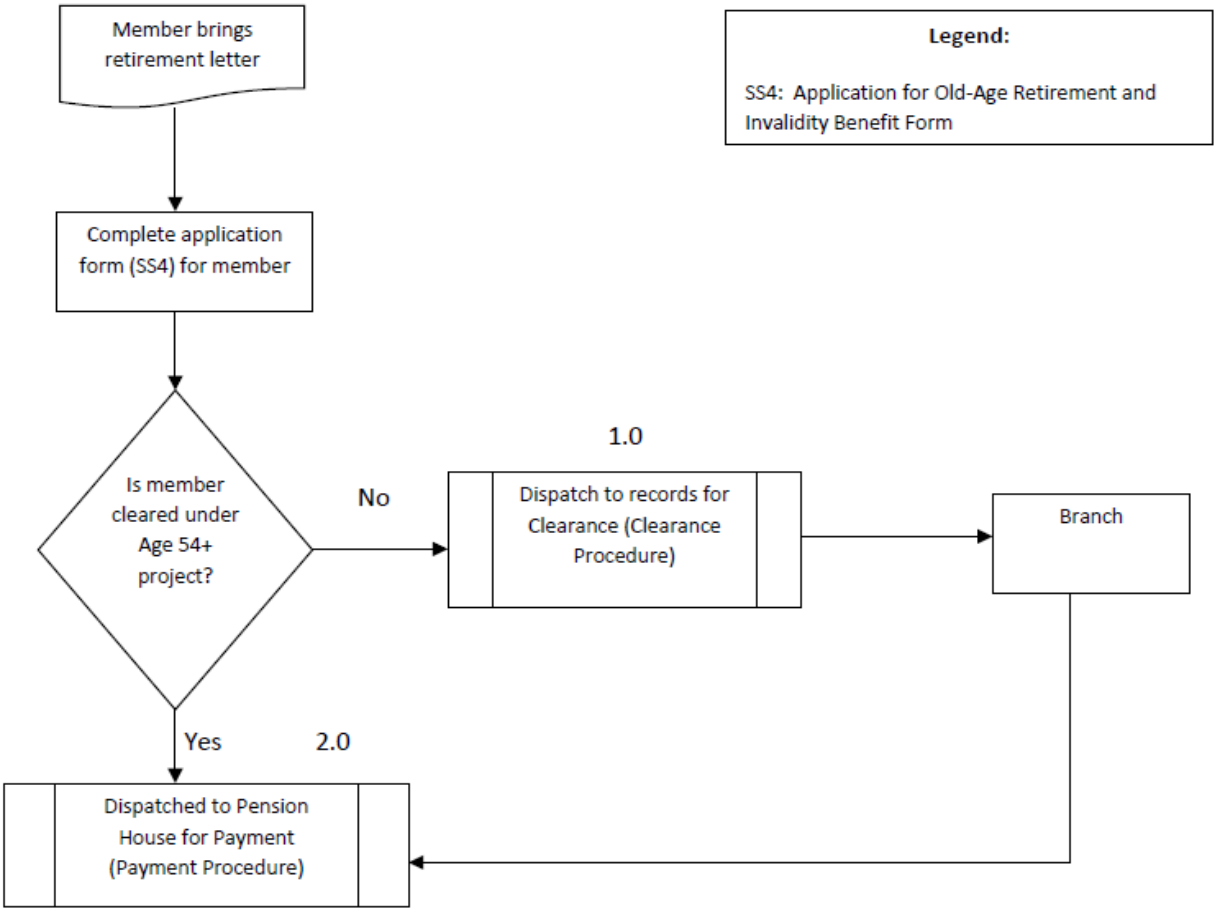


Figure 1- General claim procedure at PTC

The phase of the clearance or due diligence before the final payment of the benefit was the bottleneck in the claim processing procedure at the Trust and hence the justification for the Age 54^{+} project. As seen from Figure 1, the Age 54^{+} project seeks to address the problem of lengthy processing time between claim application and claim payment. Lean principles require the identification of wasteful steps in processes which in this case is represented by "Dispatch to Records for Clearance" (See Figure 1).

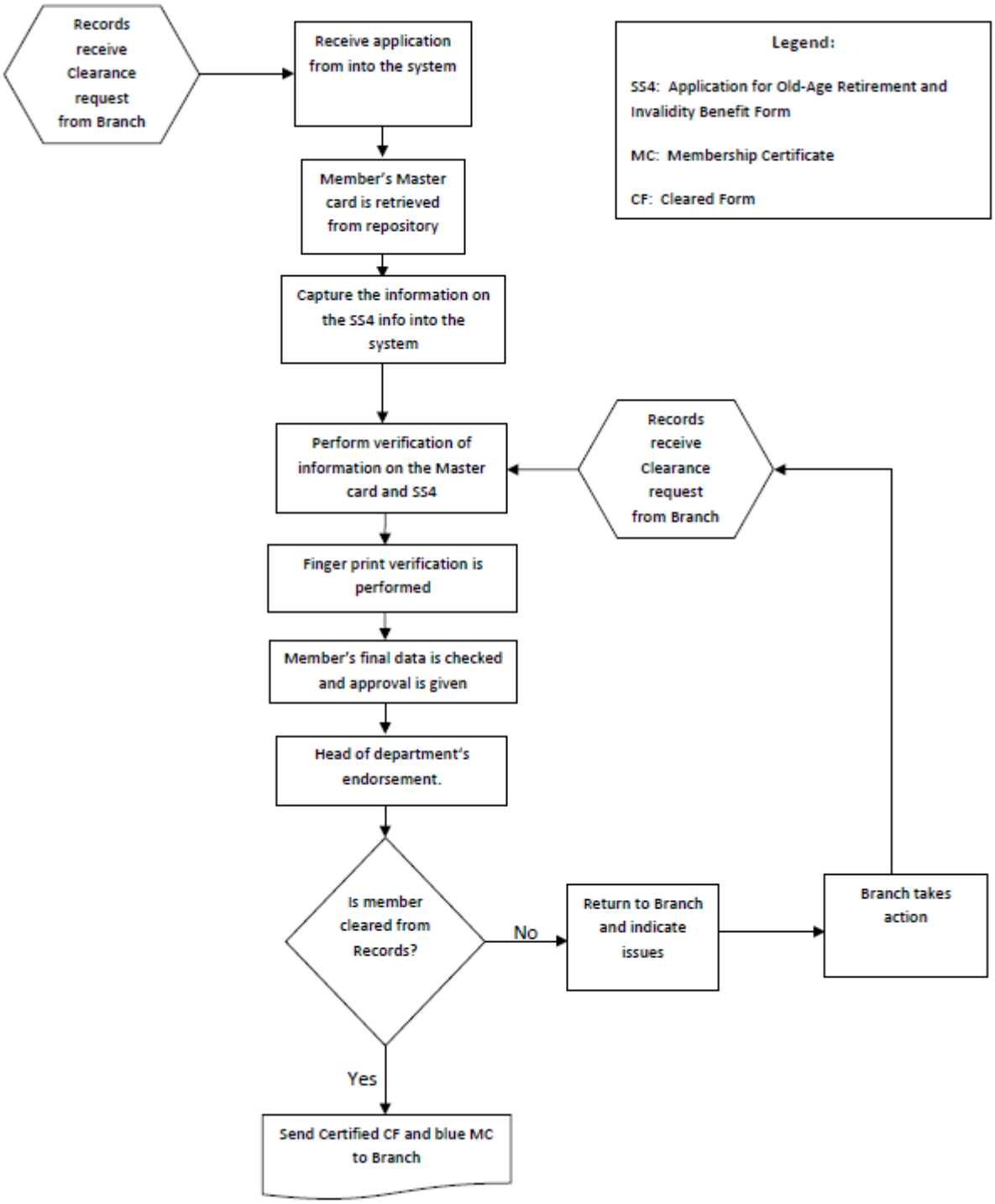


Figure 2- Old claim clearance procedure (1.0)

The problem of lengthy processing time is, primarily, a result of incomplete or incorrect bio or personal and financial data on claimants at the time of application. This will imply that the processing of the claim will have to be delayed until the records are corrected. This obviously implies waste and undue elongation of the claim processing time which could be eliminated, if record accuracy could be done "offline" as dictated by the lean concept or tool of SMED where

some internal setups are identified and converted to external setups in order to reduce the entire process time or duration. Applicants who are not previously captured under the Age 54^{+} project are routed through the old system of clearance (1.0) before the final payment procedure begins (2.0) as indicated in Figure 1. When clearance requests are received from the branch, the Clearance Office undergoes all the clearance processes indicated in Figure 2. When, there are any queries with the member's information, the member's branch is contacted to respond to the queries in order to complete the clearance process. The old clearance procedure (1.0) is as shown in Figure 2.

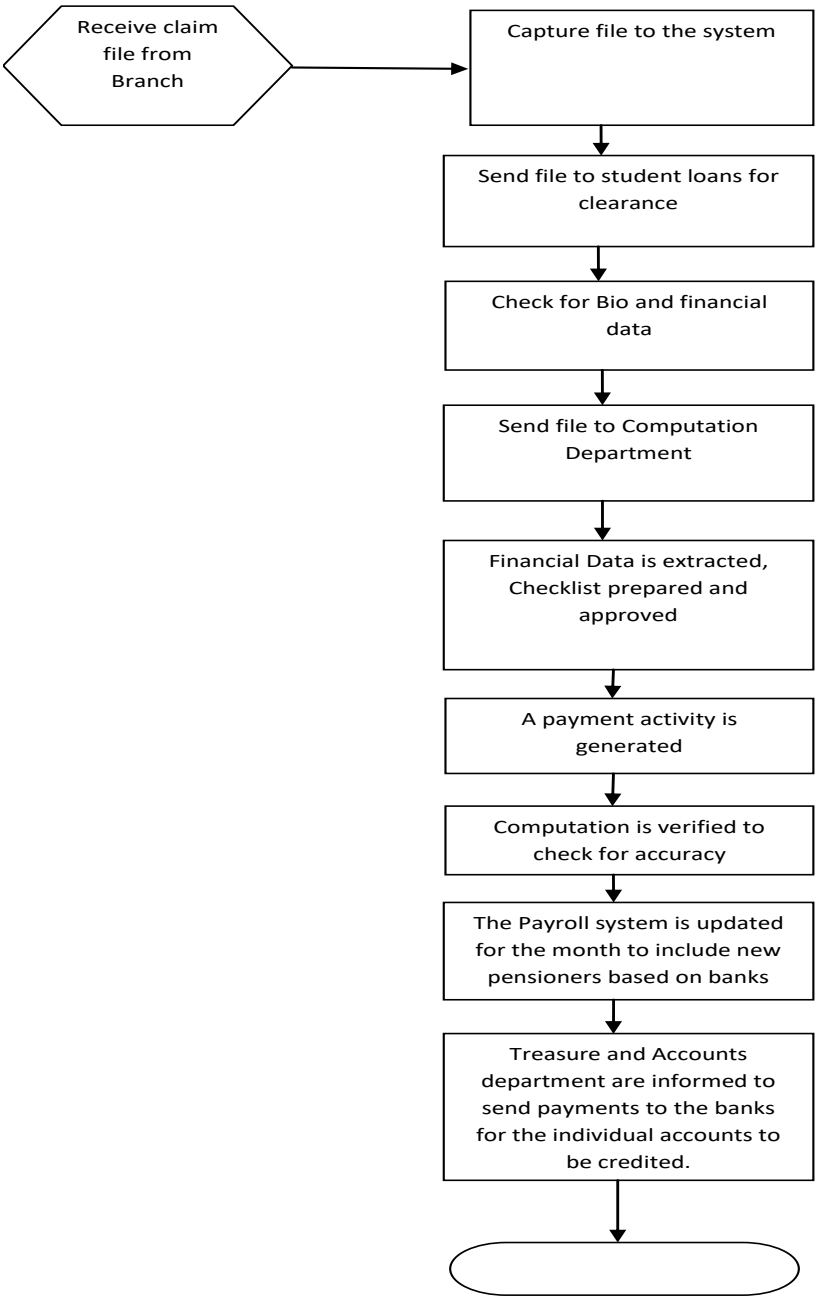


Figure 3- Final payment procedure

The final payment procedure (2.0) is as shown in Figure 3. One important aspect of the final payment procedure is the issue about the student loan guarantee clearance (See Figure 3). Applicants or claimants who have previously guaranteed students' loan need to get clearance from the students' loan department for payment of the student loan otherwise the amount owed in debt is deducted from the claimants' final payment.

Claim processing under Age 54^{+} project

The Board and Executives of the Trust initiated the Age 54^{+} project to ensure that the processing time for benefits payment is reduced. The project employed young graduates who were to follow up with telephone calls (after letters have been issued) to members who were aged 54^{+} years to ensure that both their personal and financial data were complete to ensure faster processing of claims at the point of members' retirements. This project targeted this age category (54^{+}) because though the normal retirement age by the Trust is 60 years, members could qualify for voluntary retirement from age 55 years. Under the Age 54^{+} project, acquisition of a blue card indicates evidence of being part or captured under the Age 54^{+} project. This pre-processing step is an example of the conversion of internal setup to external setup such that processing delays are minimized with regard to record verifications when the claimant achieves retirement age. Data errors are reduced ahead of time and valuable labour hours are not being spent to fix those errors when the actual claim processing is taking place. The possession of the blue card is also a signal or indication (i.e. Kanban principle) the claimant is ready to be processed for retirement benefits. The procedure for the acquisition of the blue card is as shown in Figure 4.

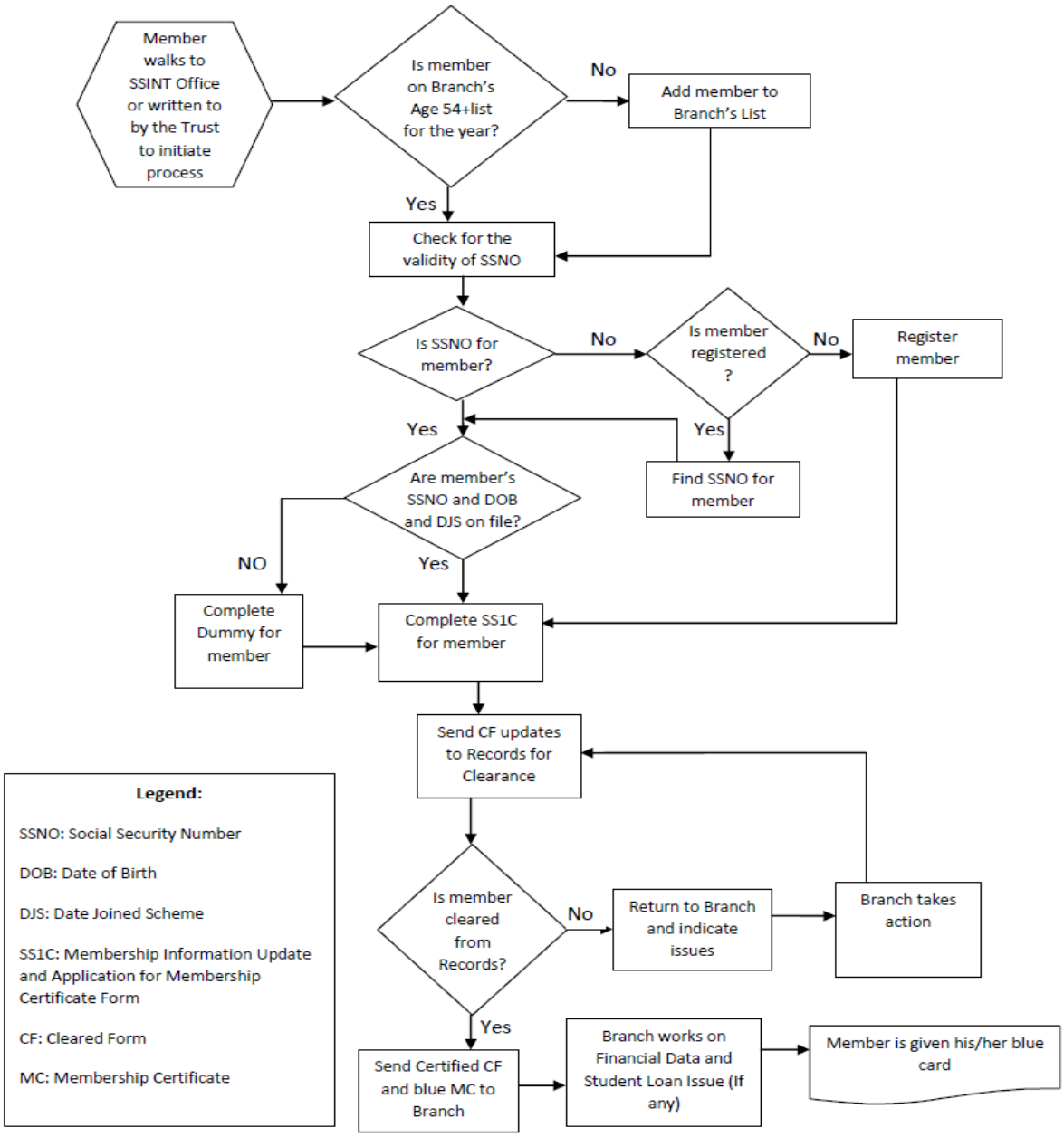


Figure 4- Blue card acquisition procedure

In order to expedite the overall claim processing time, the Trust's system flags all members who turn 54 years at a particular time. These individuals are subsequently written to by the Trust to initiate the blue card acquisition process. This prior clearance (in both personal and financial data) through the blue card acquisition is essential to ensure that by age 60 when the claimant applies for the benefits, the time required for the final payment to be made is considerably reduced. Again, this approach represents an application of the Lean "Kanban" system where further work in a process is visually indicated or signalled for prompt action to the end that waste is eliminated, and

speed gained in the service delivery. Hence, by this system, a "pull" rather than a "push" system is being encouraged by the Trust. Besides, the introduction of the Age 54+ project – side by side with the old claim processing system – is an attempt to improve on the old claim processing system. Conceptually, the design is similar to Disneyworld's fast pass system where customers issued with a fast pass jump to the front of a queue when the appointed time on the fast pass arrives.

Data and Method

The data for this study was obtained from the benefits system of PTC, Ghana, for the period 2009 to 2013. Given that the data is from one organization, this might be considered a case study. However, as a paradigm, this study falls in the realm of a quantitative study as opposed to an interpretivist case study. At the same time, the data came from the archived records of the organization. Given that organizations in developing countries are often not willing to share their records with researchers, the unit of analysis is the processing of claim. Even though the Age 54^{+} project commenced in 2003, data was available only from 2009 to 2013. The data consists a series of benefits processing times for two (2) groups of fifty six thousand (56,000) claimants - those cleared under the Age 54^{+} project and those cleared under the old processing system. Descriptive statistics involving the mean benefits processing time, the minimum and maximum processing times and standard deviations were computed and compared for the two groups of benefits processing times. To visually ascertain the increasing or decreasing pattern of claim processing times under the two different scenarios, trend graphs were employed Box plots were constructed to visually ascertain the normality or skewness of the distribution of the processing times of claimants under the Age 54^{+} project and those under the old processing system.

Furthermore, a statistical test of difference in samples to ascertain whether or not there is a significant difference between the benefits processing time of claimants cleared under the Age 54+ project and those under the old processing system was performed. The hypotheses of the study are indicated as follows:

H_0: There is no significant difference in the benefits processing time of claimants cleared under the Age 54^{+} project.

H_1: There is a significant difference in the benefits processing time of claimants cleared under the Age 54^{+} project.

Results

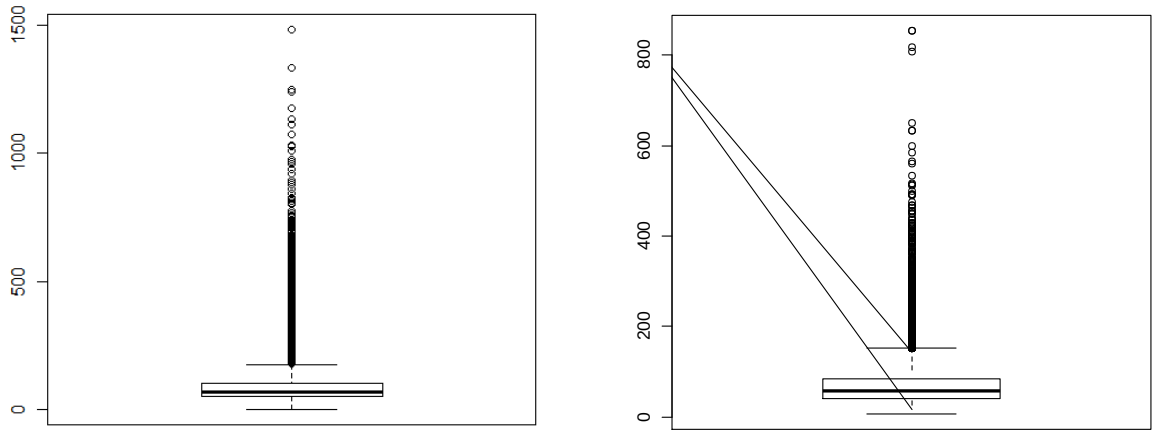
The Age 54^{+} project was implemented to reduce the processing time between claim lodgement date and claim payment date by correcting problems associated with both personal and financial data on contributors. That is to say mistakes and omissions in respect of contributors' personal and financial data are identified and fixed prior to the actual processing task when the contributor reaches the retirement age.

Descriptive analyses

The claims processed for claimants cleared under the Age 54^+ project were forty-one thousand and six hundred (41,600) whereas those processed under the old processing system were fourteen thousand and four hundred (14,400) for the five year period from 2009 to 2013. The moderate difference in data size between the Age 54^+ and the old processing systems is largely explained by the goal of the new claim processing system – Age 54^+. There was an ambitious and aggressive goal to rapidly transform the claim processing system of the Trust by deploying the Age 54^+ system. However, since the data sizes for both systems are relatively large, normality in the distribution of data is addressed and any potential biases or skewness significantly minimised. Table 1 presents some descriptive statistics of the processing time of claims for claimants cleared under the Age 54^+ project and those cleared under the old processing system.

[Table 1 about here]

As seen from Table 1, the Age 54^+ project appears to have relatively reduced the amount of variations in the claim processing time (57 days) as compared to the processing time under the old system (73 days). Besides, the maximum possible time for processing a claim under the Age 54^+ project is 854 days, which is an improvement of about 40% over the old system of processing claims. Though, there is an improvement, the maximum possible time for claim processing, under the Age 54^+, is still relatively high and can be explained by the problem of weak data capture and management on citizens embedded in the systems of most developing countries, including Ghana. This problem creates difficulties for the Trust in knowing and retrieving financial and personal records of claimants who worked with different organisations during their working time. Again, lack of due diligence on the part of the Trust during the processing as well as slackness on the part of claimants in responding to requests for further information by the Trust partly explain the relatively high maximum processing time. Furthermore, as seen from Figure 5, the box plots of the processing times of claimants cleared under the Age 54^+ project and those under the old processing system indicate right-skewed distribution for claimants under both scenarios. This suggests that in both cases, there are still some extremely high processing times, implying that there are large variations in the processing times. A component of Lean operations is standardisation of processes. It appears that although other aspects of Lean were effective and led to reduction in average processing time, standardization within the Age 54+ has not been fully achieved. Although this then raises some concerns for the Trust as it seeks to reduce the claims processing times by using the Age 54^+ project, it also represents an opportunity for additional improvements and studies.



Claimants Cleared under Age 54+ project *Claimants Cleared under the Old Processing System*

Figure 5- Box plot of processing times of the two scenarios

Trend analyses

The implementation of the Age 54^{+} project has seen the reduction of the average processing times for claimants cleared under the project relative to those cleared under the old processing system. However, from 2009 to 2012, there appears to be a consistent rise in the average processing times for both claimants cleared under the Age 54^{+} project and those under the old processing system.

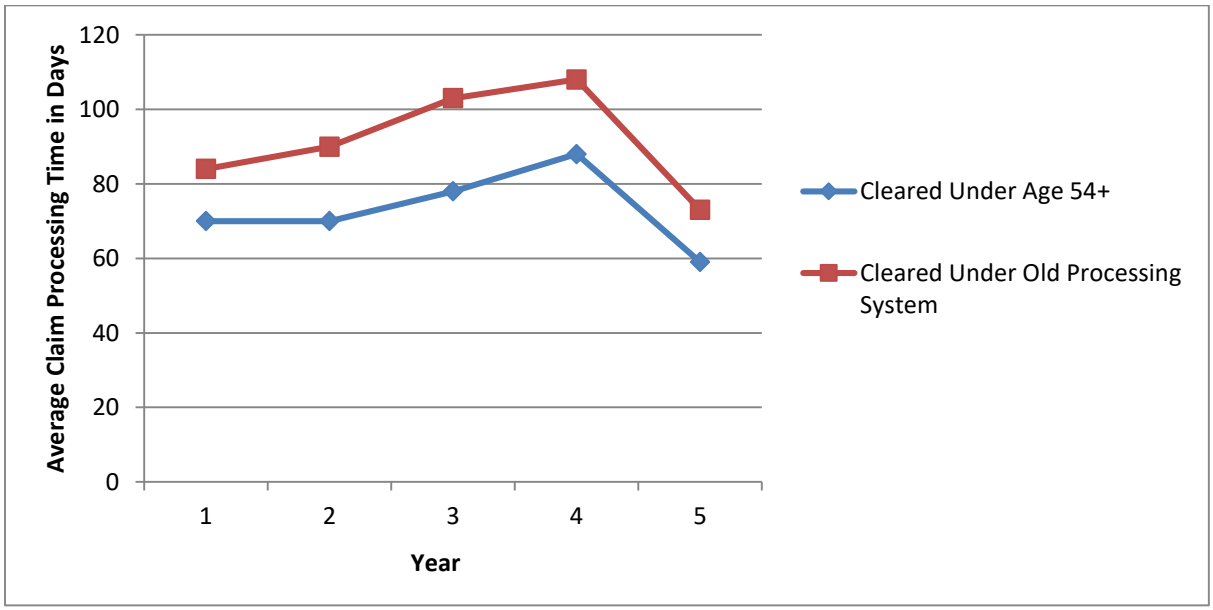


Figure 6- Trend of average processing times under the two scenarios

The consistent rise in the average processing times from 2009 to 2012 for both scenarios can be explained by the poor integration or synchronization of the new system (Age 54^{+} project) with the old processing system. After 2012, a problem analysis was done at the Trust and the problem of lack of resources (staff and equipment) was identified. The Trust then decided to engage more resources and that saw a drop in the average processing times in 2013 for both groups of claimants.

Statistical test of difference in means of claim processing time

The test of difference (two-tailed test) between the average processing times between claimants cleared under the Age 54^{+} project and those under the old processing system is significant at 5% significance level as shown in Table 2. The two-tailed test, *t-statistic*, was computed as indicated in the following equation:

$$t = \frac{\overline{x}_1 - \overline{x}_2}{SE}$$

where $\overline{x}_1$ is the mean of processing time of claimants under Age 54^{+} project, $\overline{x}_2$ is the mean of processing time of claimants under the old processing system and SE is the standard error. The calculation of the SE took into account the unequal sample sizes of the two populations.

The hypotheses for the test in difference in means are indicated as follows:

$$H_o: \ \mu_1 = \mu_2$$

$$H_{1:}\ \mu_1 \neq \mu_2$$

Where, μ_1: mean claim processing time for claimants cleared under the Age 54^{+} project
μ_2: mean claim processing time for claimants under the old processing system.

[Table 2 about here]

Impact of Age 54+ project on claim processing time

The delays in the claim processing at the Trust, over a long time, gave a bad impression and image about the Trust from the standpoint of claimants. Socially and economically, claimants who have their benefits payment delayed as a result of the lengthy claim processing period become worse off economically. Such claimants, basically, have to rely on their little personal savings before retirement or fall on family members (including children) for upkeep before the payment of benefits by the Trust. However, with the introduction of the Age 54^{+} project, the claim processing time at the Trust was reduced for the same time period of 2009 to 2013. Generally, from 2009 to 2013, the average claim processing time under the Age 54^{+} project stands at 73 days compared to

91 days under the old processing system. This indicates a 20% time savings under the Age 54^+ project as compared to the old processing system. At the same it is worthy to note that prior to the implementation of the Age 54+, the average processing time was 120 days (Social Security and National Insurance Trust, 2001), thus, the 73 days processing time represents a reduction of 47 days (i.e., 39%). This reduction in processing time is highly significant and can lead to an improvement in customer satisfaction. Also, the Age 54^+ project appears to have contributed in improving on the performance of the old processing system by reducing the average processing time for that system from 120 days to 91 days as of 2013, representing a 24% reduction This improvement in the average processing time under the old processing system can be explained by the absorption of pressure on the old claim processing system by the Age 54^+ project. In other words, the efficiency of the Age 54^+ project in a way eased the pressure on the available resources (labour, equipment, etc) of the Trust and improved its capacity. This is a significant benefit in that often, process improvement assessments often fail to recognize the synergistic benefits that accrue form improvement projects. Furthermore, the productivity of the Age 54^+ project relative to the old processing system is reflected in the higher number of claims (41,600) cleared under it as compared to the claim (14,400) cleared under the old processing system for the same time period 2009 to 2013. Again, from Table 2, the p-values for all the mean processing times for the years 2009 -2013 are all less than 0.05. Hence, the test of difference in mean processing times is significant and hypothesis H_1 is supported. The observed data suggests a positive result of the project as claimants cleared under the Age 54^+ project relatively have shorter claim processing time.

Discussion and Conclusions

This study sought to ascertain, if the implementation of a process improvement project at a public sector organization in a developing country led to efficiency and productivity gains and further to use the Lean Operations principles as a lens to decipher how and why the improvements occurred. The project had a single objective of having the data (personal and financial) of all contributors to the Trust – with age 54 years and above – cleansed before the retirement age of 60 years so as to reduce the overall claim processing time from the date of lodgement of claim to the payment date. This adjustment in the claims process is akin to the Lean concept of converting internal setups into external setups (i.e. SMED) in order to reduce the overall process time. Also, the Trust not waiting until the age of retirement before processing of retirement benefits begins but flagging and signalling members who are aged 54 and above for prior processing indicates “a pull” instead of “a push” principle (i.e. Kanban). This has the potential of eliminating waste and ensuring speed in claim processing. The cleansing of the data was aimed at eliminating or reducing data processing errors when people feel rushed to perform activities. The evidence of having completed the Age 54^+ project process is a possession of a “Blue Card” which is required to be submitted to a benefit officer at the time of application for retirement benefits. With regard to Lean concepts, the “Blue Card” represents a Kanban system, in that it signals the readiness of the claims processing task to accept the new claim being presented. The Age 54^+ project is a simple but effective way of responding to the excessive delays, which also represents waste according to Lean principles, in benefits processing at the Trust. The project did not involve a drastic change in the operation of the Trust with respect to claim processing. The philosophy which underpins the project is basically a “Let’s Start in Time” idea and “Let’s Reduce or Eliminate errors prior to the Start of the Claim”.

This has, on the average, reduced the claim processing time at the Trust by 20% compared to the old processing system as of 2013.

The savings of 20% in the claim processing time by the Age 54^{+} project is a significant accomplishment. However, there exists more potential to consolidate the gains and to further ensure savings in the claim processing time. The success of ensuring further savings in the claim processing time would largely depend on improvements in data (personal and financial) capturing and management on citizens or employees which is usually a weakness embedded in developing countries' systems. Again, such data capturing and management systems would be beneficial, if they are digital based. What could potentially help in further ensuring savings is an establishment of an online platform which mediates the interactions between claimants and the Trust on a co-processing principle. Obviously, the problem of illiterates and semi-literate contributors of the Trust poses a challenge. However, such as system has with it an advantage of demand management improvement by having the literate contributors as co-processors while the illiterate and semi-literate contributors are handled by the existing physical interaction system. Besides, collaboration between the Trust and human resource departments and managers of organisations who have members contributing to the Trust could further ensure more efficiencies with the claim processing time. Such collaboration could manifest in the form of education on benefits processing by personnel of the Trust for human resource staffs as well as data and information sharing between the Trust and human resource departments of organisations.

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Table 1- Descriptive statistics of the processing times of the two scenarios

Claimant Category	Min	Mean	STDev	Max
Cleared Under Age 54+	3 days	73 days	57 days	854 days
Old Processing System	7 days	91 days	73 days	1,482 days

Table 2- Test statistics of difference in means of processing times for the two scenarios

Period	Means			Statistics		
	Cleared Under Age 54+ μ_1	Cleared Under the Old Processing	$\mu_2 - \mu_1$	t-statistic	df	P-value
2009	70 days	83 days	13 days	5.947	11,480	$p<0.05$
2010	70 days	90 days	20 days	11.288	12,574	$p<0.05$
2011	78 days	103 days	25 days	12.22	9,572	$p<0.05$
2012	88 days	108 days	20 days	14.764	14,764	$p<0.05$
2013	59 days	73 days	14 days	20.018	10,884	$p<0.05$
Overall (2009 – 2013)	73 days	91 days	18 days	26.656	56,017	$p<0.05$