DESIGNING A PROCESS GUIDELINE AND IMPROVING PROCESSES

by

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Executive Summary

The aim of this report is to provide the reader information about the BPJ 420 year project. A company is selected and problems within the company are identified. The student is required to solve these problems with the knowledge obtained from his/her 4 year Industrial Engineering study course.

Fast ‘n Fresh (FnF) is a leading transport service provider in the Fast Moving Consumer Goods (FMCG) industry. The business was founded in 1992 with only 4 vehicles and has increased up to 200 vehicles in 2007. They are currently still operating at this number of vehicles. Woolworths, their largest customer represents 78% of their services, whereas the other 12% are represented by companies for example, Rainbow and Tiger Brands.

Because Woolworths and FnF work in close partnership to improve performance and processes, Woolworths approached FnF and requested that they introduce a Business Excellence Charter (BEC) into their business. The BEC is a mean to improve business performance within a company.

The problem of the project is described as FnF wanting the student to document their business processes and compile a process manual which can be used for training purposes. In the light of documenting these processes the student must also identify processes which can be improved and give recommendations for improvement.

A literature review was done to study methods and techniques to solve this problem. The best methods to solve this problem were then selected and used to design a solution. A combination of techniques was used to develop a problem solving method for the problem at FnF. This method includes a Capability Maturity Model, Business Process Management and Process modelling tools.

This developed method was then used to solve the problem. The outcome of the solution is also discussed in the report.

To conclude, the problem identified at FnF can now be approached and solved with the problem solving method designed by the student.

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Chapter 1

Introduction

1.1. Background

Fast ‘n Fresh (FnF) is a leading transport service provider in the Fast Moving Consumer Goods (FMCG) industry. They provide controlled, multi-temperature, cost effective distribution services to meet the stringent cold chain and food safety standards of the FMCG market. FnF provides their services to companies like Woolworths, Cadbury, Dairy belle, Rainbow and Tiger brands. They aim to deliver goods on time, at the right temperature, and in the right condition.

The business was founded in 1992 in Cape Town, starting with only 4 vehicles. The fleet has grown to a remarkable 100 vehicles in 1999 and then to 200 vehicles in 2007. They are currently still operating at this number of vehicles. In 1996 Imperial Logistics acquired a 65% stake in FnF and in 1999 they became a wholly owned subsidiary of Imperial. Figure 1 is a graphical representation of Imperial Holdings consisting out of Imperial Logistics and all the sub-services. It also demonstrates where FnF fits into the Imperial Holdings group.

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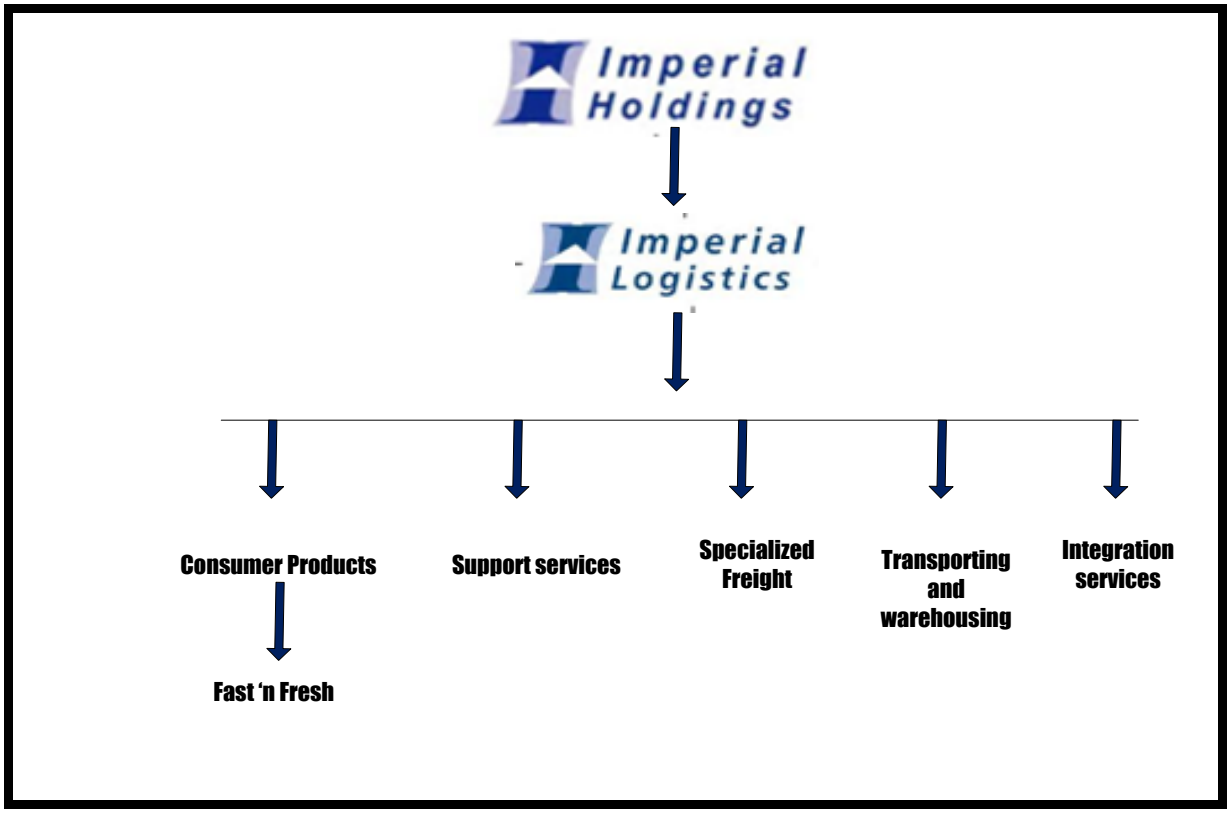

Figure 1: Graphical representation of Imperial Holdings

FnF has depots in Cape Town, Centurion and Durban. The Head Office is located in Cape Town with a full service operations facility in Centurion and a Satellite Depot in Durban. The focus of this project will be based on the Service Operations Facility in Centurion. This facility was first situated in City Deep and has moved to the new Facility in Centurion in 2007.

Their biggest customer currently, is Woolworths representing 78% of the services rendered at FnF. The Woolworths contract has a division solely dedicated to them. This division is run by Frans Brand, the Operations Manager. The remaining 22% is allocated to other customers such as Tiger brands and Rainbow. Due to the fact that BEC is implemented in Woolworths with great success, Woolworths suggested that FNF copy the system to help enhance their delivery and performance. They supplied FnF with a proposed BEC (Figure 2) that will serve as a reference from which FnF will work.

Chapter 2

2.1. Project Aim

The aim of this project is to:

- Document the current processes that FnF use in the company.
- Focus on six processes and make improvements if possible.
- Use these processes to adhere to BEC requirements.
- Compile a User Manual from the documented processes which will be used for training purposes.

2.2. Problem Analysis

Woolworths is one of South Africa's largest retail stores. They deliver to the top and of the market. FnF is their transport provider and because these two companies work in close partnership to improve processes Woolworths suggested that FnF implement the BEC into their company.

2.2.1. The Business Excellence Charter

A BEC is a document to which activity in a company is audited. This document consists out of 4 categories into which these activities are divided: Finance, Operations, Customers and People. These 4 categories then have sub activities and these sub-activities are then audited.

2.2.1.1 .How the auditing process works:

Figure 2 illustrates the proposed BEC by Woolworths. This is an extract from the Operations category and it shows the sub activity of the processes that will be audited. It will be used to explain how the auditing works. For each sub-activity a goal is set. Requirements to reach this performance are then stated. Then there are indicators which are used for the scoring.

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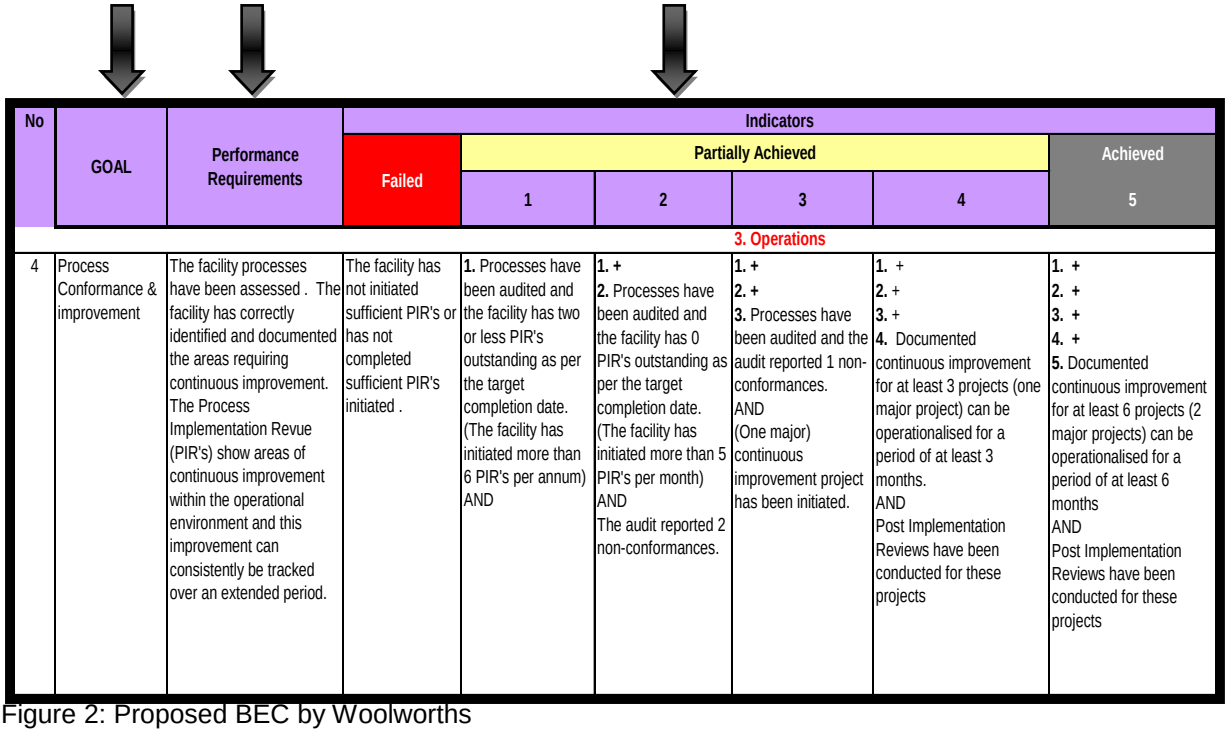

No	GOAL	Performance Requirements	Indicators					
			Failed	Partially Achieved				Achieved
				1	2	3	4	5
				3. Operations				
4	Process Conformance & improvement	The facility processes have been assessed . The facility has correctly identified and documented the areas requiring continuous improvement. The Process Implementation Revue (PIR's) show areas of continuous improvement within the operational environment and this improvement can consistently be tracked over an extended period.	The facility has not initiated sufficient PIR's or has not completed sufficient PIR's initiated .	**1.** Processes have been audited and the facility has two or less PIR's outstanding as per the target completion date. (The facility has initiated more than 6 PIR's per annum) AND	**1. +** **2.** Processes have been audited and the facility has 0 PIR's outstanding as per the target completion date. (The facility has initiated more than 5 PIR's per month) AND The audit reported 2 non-conformances.	**1. +** **2. +** **3.** Processes have been audited and the audit reported 1 non-conformances. AND (One major) continuous improvement project has been initiated.	**1.** + **2.** + **3.** + **4.** Documented continuous improvement for at least 3 projects (one major project) can be operationalised for a period of at least 3 months. AND Post Implementation Reviews have been conducted for these projects	**1. +** **2. +** **3. +** **4. +** **5.** Documented continuous improvement for at least 6 projects (2 major projects) can be operationalised for a period of at least 6 months AND Post Implementation Reviews have been conducted for these projects

Figure 2: Proposed BEC by Woolworths

2.2.1.2. How the scoring process works:

Table 1 shows the scoring of the BEC:

Indicator	Requirement	Scoring
Failed	The first of the indicators explain the reason of possible failure of reaching goal	A scoring of 0 will be given
Process	Certain goals are set to achieve performance excellence. Processes to achieve these goals need to be in place. This indicator will imply if there is a process to reach this goal	A scoring of 1 will be given if a process is in place
Implementation	This will indicate if a process is implemented	A score of 2 is given if the process is implemented.
Measurement	This indicates whether the implemented processes are measured or assessed.	A score of 3 is given if there is measurement of this process
Improvement (Plans)	This indicates which steps will be taken to improve the measurements taken of processes.	A score of 4 is given for improvement plans of this process.
Improvement (Results)	What are the results of the improvement that was taken.	A score of 5 is given if there is evidence of results for these improvements

Table 1: Scoring of BEC

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The different indicators, requirements and the scoring which is given if the particular indicator is in place are illustrated by Table 1. The aim of the BEC is to get all the requirements in place to achieve a score of 5.

2.3. Problem description

FnF is busy getting all of these requirements in place in order to adhere to the requirements set in the BEC. Figure 2 (an extract from the BEC) shows the Operations category with a goal defined as: Process conformance and improvement. Thus the problem is identified as FnF wanting to improve processes in order to adhere to the requirements of the BEC.

Together with the improvements FnF also wants their processes documented. These documented processes must then be transformed into a manual which will assist employees of FnF to do all processes, even though they're not trained to do so. The manual must also serve as a tool for training purposes.

The division run by Frans Brand is included in this project which is all the services given to Woolworths. There is in the region of about 50 processes to be documented.

2.4. Deliverables

With the completion of this project, processes at FnF must be documented and where possible improvement must be made and implemented. This documentation will be transformed into a Process Guideline. This manual will be used for training purposes.

Chapter 3

Literature Review

3.1. Introduction

This literature review consists of possible solutions in which the problem described can be resolved. The problem is that FnF wants to document and make possible improvements to all of their processes. The aim with documenting the processes is also to maintain a good standard of processes within the company. Only some processes are currently documented. All processes need to be codified and also be analysed and if there is any possibility of improvement of the performance of the processes, changes must be made and implemented.

Research was done on the methods and techniques that can be used to manage the processes and familiarise the students with techniques on how the processes can be documented. These methods will be useful in the solving of the current problem at FNF.

3.2. Possible Methods/Tools/ techniques to solve the problem

3.2.1. Business Process Management (BPM)

Computer Science Corporation (2002) defines a Business Process as a set of activities which gives value to the customer. The Business Process represents the end-to-end flow of materials, information and business commitments. A process can have both automated and manual activities.

Documenting processes has become an important initiative for many Organisations. The advantage that lies in identifying, understanding and evaluating key business processes to determine their effectiveness in meeting objectives set by a company has been recognised for some time. A common approach to capture information about business performance is by developing end-to-end process flow. End-to-end can have different meanings to different parts of an organisation. For the Head of Department it means to view a business process from the time it enters the Department until it is finished or handed to the next Department. For a Division Executive it might include all processes from all the Departments (Lusk, 2006).

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BPM is defined as a disciplined approach to identify, design, execute, document, monitor and measure automated as well as non-automated business processes. This is to align resources to organisations strategic goals by achieving consistent targeted operational results. It involves defining, improving, innovating and managing end-to-end business processes that drive business agility. BPM is a method by which an enterprise aligns its processes to the strategy of the business. This then leads to optimisation of the overall company performance through improvements across specific departments or corporations (Lusk et al. 2005:5-6).

Jeston and Nelis (2006:50-51) developed a framework for the implementation of BPM.

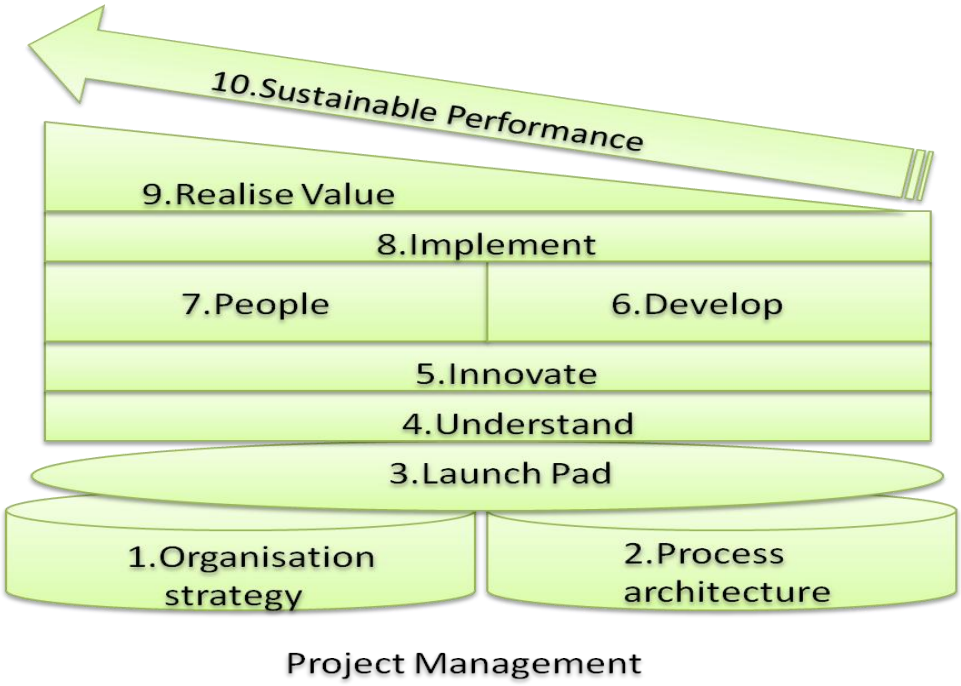

Figure 3: BPM Framework (Jeston &Nelis,2006)

1. Organisation strategy. This includes the understanding of vision, strategy, goals and business drivers of the organisation.

2. Process architecture. Process architecture is the way guidelines, models, rules and principles are established. Here Information Technology, Business architecture and processes align with the strategy of the organisation.

3. Launch Pad. Here the team determines where to start with the BPM project. The project team also agree on goals and a vision for selected processes. This is then the establishment of the selected project.

4. Understand. This phase is about understanding the current business process environment. Because this phase leads to the next phase of Innovation, one needs to have the basic knowledge and understanding of how processes work before you can build upon them. Basic process metrics need to be gathered for establishment of process baseline costs for future comparative purposes.

5. Innovate. Simulations, complete activity- based costing, implementation feasibility are conducted on process options to finalise which of the options are best.

6. Develop. This entails the building of components of new processes for implementation. This can involve IT building or the building of Infrastructure to support the changes that affects the environment around the process.

7. People. The effectiveness and efficiency of the process relies on the people behind the process. This phase is to ensure that the activities, responsibilities, roles and performance measurement are in line with the organisation strategy and goals.

8. Implement. This is the role-out of new processes, new role descriptions, performance management, measures and training.

9. Realise value. The benefit outcomes which were outlined in the start of this project need to be realised. This phase is about the delivery of the benefit realisation management process and benefits realisation reporting. If the benefits are not realised no more funding should be spent on project.

10. Sustainable performance. This phase entail continuous process agility and improvement. (Jeston and Nelis,2006:53-55)

A small pharmaceutical manufacturer of multivitamins, antibiotics, syrups and OTC medicines for children, located in a large African city, also wanted to improve the processes in their company for better satisfaction to their customers. Samuel Okora is the CEO of Leapfrog Alliance Ltd, a consulting firm that helps organisations to improve quality and reduce costs through better business processes. According to Okora (2006) five steps to adopting a Business Process Approach can be done which can be related to services.

Before approaching these 5 steps customers identify the benefits they want delivered. Then the steps are approached:

1. Determine the value chain that delivers the best benefits

Benefit information can be formed into benefit clusters. These benefits are traced back from services through to the inputs. The identified path forms then your core processes.

2. Decompose into processes and deliver the processes.

Here the core processes and the sub-processes need to be determined. The processes are listed and each major process is broken down and then the sub-processes can be identified. This can be done using the following steps:

- Brainstorm the necessary results for the process
- Link processes so that the output of one forms the input of the next
- Note the steps within the relationships, one to one, one to many etc. All the one to one will form the sub-processes.

3. Select appropriate metrics based on critical success factors for the identified processes and overall strategy.

Choose critical factors that drive delivery of customer metrics and decide on performance indicators. Each of these indicators must have targets for measurement. There must be a line between the overall organisational measures and the detailed measures at process level.

4. Appoint process owners for the core processes.

The job of the process owner is to manage the critical areas of improvement

5. Begin a never ending improvement cycle of business process improvement.

With the use of certain techniques such as process diagrams, value maps and metrics areas of opportunity for improvement can be identified.

3. 2.2. The Value Chain

Every firm is a collection of activities that are performed to, design and market, deliver and support its product or service. These different activities can be represented by using a value chain. The value chain and the performance of the activities within an organisation reflect the organisations history and strategy, its approach to implement its strategy and the underlying economics of the activities themselves (Porter,2004:36-48). Below is an example of a value chain.

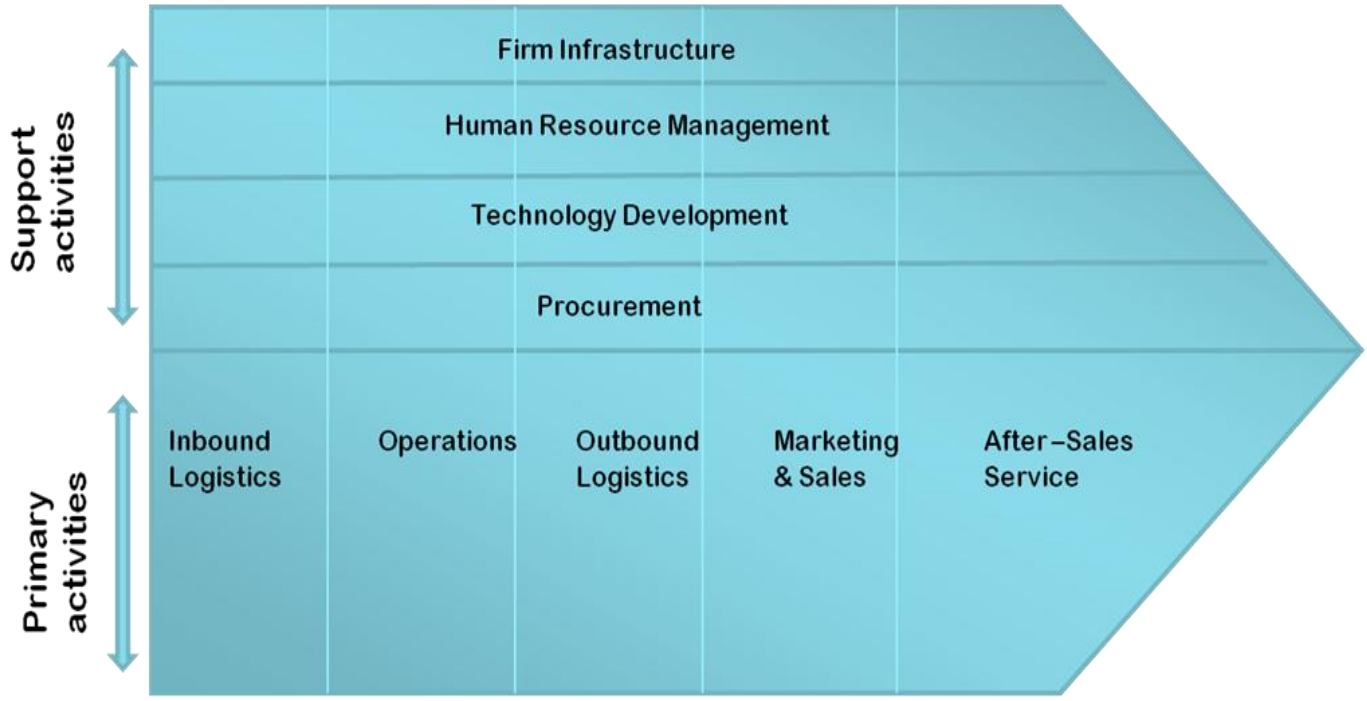

Figure 4: Value Chain with Support and Primary activities

The Value Chain is divided into Support and Primary activities. Support activities include the:

Firm infrastructure: Including activities such as general management, planning management, legal, finance, accounting public affairs etc.

Human Resources (HR): Activities associated with recruiting, education, retention and compensation of employees and management.

Technology Development: Technology development to support the value chain activities such as design and research and development.

Procurement: The procurement of raw materials, servicing machines etc.

The Primary activities are:

Inbound logistics: Receiving, storing, inventory control and transportation scheduling.

Operations: Value creating activities that transforms the input into desired output.

Outbound Logistics: Activities required to get the output to the customer. (Order fulfilment, distribution management)

Marketing & Sales: Activities to sell product/service to customer. This includes advertisements, promotions and channel selection.

After sales service: Activities that enhance product or service value such as customer support and complaint resolution.

All activities a firm executes should be captured in a primary or support activity. When designing organisational structures, the value chain plays a valuable role. Certain activities are put together under organisational units, and these groupings are then combined together under a certain department because if similarities they have. (Porter, 2004:59)

3.2.3. Process mapping as a tool to document processes.

Process mapping is a workflow diagram which brings forth a clearer understanding of a process. The idea is to use diagrams to understand the processes that are currently used. Questions can be asked like: “What is expected of the process?” and “What should change give to have better customer focus?”

Ahoy (1999) illustrates how to construct a process flow chart with 7 steps.

1. Determine the boundaries.
    i. Where does the process begin?
    ii. Where does the process end?

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2. List the steps.
    i. Use verbs to start task description.
    (One can show detailed descriptions or sufficient information to understand flow)
3. Sequence the steps.
    i. Use post it notes to move tasks around
    ii. Leave the arrows until later

4. Draw the appropriate symbols.

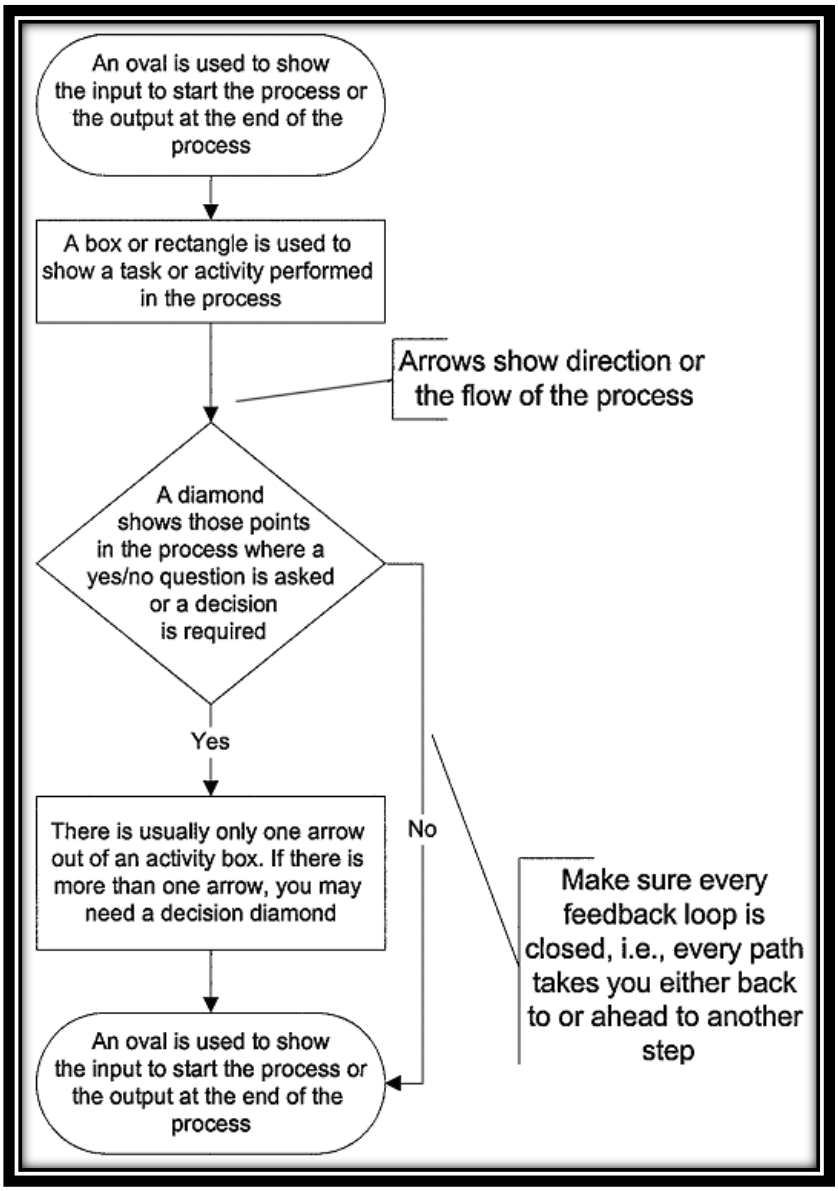

Figure 5: Symbols for flowcharts (Chris Ahoy, 1999)

5. System model.

    i. Draw chart using system model approach.
    ii. Input- Use information based on people, materials etc.
    iii. Process- Use subsets of processes.
    iv. Output- Use outcomes or desired results
    v. Control- Use best in class business results
    vi. Feedback- Information from surveys/feedback
6. Check for completeness.
7. Finalise flowchart
    i. Does process run the way it should?
    ii. Are people following it as charted?
    iii. Is there a consensus
    iv. What is redundant? Add what is missing.

3.2.4. Swim lane diagrams as a tool for mapping processes.

A swim lane diagram as illustrated if Figure X is a diagram where compound parts of processes are located on a lane according to who is responsible for that process. The same principle as process mapping described above can be followed in the case of the swim lane diagram. The outcome will just be in a different format.

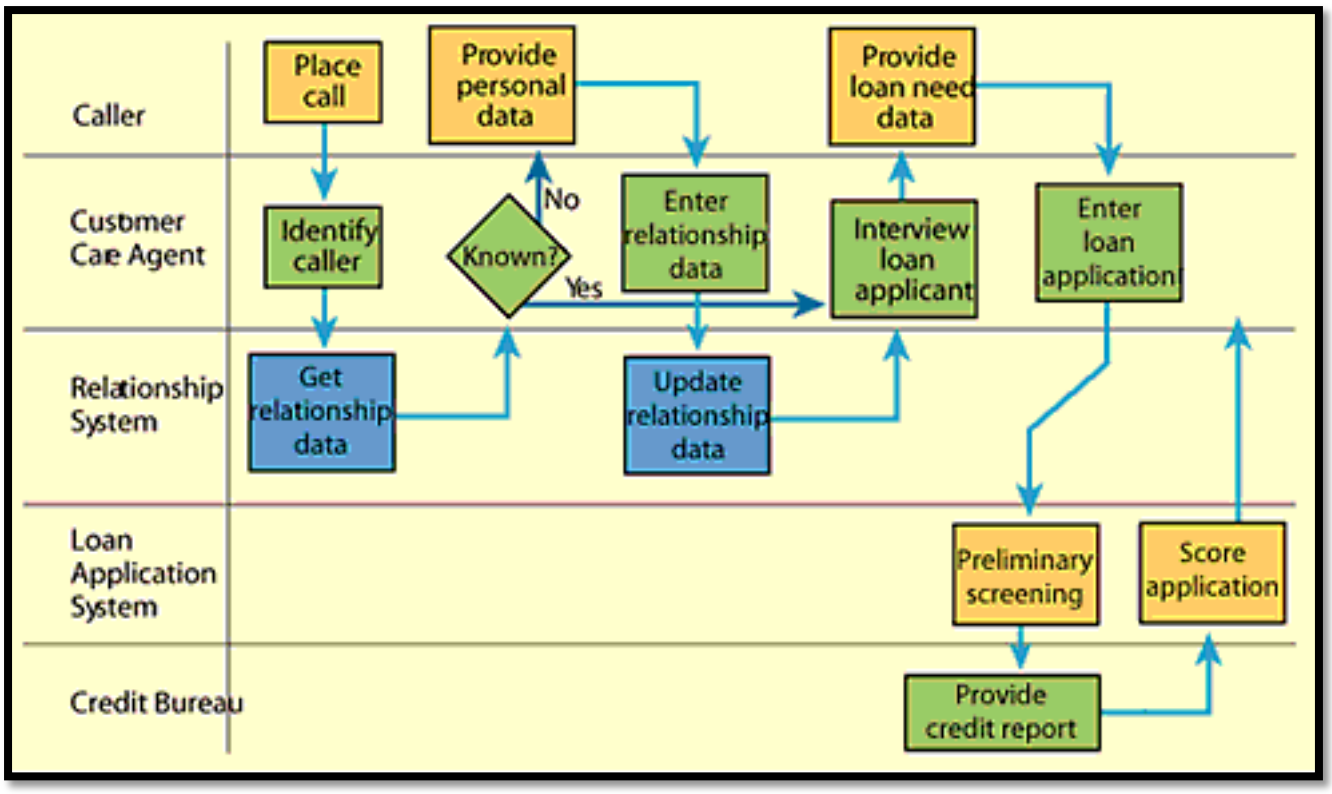

Figure 6: Example of swim lane diagram (http://www.inastol.com)

3.2.5. Capability Maturity Model

The Capability Maturity Model (CMM) is a process improvement approach that provides organisations guidance to improve their performance. In this case it would be the process performance of FnF. (http://www.sei.cmu.edu/cmmi/)

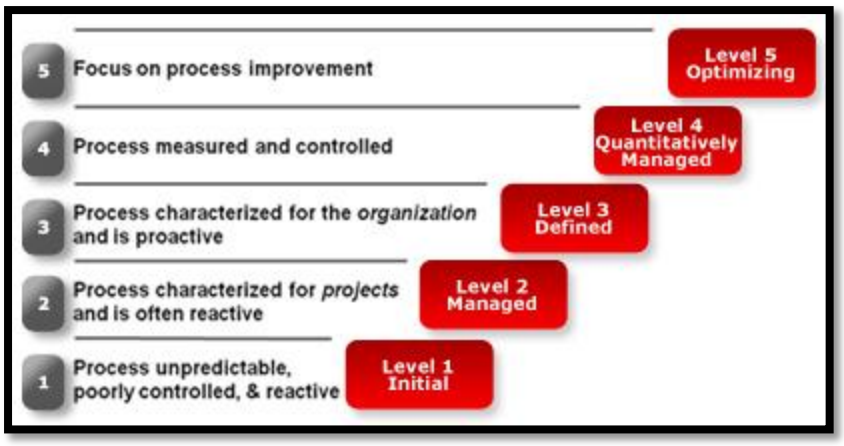

Figure 7: Levels of CMM

Description of the levels of the CMM:

Level 1 (Initial): Processes are usually ad hoc. There is no stable environment to support the processes. The success of the processes depends on the competence of people in the organisation and not the use of proven processes. They deliver products and services that work but frequently exceed the budget.

Level 2 (Managed): Processes in the organisation are planned and executed in accordance with policy. Process disciplines that are reflected by level 2 ensure that existing practises are retained during times of stress. The product and services which are delivered satisfy the specific process descriptions and procedures they were developed for.

Level 3 (Defined): Processes are understood and characterised, and are described in standards, procedures, tools and methods. The standardised processes is established, improved over time and used to establish consistency across organisation.

Level 4 (Quantitatively managed): Quantitative objectives for quality and process performance are established. These objectives are used as criteria in managing processes. At level 4 the performance is controlled using statistical and other quantitative techniques and is quantitatively predictable.

Level 5 (Optimization): The organisation continually improves its processes based on a quantitative understanding of the common causes of variation inherent processes. The focus is on continuous process performance improvement through innovative incremental process and technological improvements. The organisation addresses common causes of variation and changes processes to improve process performance.

This tool can be effective in determining at what level the company is running presently. This will give the company a general idea on where they are now, and give indication if they need to take action to reach the next level, and in the future work it to level 5.

3.2.6. Determining Metrics to test process performance.

In order to improve a process, the process has to be measured to a specific standard or metric. Otherwise if there is no standard to compare the performance to the organisation they would not know if improvement was achieved. Jeston and Nelis (2006:134-135) gives examples of types of metrics which can be considered in measuring processes. These include:

- Process times for major processes, particularly date sensitive activities.
- Error numbers and types
- Volumes and values of various transaction types
- Overtime/casual/contract hours worked
- Labour cost for key positions
- Percentage of time spent on out of scope processes
- For quality or effectiveness measure the efficiency, adaptability, cost, and time and customer satisfaction.

3.3. Methods/Tools and techniques currently used at FnF

This implementation of the process guide is a part of the FnF strategy for 2010. They also have another project running, which is implementing a new transport management system. A user manual is also being developed for that system. There are no metrics to which they are measuring individual processes that are being documented, so there are no means to which improvement can be made or tested.

3.4. Methods and techniques that will be used

The CMM will be a technique to determine the levels of maturity within the project we are working at. This can indicate the direction project is aiming at.

BPM will be used for the documenting and the approach to the improvement of processes. A conceptual design will be developed from this methods studied in the literature review.

BizAgi Process modeller or Microsoft Visio can be used to document the processes.

Chapter 4

Conceptual Design

4.1. Methods and Techniques selected to develop a problem solving method

- The CMM will be used to indicate the level to which this project is aiming.
- BPM will be used to form a methodology by which the student will approach the solving of the problem.
- The Swim lane approach will be the technique used to make the flow diagrams for the processes.
- Technology to be used: BizAgi Process Modeller will be used to model the processes. Microsoft Word will be used for the final assembling of the User Manual.

4.2. Solution to documentation of processes

BPM will be the main problem solving tool for this project. Considering the framework of BPM by Jeston and Nelis (2006), only the first 4 levels, organisation strategy, process architecture, launch pad and understand, will be included for this project. Most focus is placed on the Understand level. By understanding all processes it is easy to document them as complete end-to-end processes

4.3. The developed steps

To solve the problem of documenting processes the work studied in the literature review were used to develop steps to understand and document processes. The steps are:

1. Determine the Value Chain

2. Decompose into processes

In this step the as-is processes will be identified and understood. How processes are done by operators will be written down.

This entails the student to sit down with the operators and write down step by step the process which is executed.

3. Deliver Processes

This step will be a summary of the designing and modelling of the processes.

- Designing: How the layout of the processes will look

- Modelling: Sequence of processes actually done in BizAgi. Here Chris Ahoys' (1999) illustration on how to construct a process flow chart will be taken into consideration.

a) Boundaries will be determined.
Where the process begins and where it ends.

b) Steps of process will be listed
Detailed descriptions will be used to describe tasks, and inserted into their appropriate symbols .

c) Steps will be sequenced
Steps will be organised in the way the process flows, and arrows will be used to indicate the direction of the flow.

d) Check for completeness
Make sure that there are no gaps in the processes.

4. Execution

Processes will be tested to see if the processes are followed as documented, and to see if any problems arise. (If Problems did arise, the step will be re-evaluated and the problem must be corrected)

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The problem can be tested with operators that are unfamiliar with it.

5. Print the processes
   The processes will be transformed into a Process Guideline using Microsoft Word and then printed and combined.

6. Implementation of Process Guide
   Process Guide will be handed to FnF for future usage.

4.4. Solution to approach for improvement of processes.

Processes need to be identified for improvement. Due to time constraints only 3 processes will be analysed to see if there is a possibility for improvement. The improvements will not be implemented due to time constraints. Processes identified for improvement and the metrics to which it will be measured, will be identified and recommendations to what can be changed will be given to FnF.

1. Processes which can be improved will be identified during the documentation of processes. While busy studying, understanding and documenting the student will be able to see if changes and improvements can be made. Those processes which can be improved will be marked and further studied can be done in order to see how improvements can be made. Not all the processes will be able to be improved because they are standard processes like capturing data on a system. It is impossible to change those sequences of that processes. This step is just to separate processes that can be improved from those that can't.
2. Metrics to which processes can be measured will be determined.
3. Final processes for improvement will be selected.
4. Measurements will take place.
5. Recommendations for improvements will be given.

Chapter 5

Application of problem solving methods

5.1. Application of CMM.

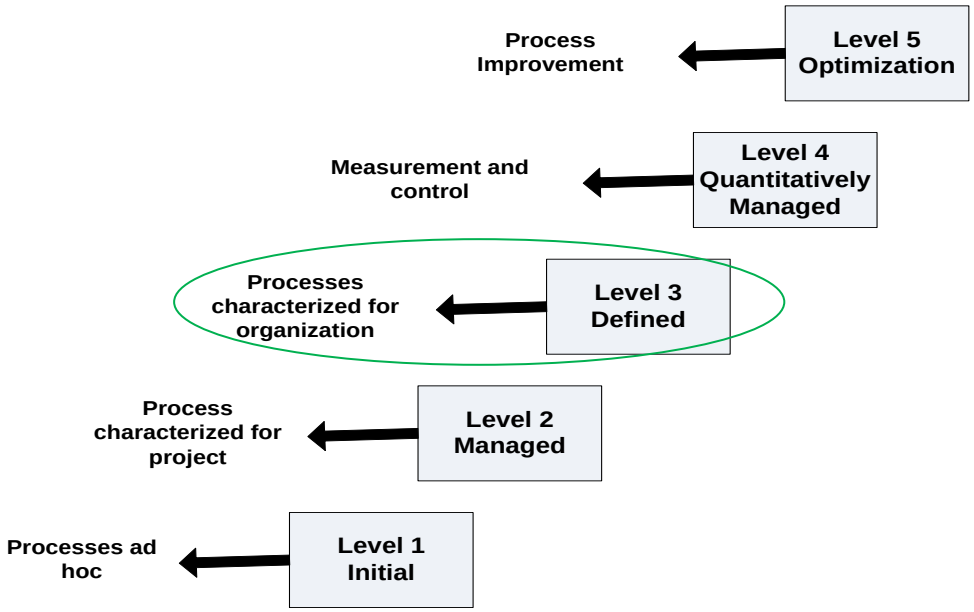


Figure 8: CMM for processes

With the knowledge gained from the literature study with regard to CMM the aim of this project is to get FnF to be at level 3 which is described as: Processes are understood and characterised, and are described in standards, procedures, tools and methods. The standardised processes is established, improved over time and used to establish consistency across organisation. The aim is to get FnF to a level where all the processes are understood by everyone, and then to approach the improvement of these processes.

5.2. Application of problem solving method for documentation of processes

Following is a discussion of the BPM levels 1 -4 that was used:

FnF Strategy

FNF exists to make our customers more competitive!

Included in their strategy for 2010, FnF are implementing a new system, the Transport Management System (TMS). They are also implementing the BEC mentioned in Chapter 1. The documenting and approach for process improvement are part of this strategy

Process architecture

Principles and rules considering processes were established when processes were first implemented with the starting of the company. It is not necessary to determine principles or rules for processes because no new processes will be implemented. Rather the existing processes will be documented.

With the new TMS being implemented process architecture is covered by another project that is currently running at FnF. A user manual consisting of all processes relating to the TMS system are covered in this manual.

Launch Pad

The goal with this project is to conduct a process guideline, which consist of processes covered in the value chain. Then with all knowledge gathered from documenting these processes, an approach to improve these processes can be developed.

Understand

It s clear that the understand level are mostly about understanding the processes.

Following is the application of the developed steps for the understanding and documenting of the processes

1. Determine the Value Chain

Figure 9: FnF Value Chain

Processes to be documented are divided into four departments, HR, Administration, Operations and Workshop. When considering the Value Chain and these departments it was determined that the departments Administration goes under the Firm infrastructure, HR under HR, and Worksop and Operations under Operations.

2. Decompose into processes

   The Value chain is decomposed into the different processes that falls under each department. The student sat down with the operator and wrote these processes step by step as the operator did it. Below are lists of the end-to-end processes.

Processes for HR include:

- Recruitment
- Induction
- Disciplinary
- Training and Development
- Performance Management
- Policy and procedure
- Employers Equity
- Payment of salaries

Processes for Workshop include:

- Work orders
  - Orders with requests
  - Orders without request
- Receiving Purchase Orders
- Fleet Maintenance
- Lubricant usage
- Capturing Materials for Repair
- Washing Trucks

Processes for Admin Include:

- Pula procedure
- Foreign Requisition forms
- Reimbursing Pula
- Petty Cash Procedure
- Reimbursing Petty cash
- Fine procedure
- Great Planes procedure
- Creating Purchase Order
- Capturing Purchase Order
- Processing Invoices

Processes for Operations include:

- First information of claim
- Fine Procedure
- Workshop Vehicles
- Checking trip sheets
- Capturing of trip sheets
- Filing of trip sheets
- Signing of Km
- Key nuggets
- UPN Trip reports
- Food reports
- Store deliveries
- Supplier Collections
- Dispatching Procedure

3. Deliver Processes

Design:

Two designs (Appendix A) were created, one in Microsoft Visio and one in BizAgi Process Modeller. They were presented to Frans Brand and he considered the one done in BizAgi to be the better one of the two.

The design will therefore be done in BizAgi and will be presented as follows:

Processes with more than 1 operator will be modelled in a Swim lane format. Other processes will be modelled in normal flow diagram format.

In Figure 10(Process with one operator) the blue arrow will indicate the name of the process which is modelled and the person who is responsible for the process.
The block indicated with the orange arrow, indicates the process itself. This means where the process starts (Green circle), each step that should be taken (Blue blocks) and where it ends (Red circle).

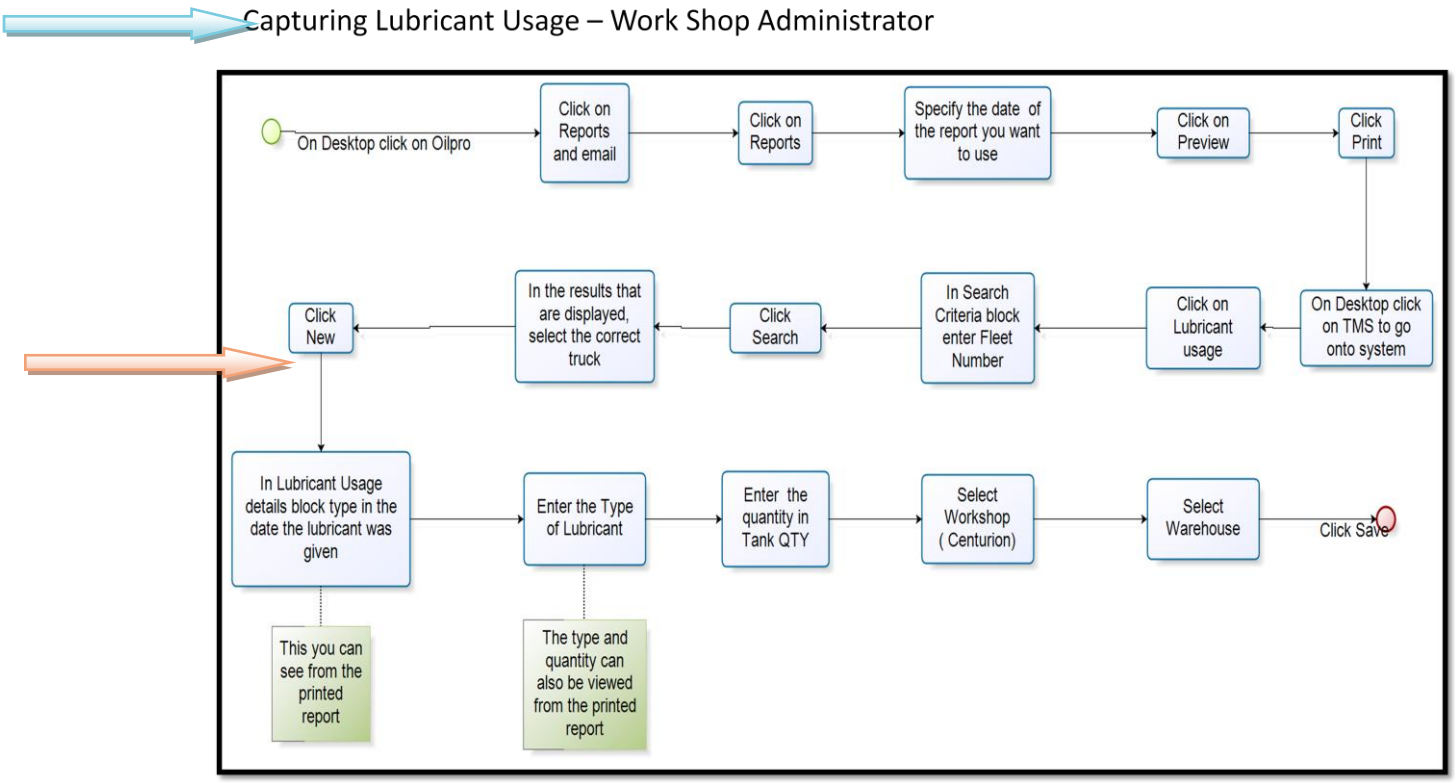


Figure 10: Example of process with 1 operator: Capturing Lubricant Usage

Figure 11 illustrates a process with more than one operator. The orange arrow shows the process and the blue arrow indicates which persons are responsible. The green arrow shows the process which were documented.

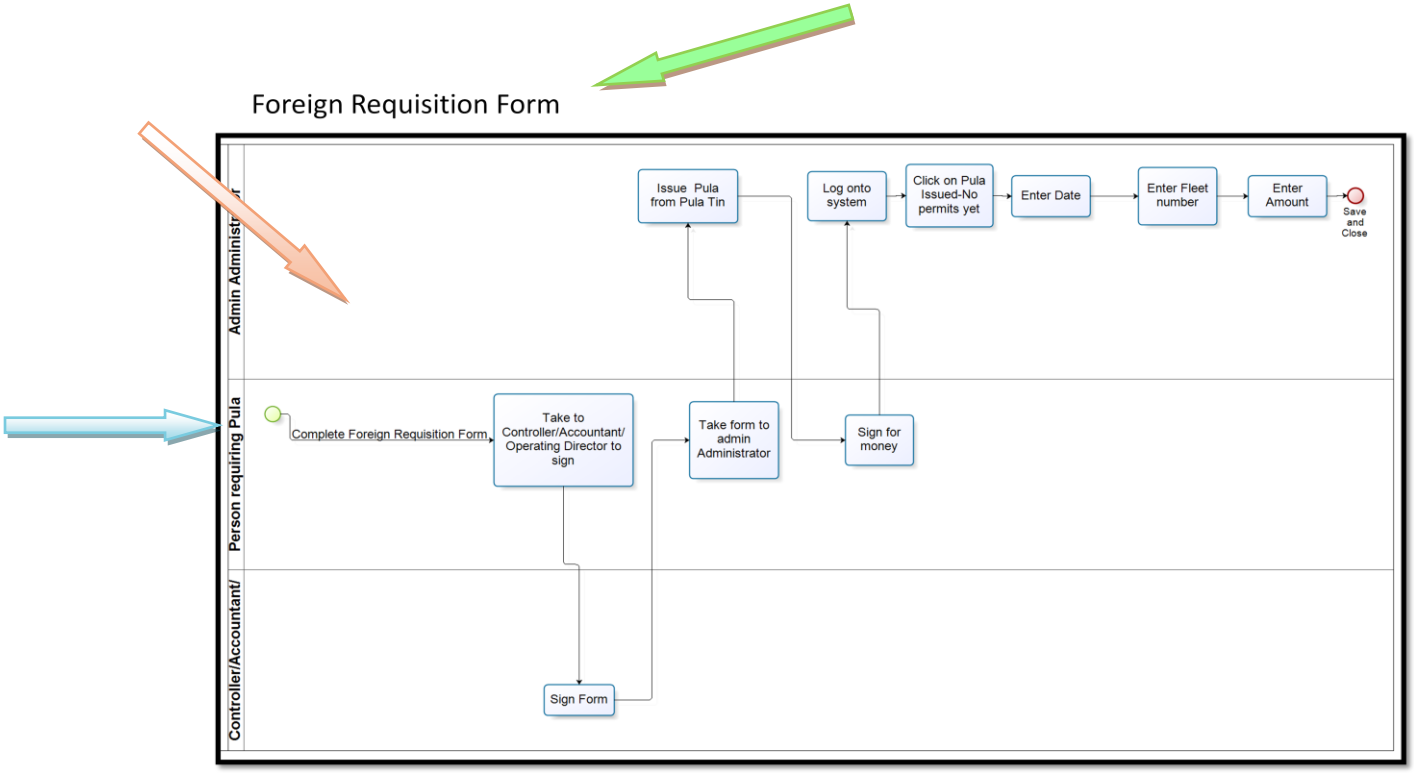


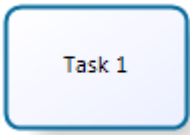
Figure 11: Process with more than 1 operator: Foreign Requisition form

Modelling:

The processes that were written down were modelled by using the approach described in the development plan:

The beginning and end of the process were identified. A detailed description of each step of the processes was entered into the appropriate flow diagram blocks. Diagram blocks used are illustrated as follows:

Start event



Task

End event

Decision

This block is used to give extra information about process

The diagram blocks were arranged in their correct sequence and the direction was indicated with an arrow.

The process begins in the left top corner and moves to the right, and then it flows as indicated by the arrows until it ends.

4. Execution

   Student went through processes to see if the process is executed as documented. Changes were made where necessary.

5. Print the processes

   Final processes were used to assemble the Process Guideline. The document was then printed. See attached Guideline.

6. Implementation of Process Guideline.

   Guideline Handed to FnF for training of new employees. This guideline can also assist current employees, if they need to do the work of someone who is absent from work. It can guide them on how to perform the work, if they are not trained to do it.

5.3. Application of problem solving method for the approach to improvement of processes

Processes chosen to analyse for improvements were:

- The washing of trucks
- Induction
- Policy and procedures

5.3.1. Washing of trucks:

The truck wash process was selected and analysed to determine if improvements can be made. Metrics selected to measure the process were time and cost.

A truck consists out of a horse, and trailer. It takes 15 minutes for four operators to wash a truck inside and outside (Measurements were taken by FnF). This is when one operator cleans inside the trailer, two operators wash the trailer outside and one operator washes the horse. FnF are currently washing trucks with this option.

Time measurements were taken for different alternatives of operators. Figure 12 illustrates the 6 alternatives. The washing of trucks has boundaries from 10 minutes to 20 minutes. If washing takes longer than 20 minutes or less than 10 minutes it is not acceptable. The reason for these boundaries is that if it takes longer than 20 minutes all trucks that need washing won't be washed. If it takes shorter than 10 minutes the operators will have too much idle time. The total man hours (time it takes the operators to finish washing) were calculated.

	Alternatives	Currently	Time	2	Time	3	Time	4	Time	5	Time	6	Time	7	Time
Trailer	Out side	2	15	1	30	2	15	1	30	1	30	4	10	3	12
	Inside	1	15	1	15	2	10	2	10	2	10	2	10	2	10
Horse	Out side	1	15	1	15	2	10	2	10	1	15	2	10	2	10
	Total operators	4		3		6		5		4		8		7	
	Time	15		30		15		30		30		10		12	
Man hours per truck (minutes)		60		90		90		150		120		80		84	

Figure 12: Excel Spreadsheet of different alternatives

University of Pretoria

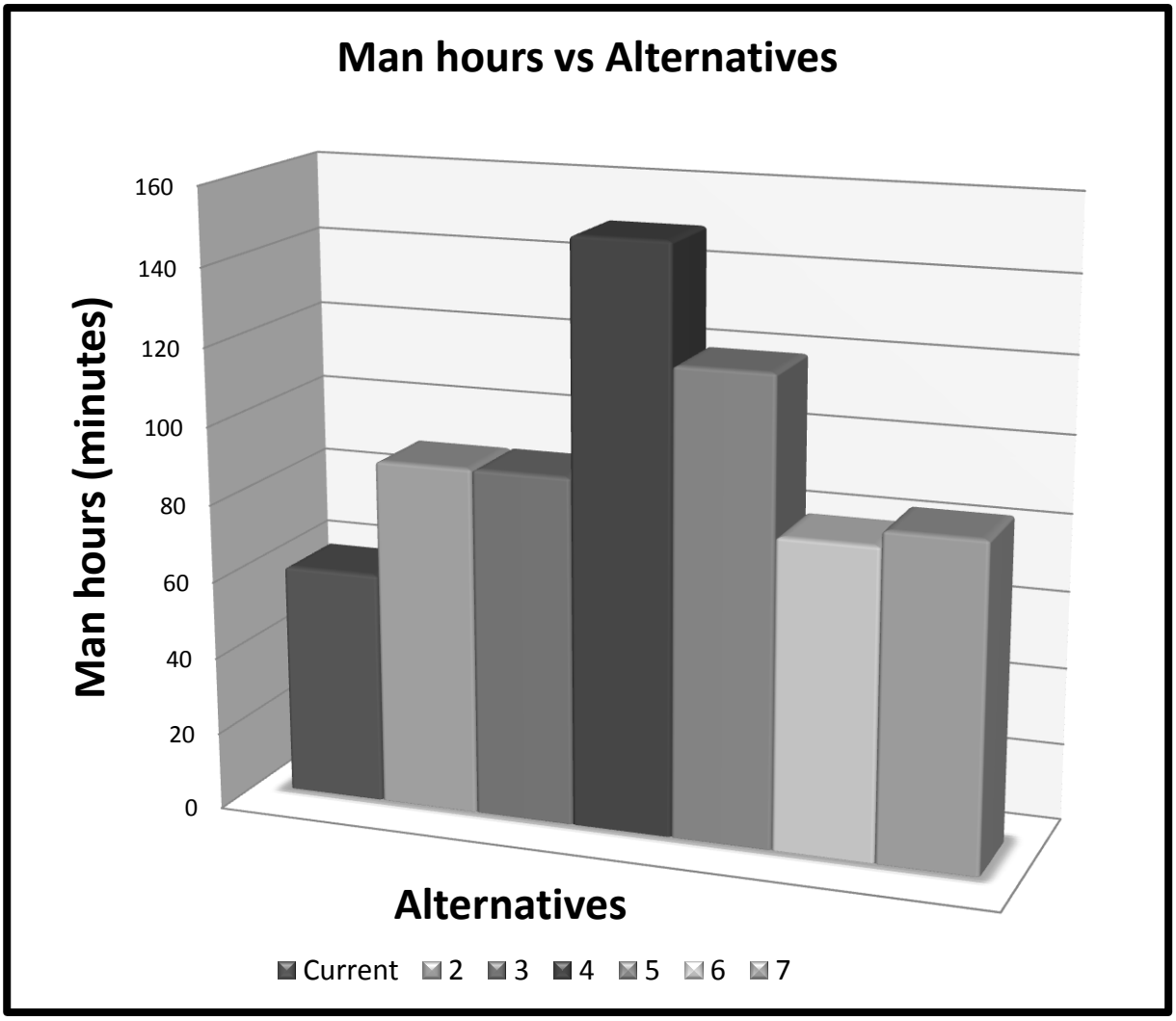


Figure 13: Alternatives vs. Man hours

From Figure 12 and Figure 13 it is evident that the way FnF are washing their trucks is optimal when considering cost. The man hours per truck are 60 minutes. Man hours were calculated as:

Total Operators x The Max time for an operator to finish

It takes 4 operators to wash the truck so 4 operators will have to be paid. When considering for instance option 1 with 3 operators, it will take longer to wash the truck and the time is out of the boundary. Fewer operators will be paid but all trucks will not be washed. When considering option 5 with 8 operators, the cleaning will be very quick, but there will be too many operators to pay. When operators are idle too much money will be spend on payments to operators being idle.

This concludes that no improvement in the washing of trucks (considering number of operators) can be made, but this analysis states that FnF are working at minimal cost for washing their trucks.

5.3.2. Induction

The Induction process was also selected for analysis.
When looking at this simple process in Figure 14 there is no measure in which the person who went through induction are measured to. Thus FnF doesn't know if their induction is really successful or helpful to the new employee.

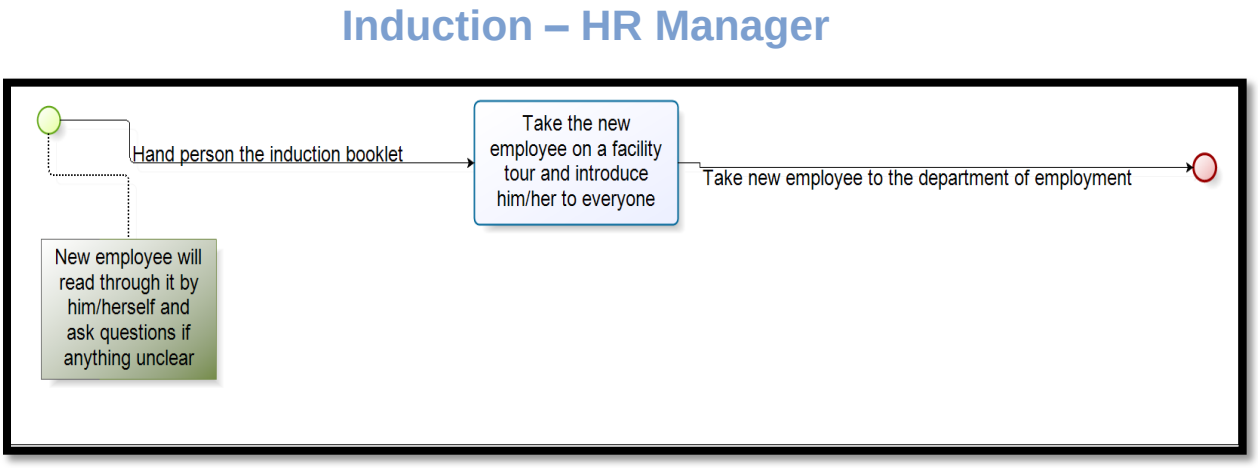


Figure 14: Current process for Induction

For improvement of this process a recommendation will be made to FnF. After the person worked through the induction book and had a tour across the facility, FnF can implement an induction test to see if the new employee understands all that he/she has learned about FnF. Figure 15 shows the proposed new process for induction:

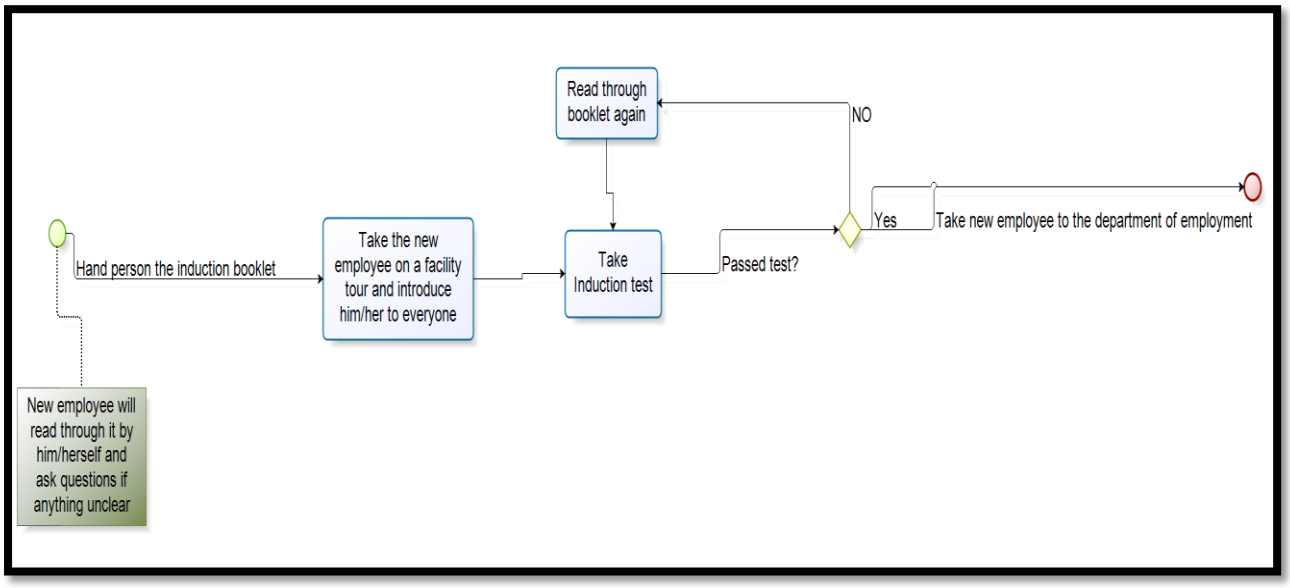


Figure 15: Proposed Induction Process

The person will look through the induction booklet and have a tour around the facility. Then he/she will do an induction test. If he/she passes one will know they understand the facility and all activities around facility and they can start work. Otherwise if they fail, it concludes that they don't understand and they will do induction again. This will make the induction process more effective. It will also contribute to the new employees' knowledge about his new working environment.

5.3.3. Policy and procedure

The policy and procedure process were analysed to see if there is possibility for improvement. Figure 16 illustrates the current process.

Policy and Procedure-HR Manager

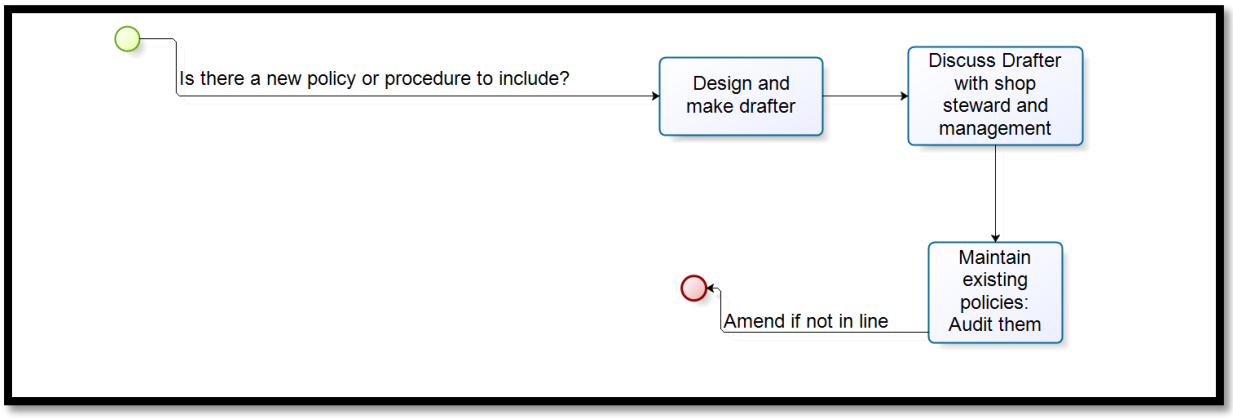


Figure 16: Current Policy and Procedure Process

For the Policy and procedure the following recommendation was made. FnF can implement a Scorecard to measure the new procedure (A new Policy would not be measured, only applicable for procedures) after it has been designed. Instead of just implementing a new procedure it will first be measured to certain metrics such as: will workforce adapt to the new procedure? Figure 17 illustrates the scorecard with suggested metrics to measure.

Scorecard		Very bad	Bad	Good	Very Good	Excelent
		1	2	3	4	5
1	Acceptable					
2	Performance					
3	Will the workforce be able to adapt to the new procedure					
4	Feasibility					
5	Cost effectiveness					

Figure 17: Proposed Scorecard for Policy and Procedure process

Figure 18 shows the new proposed process. After the design the procedure can be measured and if it is according to the standard (Determined by FnF) the HR manager can discuss it with his people.

Policy and Procedure-HR Manager

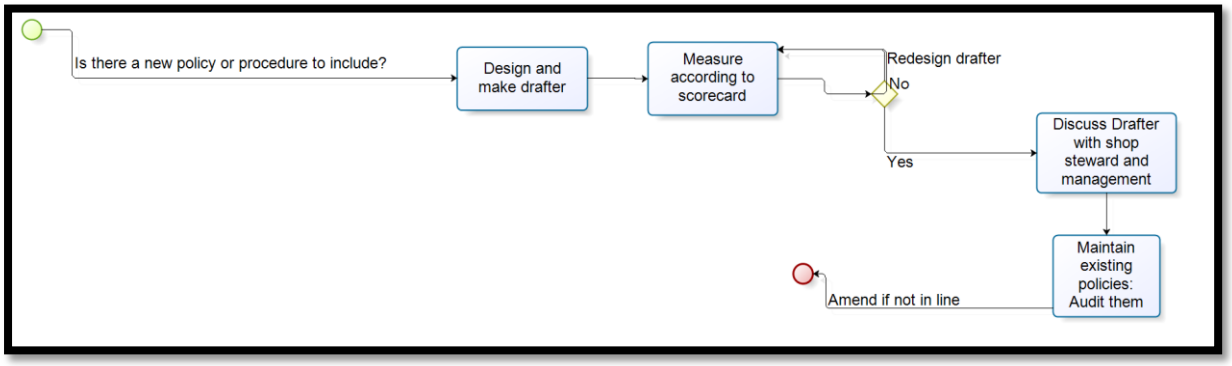


Figure 18: Proposed Policy and Procedure Process

This improvement will contribute to the standard of new procedures being implemented at FnF.

Chapter 6

6.1. The contribution this project will make to FnF

The implementation of the user manual will save time and money. Firstly, time can be saved in the sense that if an operator should do another operators work, no one will have to take time to show the operator how to do the process, he can just use the manual. Secondly, money can be saved in the sense that less money will have to be spent on training of new employees.

The contribution this project made when considering the improvements are: With the analysis of the truck wash FnF can confirm that the trucks are being washed at minimum costs.

The recommendation of the induction process can make the process of induction more effective. This can be a future improvement FnF can take into consideration at their organisation.

The recommendation to the Policy and Procedure Process can improve the standard to which new procedures are being implemented.

6.2. Conclusion

After an in depth description of the problem at FnF the student has researched techniques, tools and methods to solve the problem described. This research information was obtained from the reading of journals, articles and web pages. The techniques and methods were studied and a good understanding of each had to be obtained. Then the best methods and techniques from the researched have been selected to solve the problem. These selected methods and techniques were used to design a solution for the problem. This design includes the use of a CMM, BPM, Standardising method, Process Modelling tools. Technology included is BizAgi and Microsoft Word.

The developed solution was used for problem solving. Processes were documented and a Process manual were conducted (See Attached Guideline). Processes that have potential to

be improved were selected. These processes were analysed and recommendations was made.

To conclude, the best methods and techniques to the students knowledge has been used to design the best solution possible for the problem identified at FnF.

7. Glossary

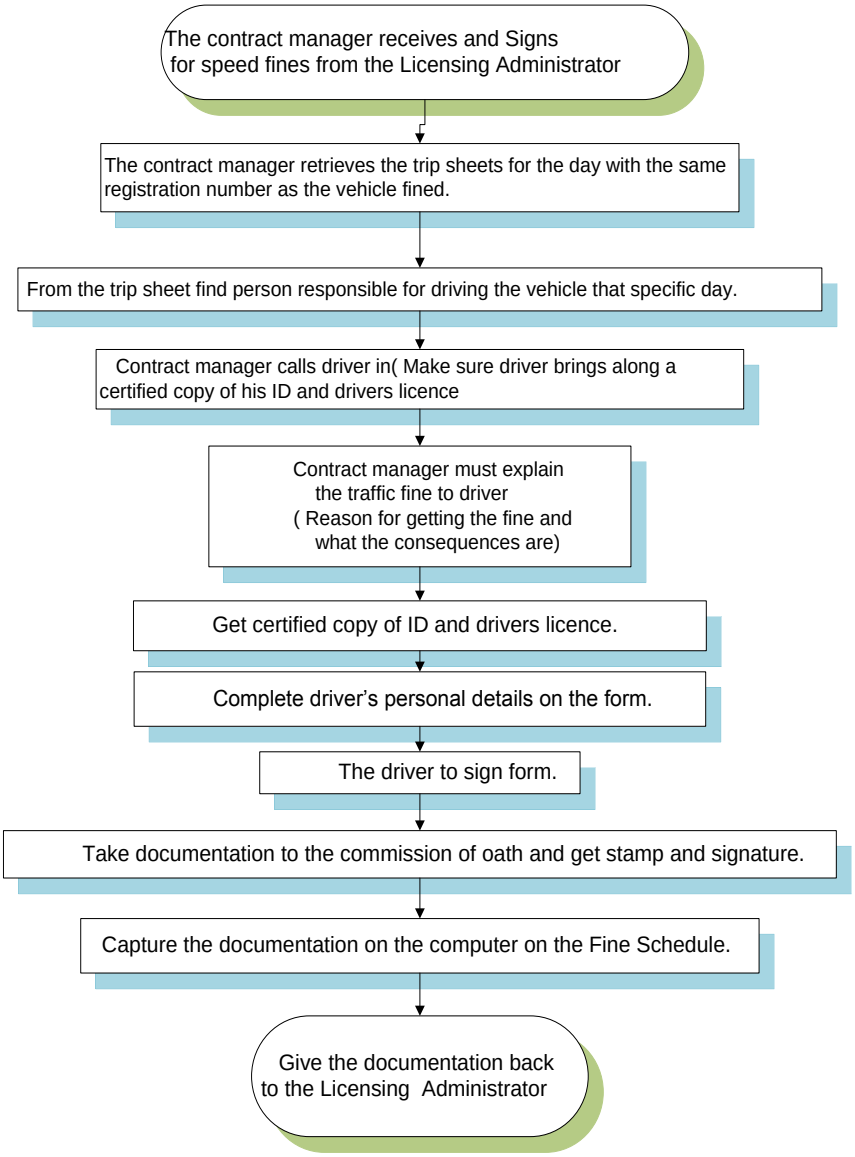
Fast Moving Consumer Goods (FMCG): This acronym is defined as essential or non essential goods such as food, toiletries, soft drinks, cosmetics etc. They are fast selling, value consumer goods with a universal demand

8. Appendices

8.1. Appendix A

Procedure for the handling of traffic fines.

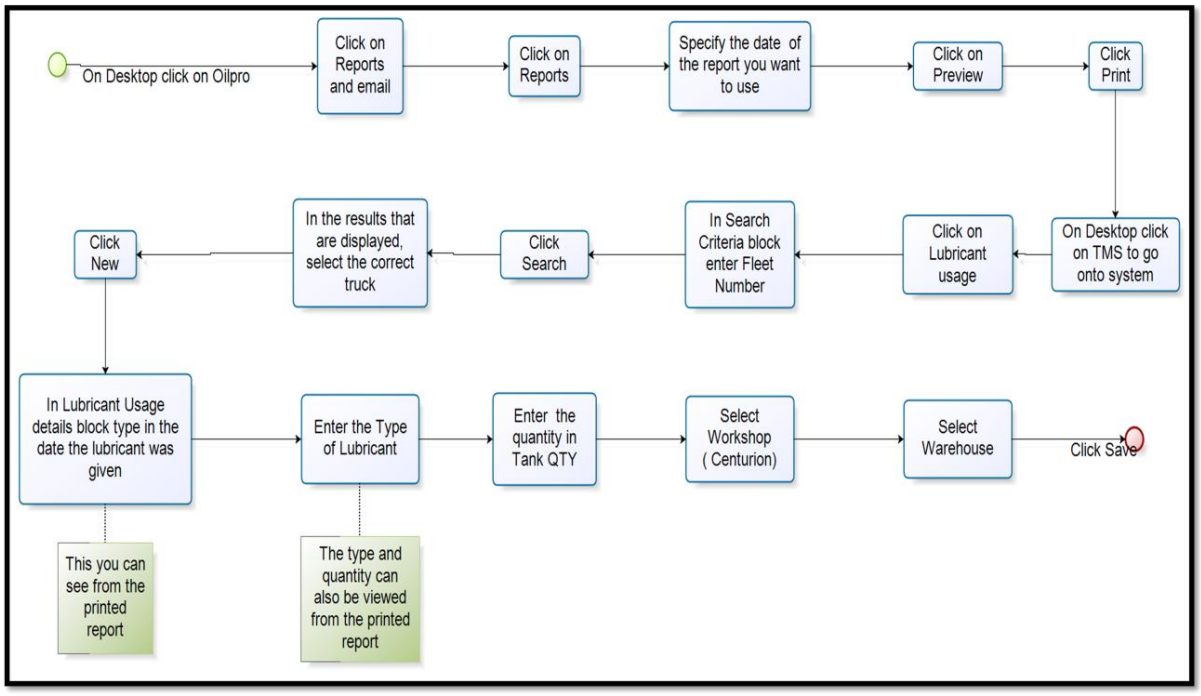
This procedure must be followed when a driver gets a fine



Microsoft Visio Example

BizAgi example

Capturing Lubricant Usage – Work Shop Administrator



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Process Guideline

This document will serve as a guideline, giving step by step instructions on how to perform the processes expected by Fast ‘n Fresh of their employees.

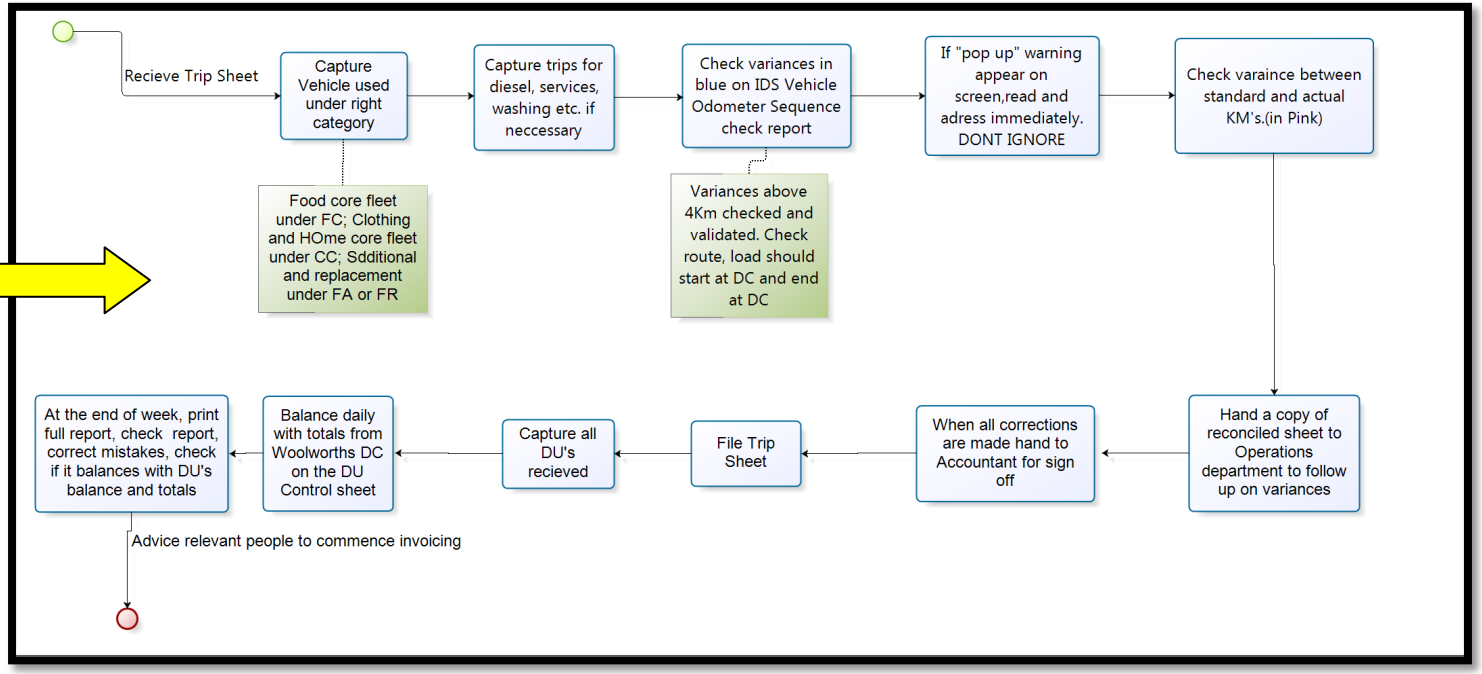
Table of Content

1. How the guideline works

1.1. Process with one operator

A step by step illustration of processes is constructed into flow diagrams. The process and the operator responsible for process are indicated (Blue Arrow), and the process itself then follows in the diagram (Yellow Arrow).

Capturing of Trip Sheets - Data Capturers

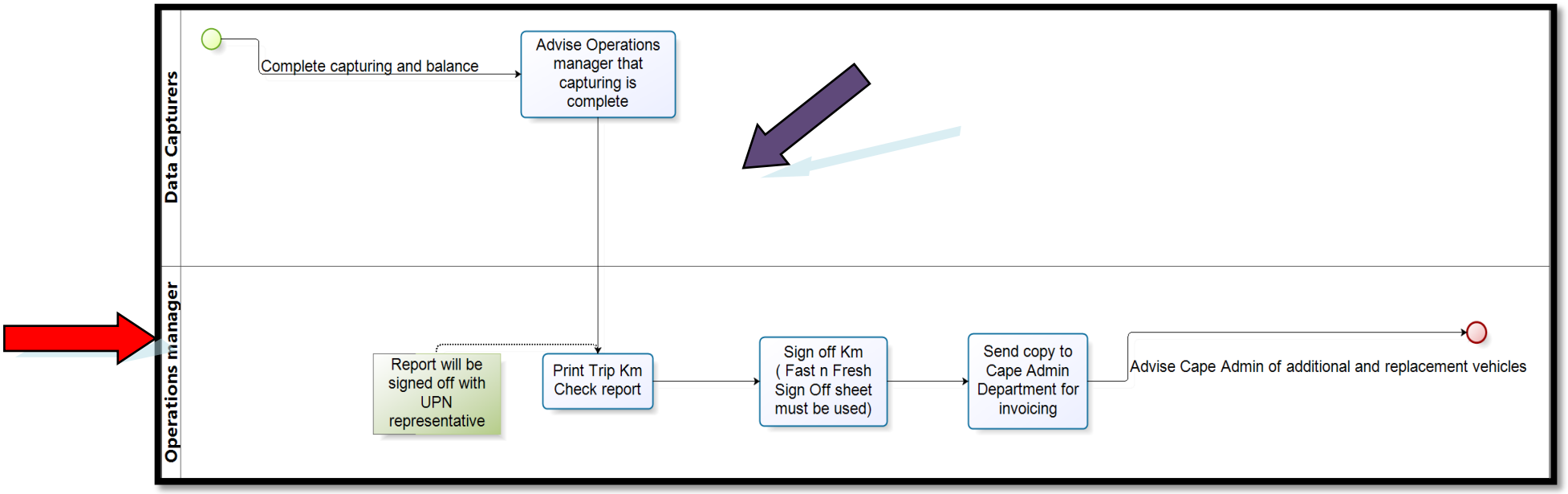


1.2. Process with more than one operator

When more than one operator is invovled with a process the giagram will look as follow:

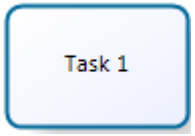
Process will be indicated(Blue Arrow), Operators involved will be indicated on the left side(Red Arrow), and then the process itself on the right(Purple Arrow).

Signing of the kilometres



1.3. Process steps are indicated by one of the following symbols:

A green circle indicates that a procedure starts, and the action that need to be performed taken are written next to the circle in the arrow line.



The blue rectangle indicates all the procedure steps that need to be followed. An arrow will indicate which direction the procedure flows.

A red circle indicates when a procedure stops. The last step of the procedure will be written on the last arrow connecting the blue rectangle with the red circle.

The yellow diamond indicates that there are two ways of flow. If a decision needs to be made and there are different outcomes there will be two arrows indicating different steps of following the procedure.

This block provides the user with extra information about the procedure

1.5. Transport Management System (TMS)

For all capturing procedures on TMS the operator must:

- Switch Computer on
- Enter Password
- Click on Desktop Icon on Imperial TMS
- Enter User Name
- Enter Password

2. Processes

Processes are documented under the department which are responsible for the execution of that process.

The departments are:

Workshop

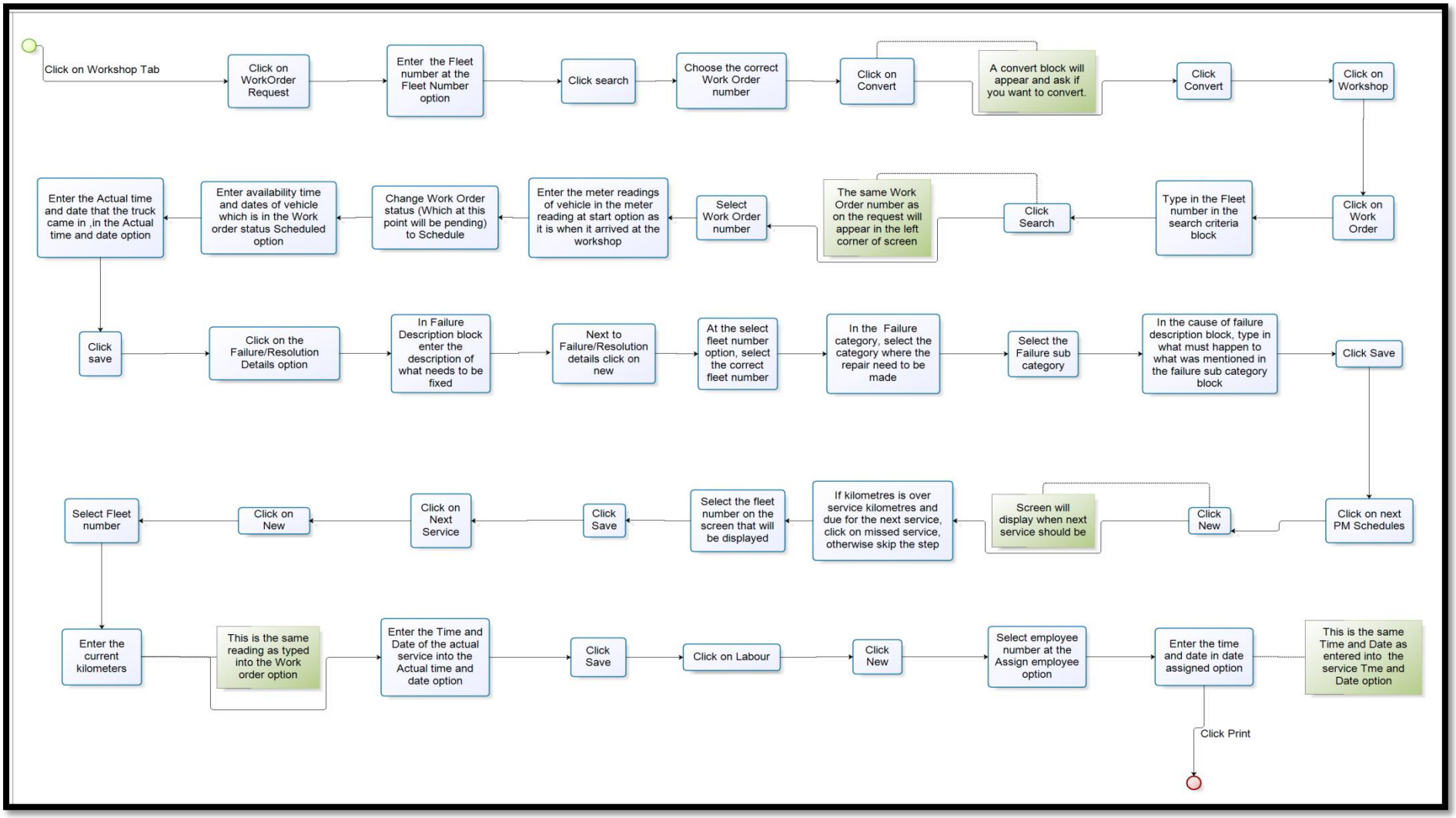
Human Resources

Administration

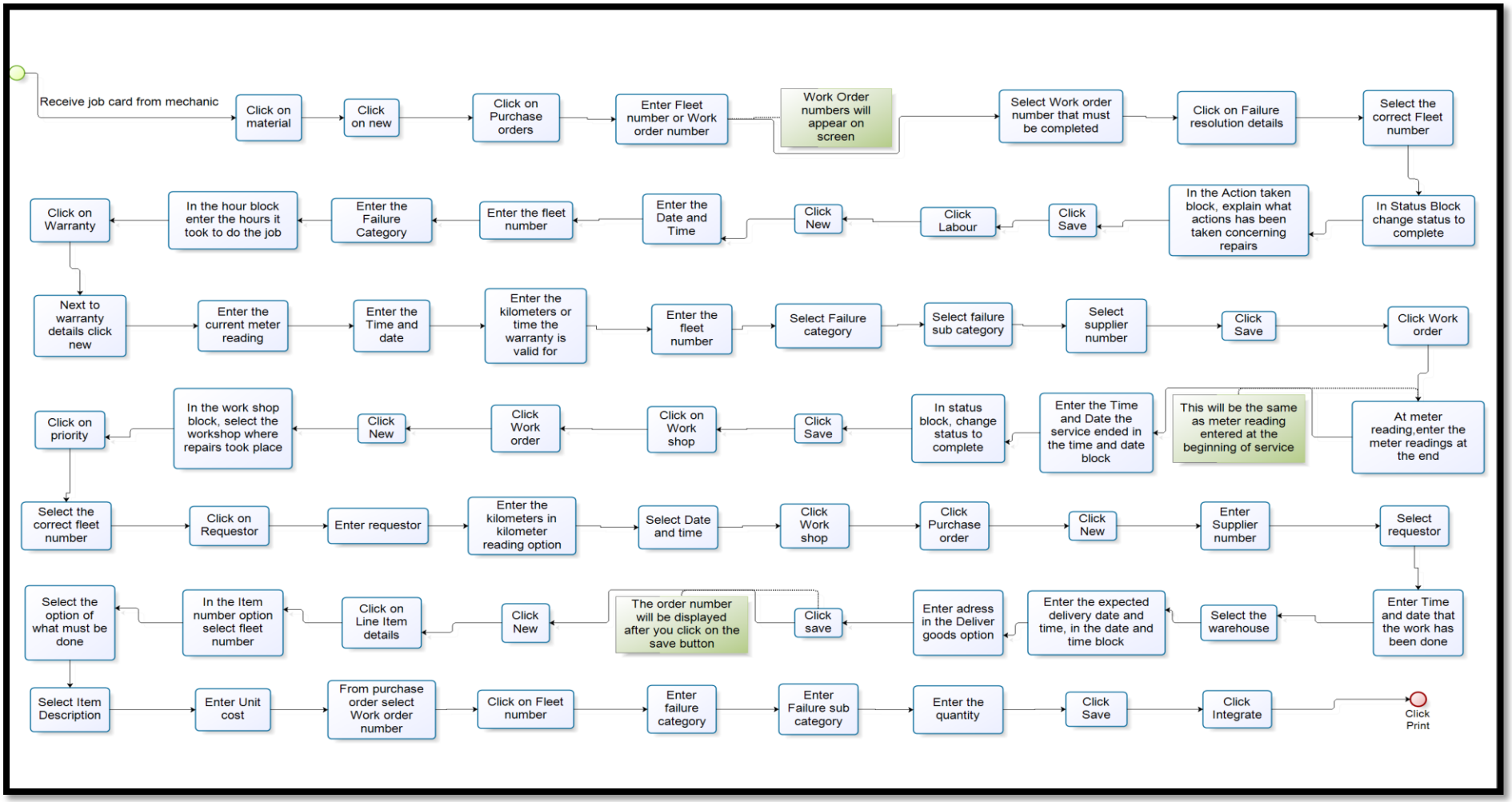
Operations

2.1 Workshop

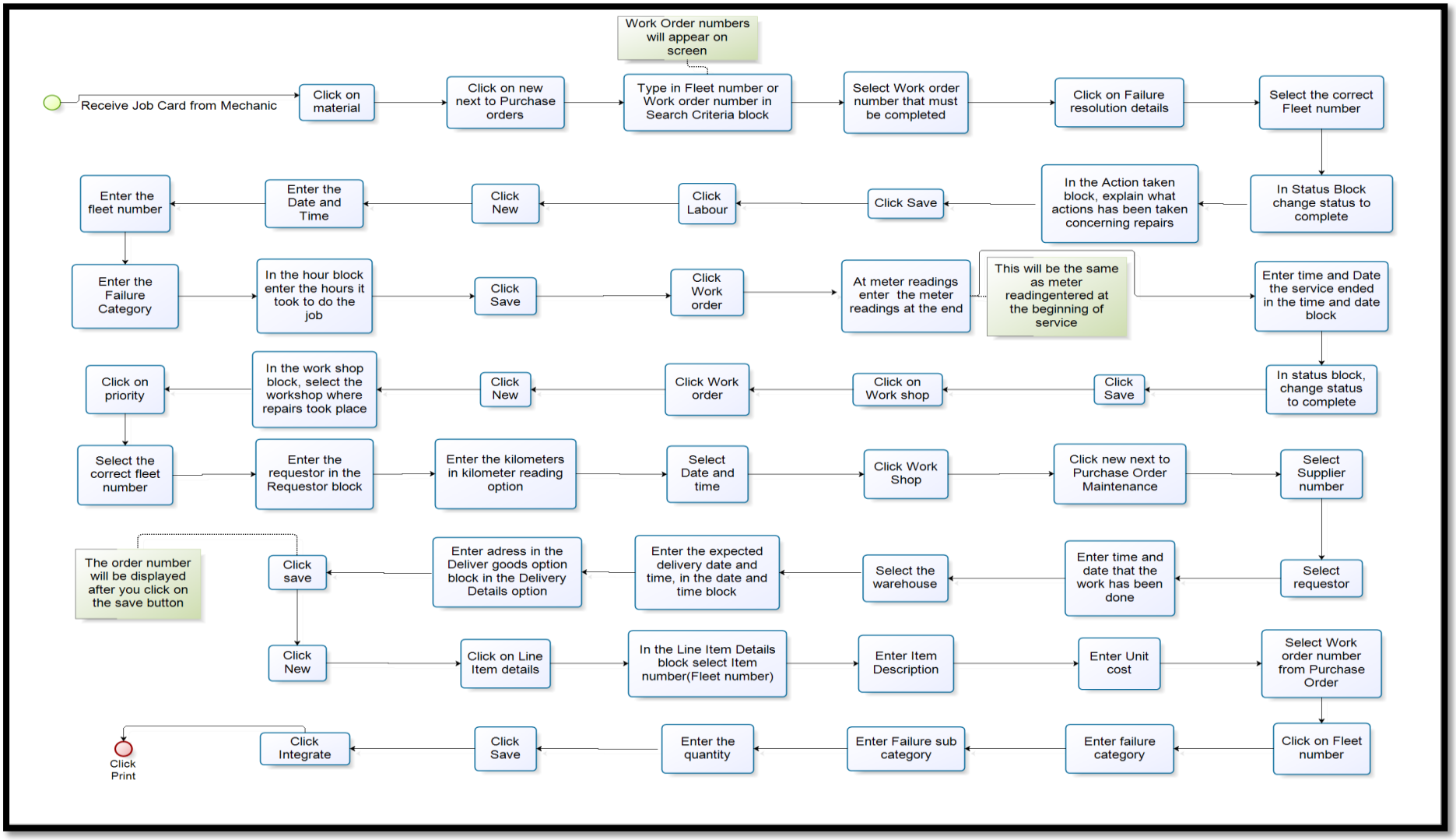
2.1.1. Work Order procedure- Workshop Administrator



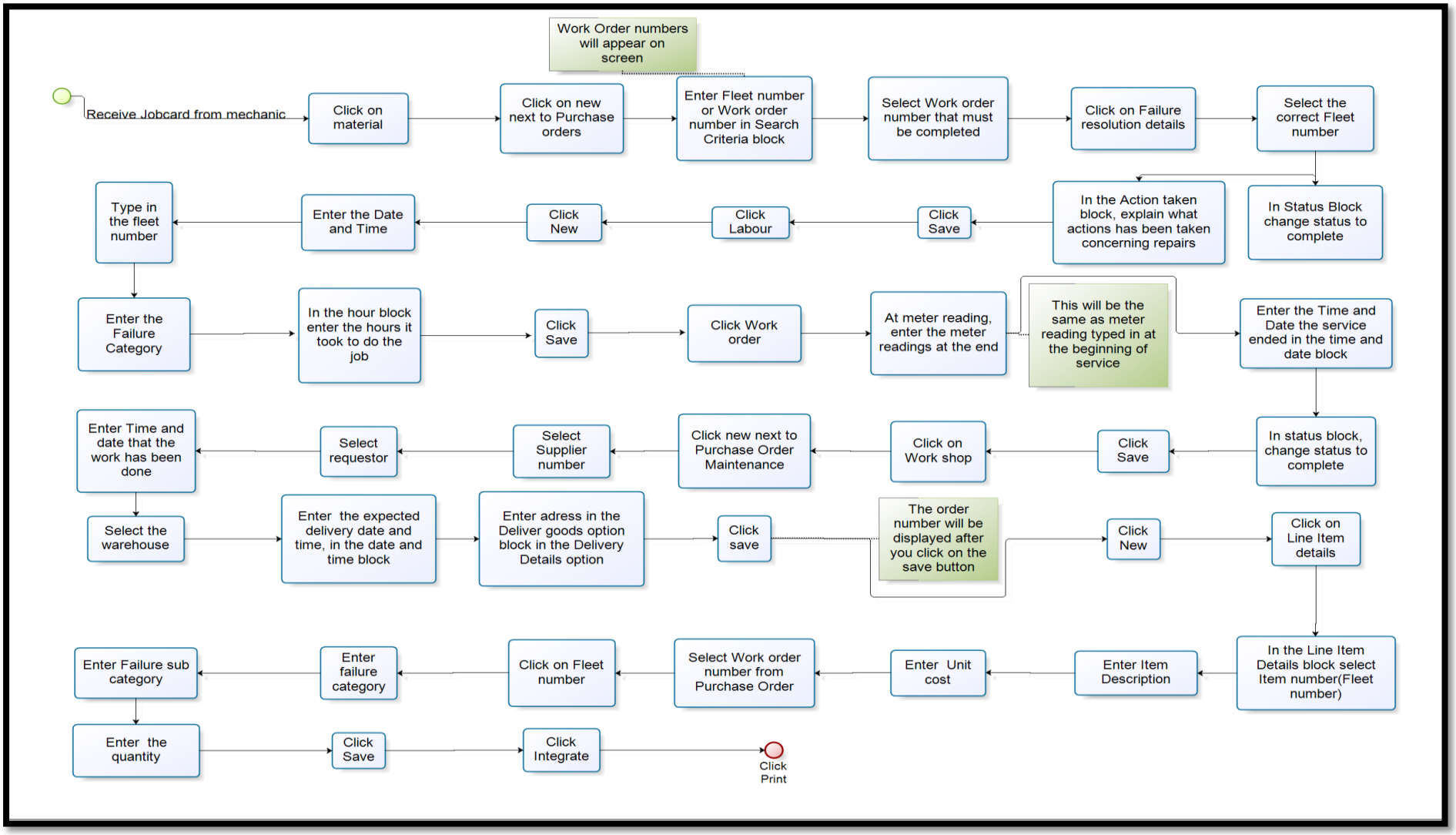
2.1.2. Work Order (With Warranty) - Work Shop Administrator



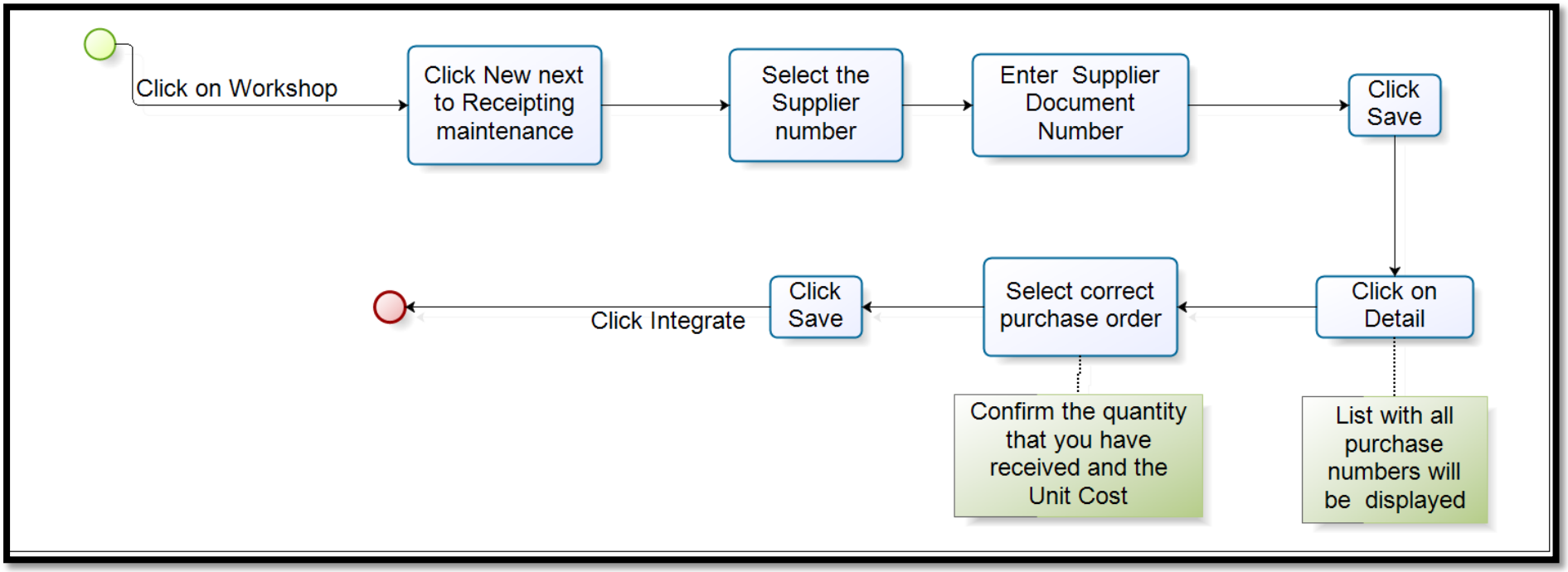
2.1.3. Work Order (With Request) - Workshop Administrator



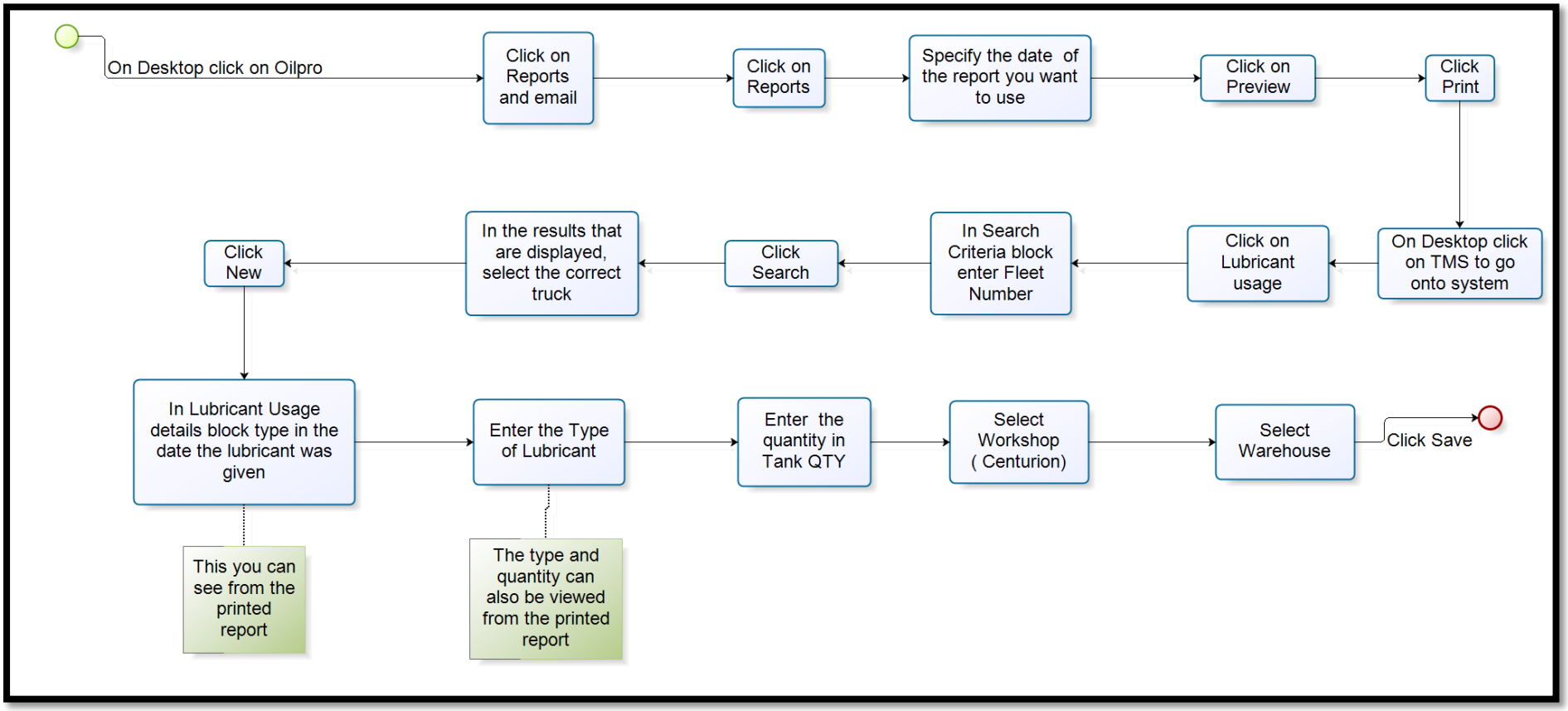
2.1.4. Work order (Without Request) - Work Shop Administrator



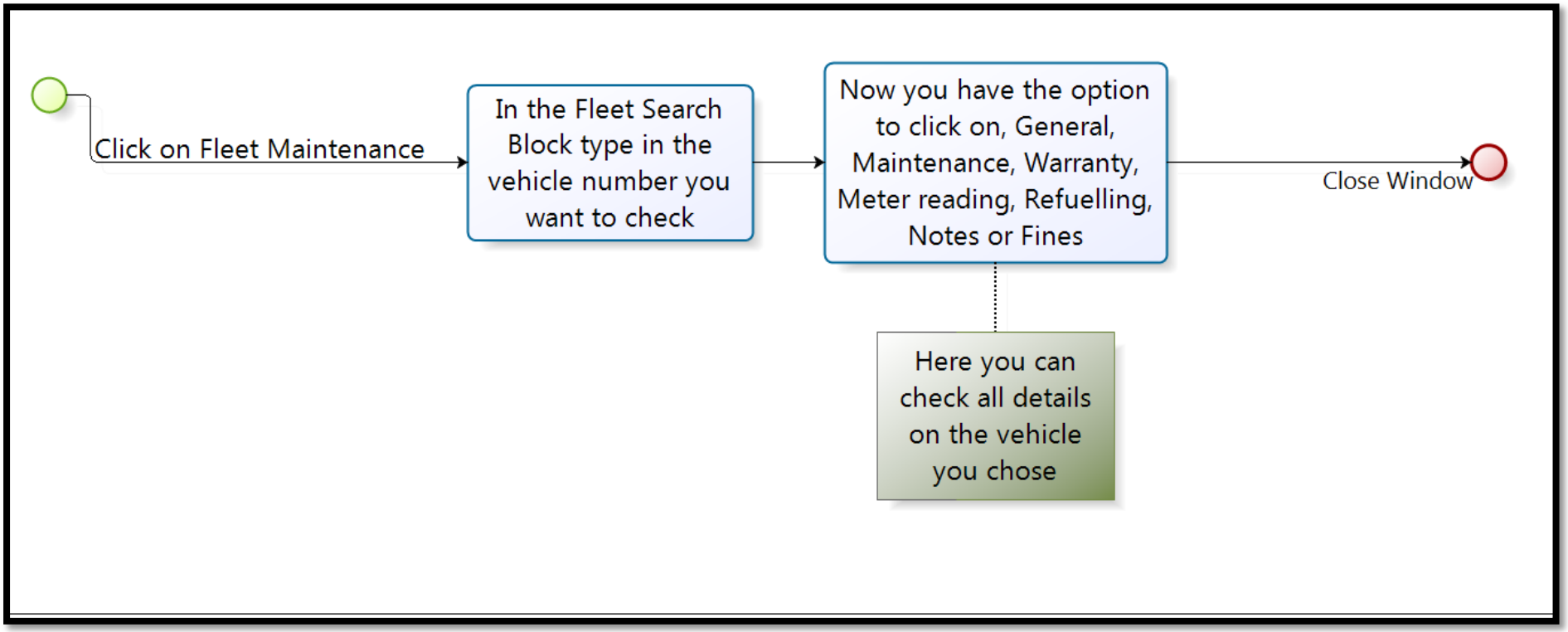
2.1.5. Receive Purchase Order - Workshop Administrator



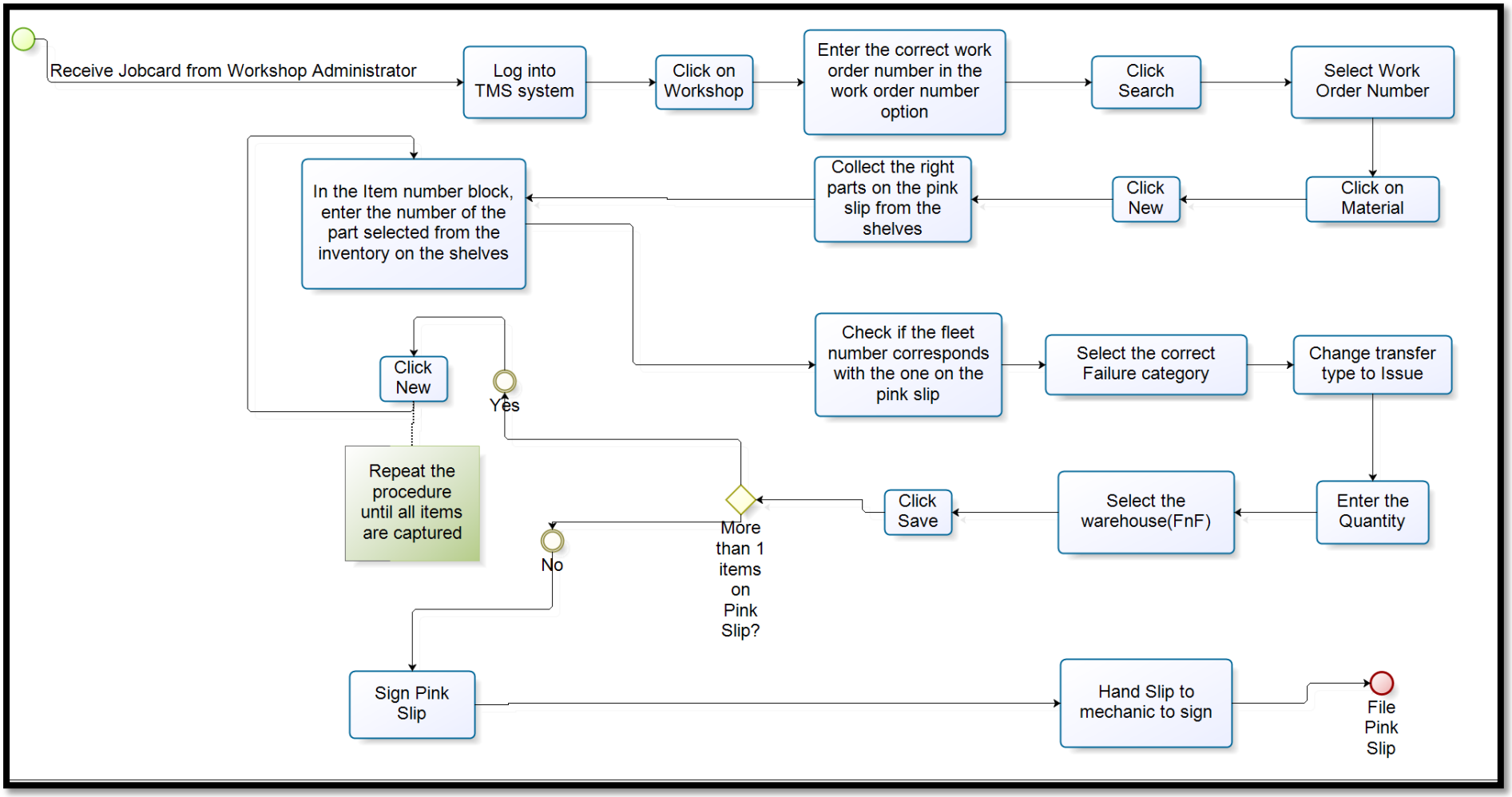
2.1.6. Capturing Lubricant Usage - Workshop Administrator



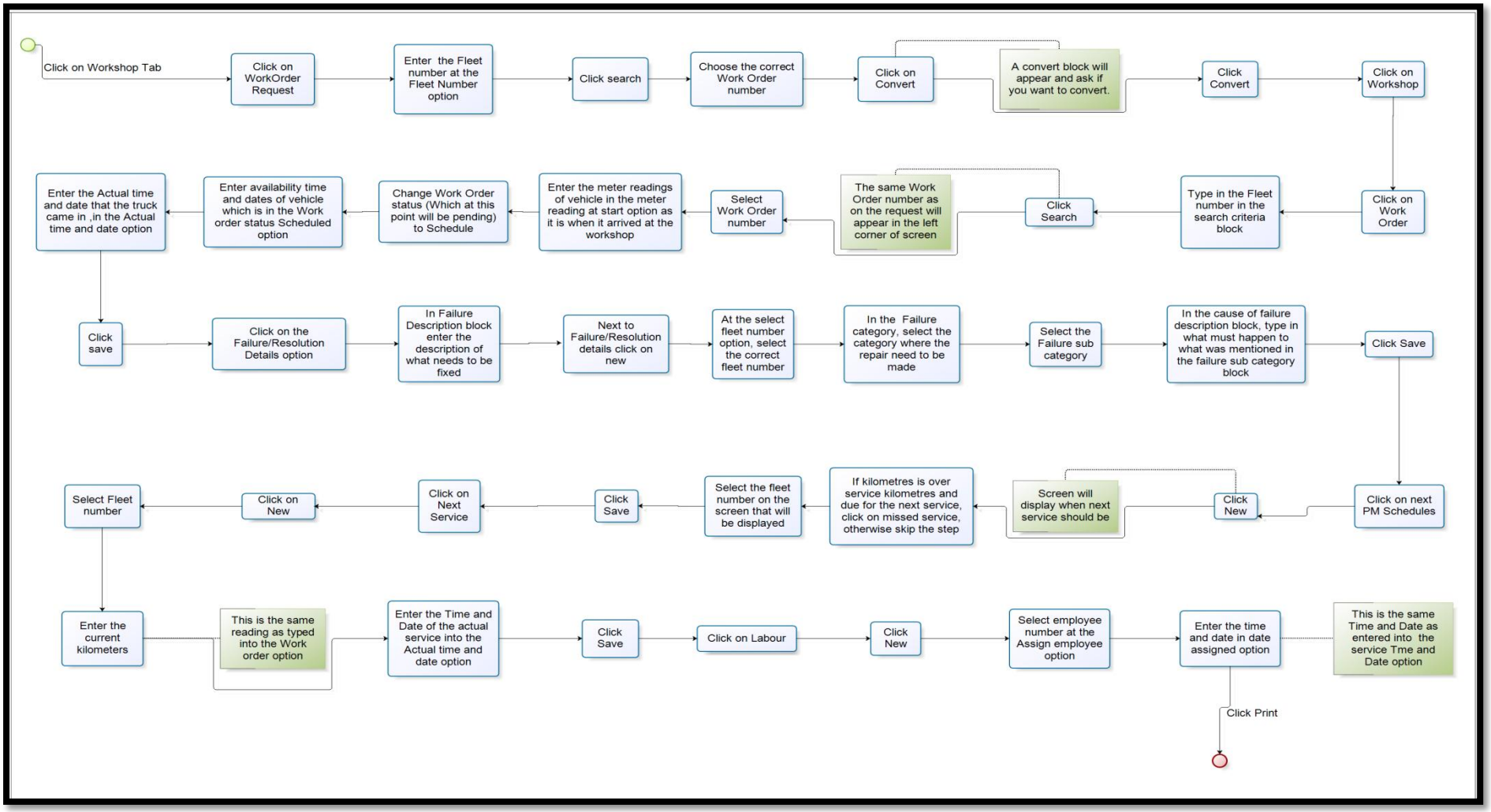
2.1.7. Fleet Maintenance - Workshop Administrator



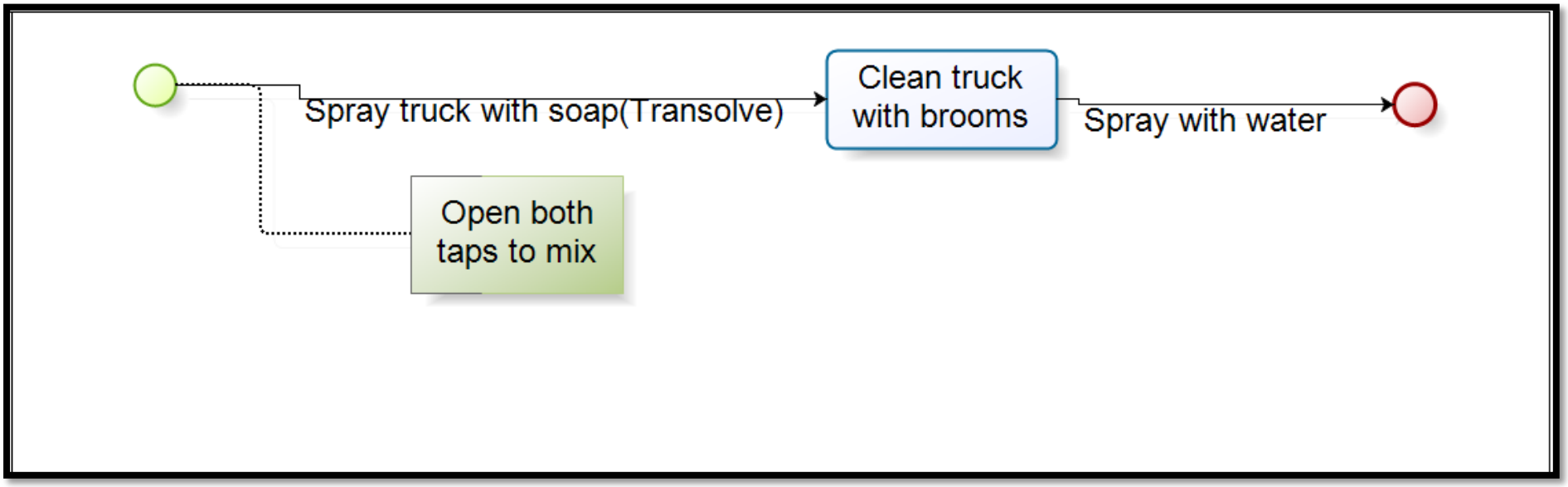
2.1.8. Capturing Materials for Repairs - Workshop Clerk



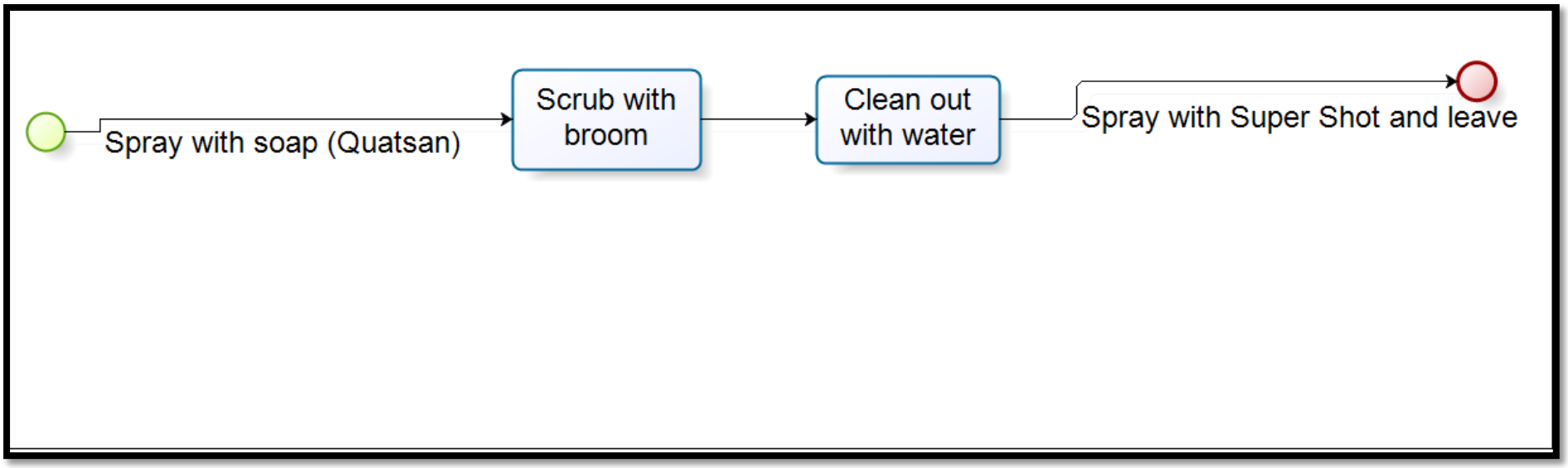
2.1.9. Processing of Work Order- Workshop Administrator



2.1.10. Truck wash (Outside) – Washer (3 Operators)



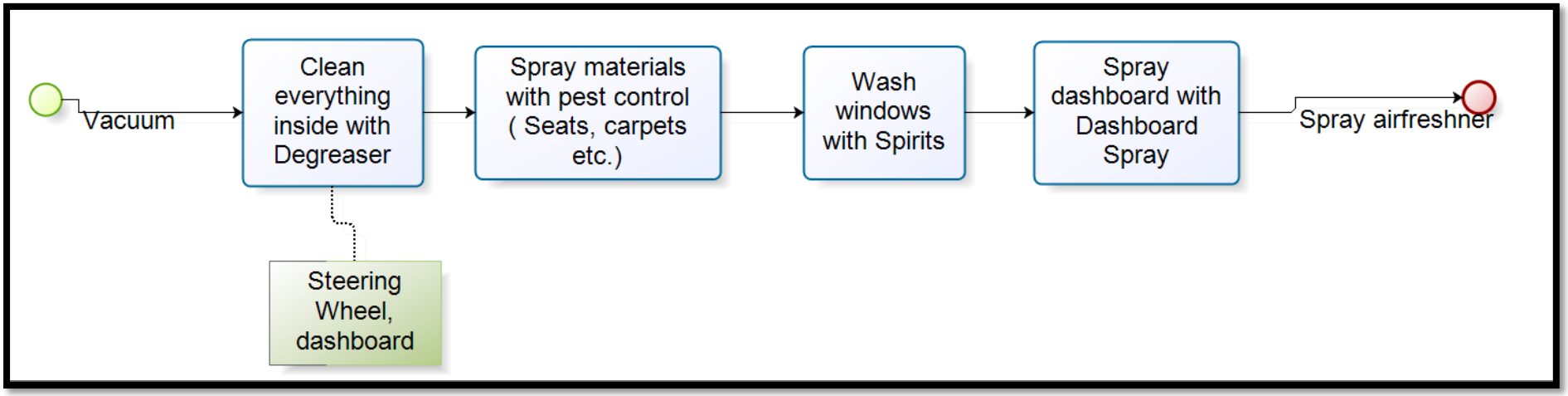
2.1.11. Trailer wash(Inside)- Washer (1 Operator)



2.1.12. Inside horse- Cleaner (4 Operators)

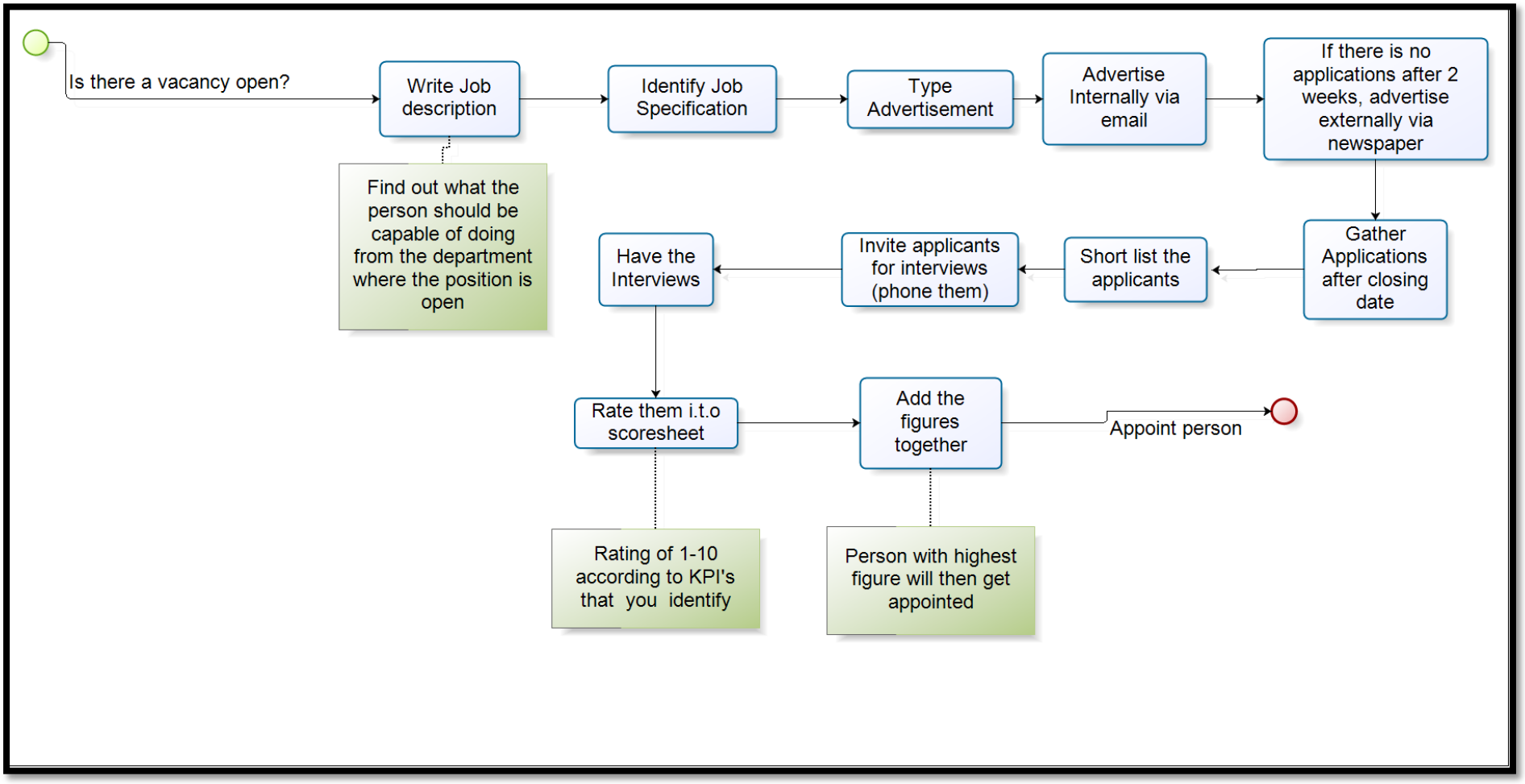
Blue trucks are vacuumed with the green vacuum cleaner. It cleans the dust.

Red trucks are vacuumed with the vacuum cleaner that washes and vacuums.

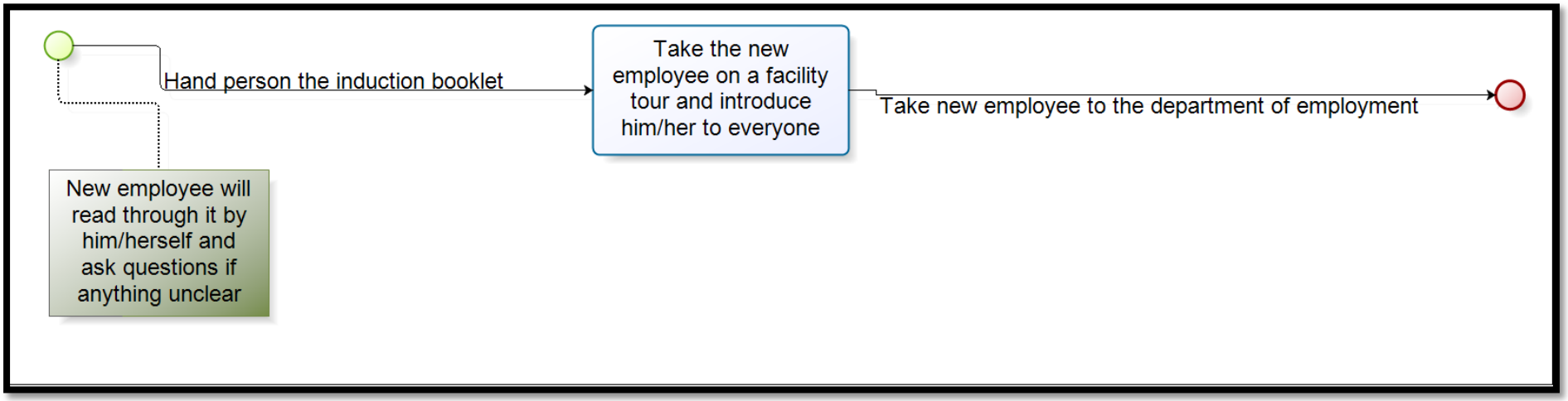


2.2 Human Resources

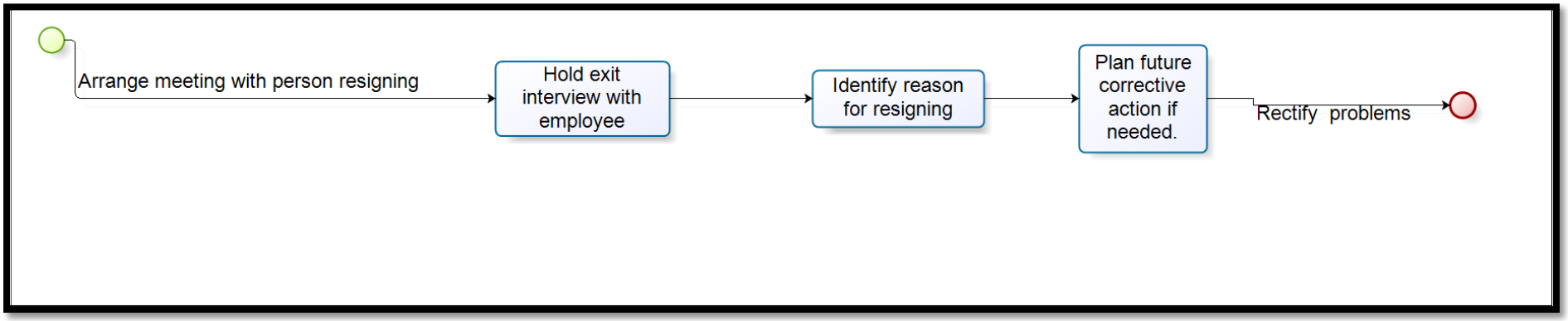
2.2.1. Recruitment Process - HR Manager



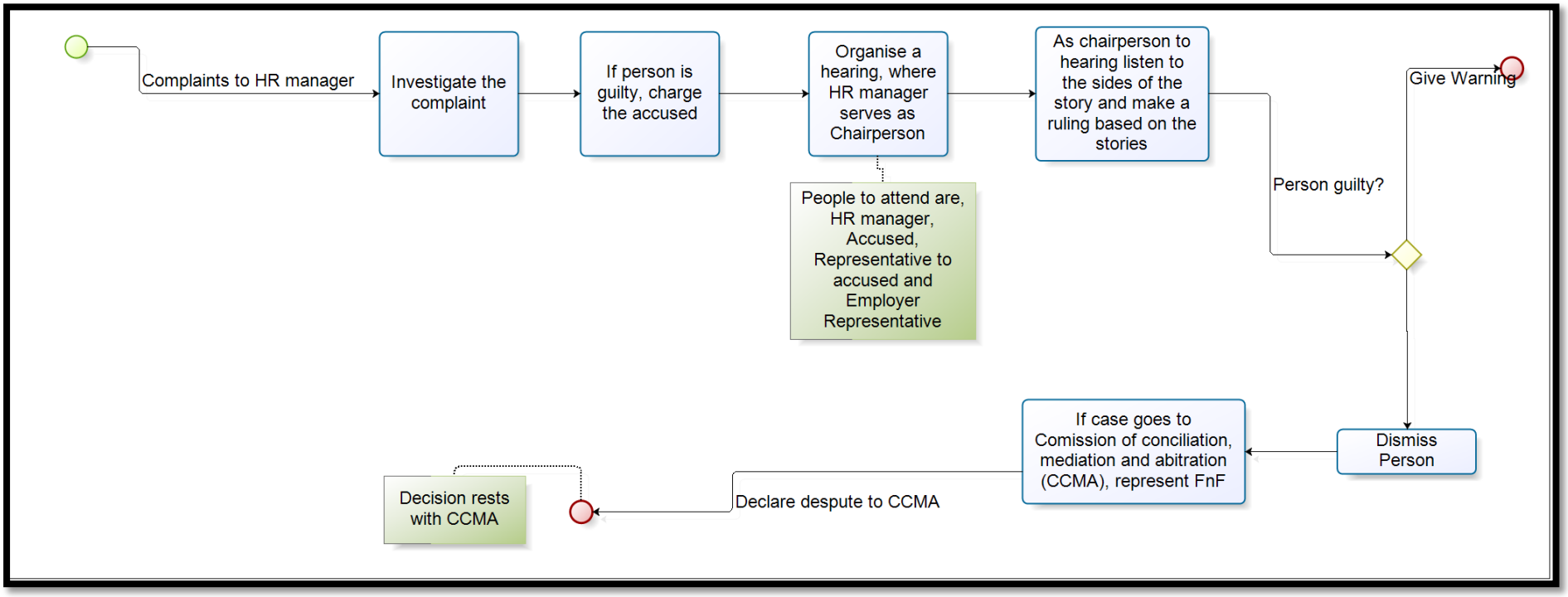
2.2.2. Induction - HR Manager



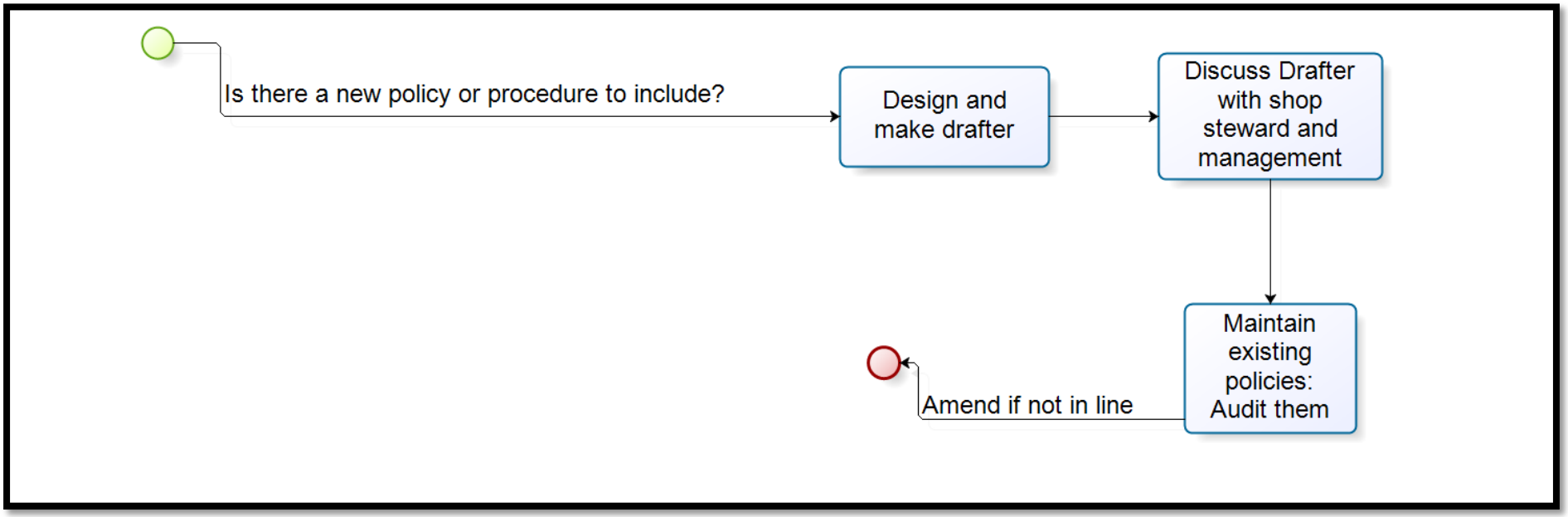
2.2.3. Resignation Process - HR Manager



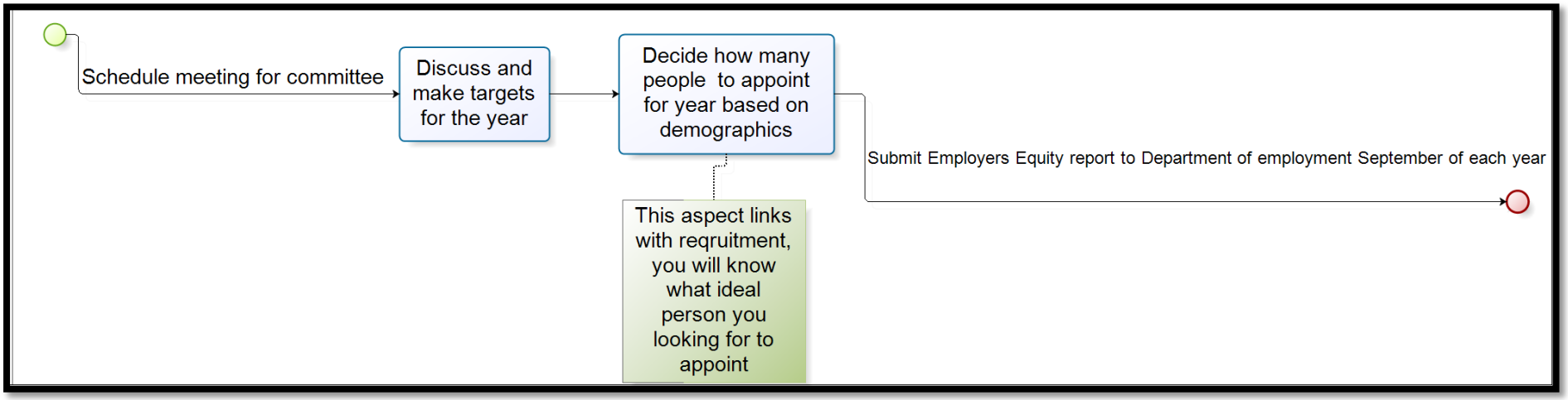
2.2.4. Disciplinary – HR Manager



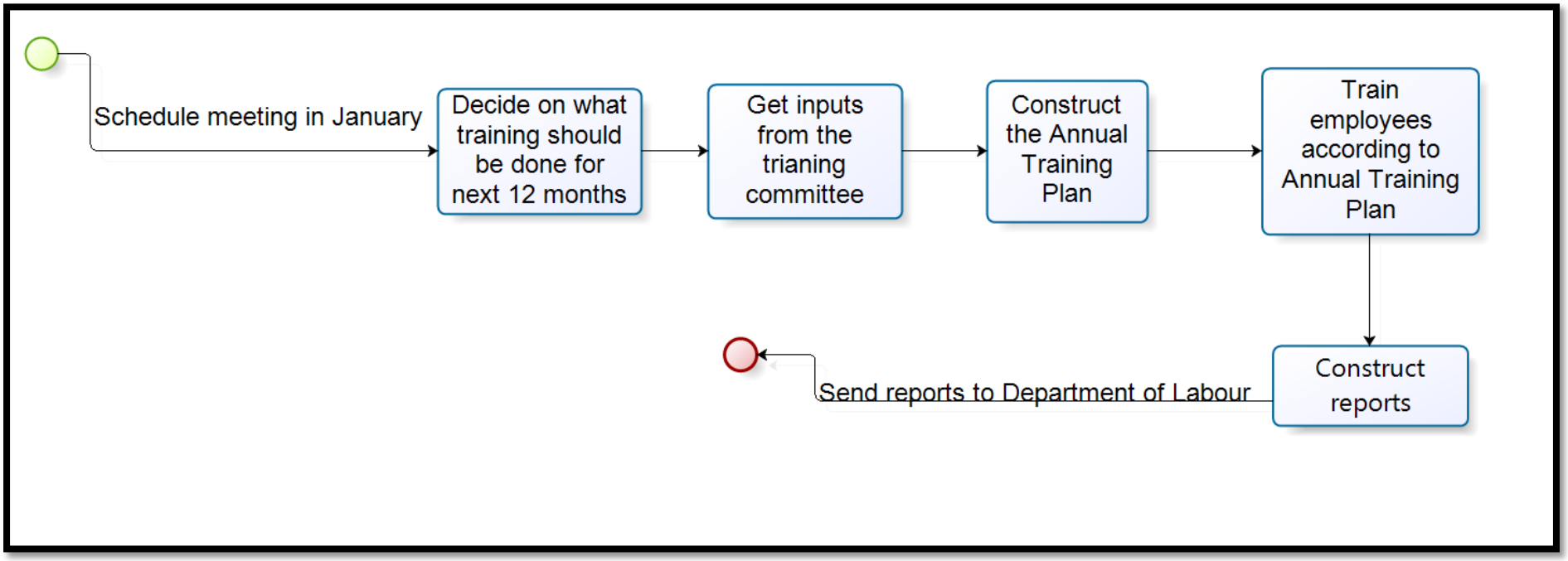
2.2.5. Policy and Procedures – HR Manager



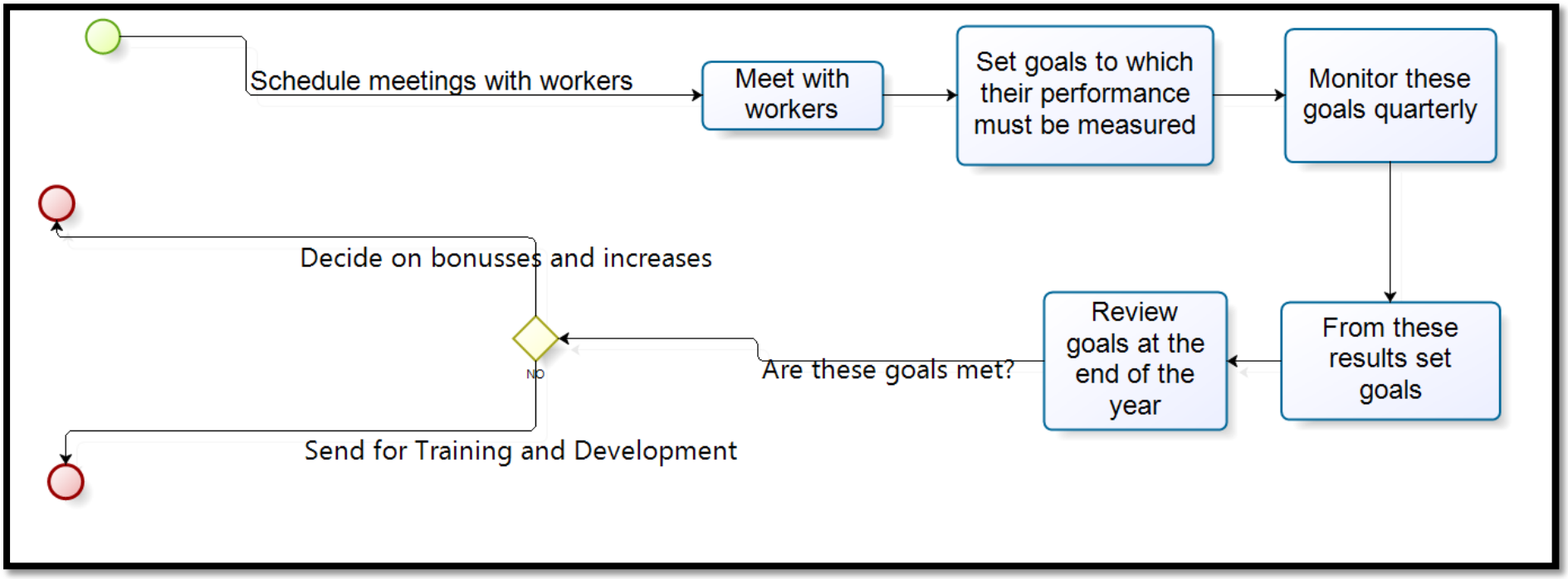
2.2.6. Employment Equity – Employers Equity Committee



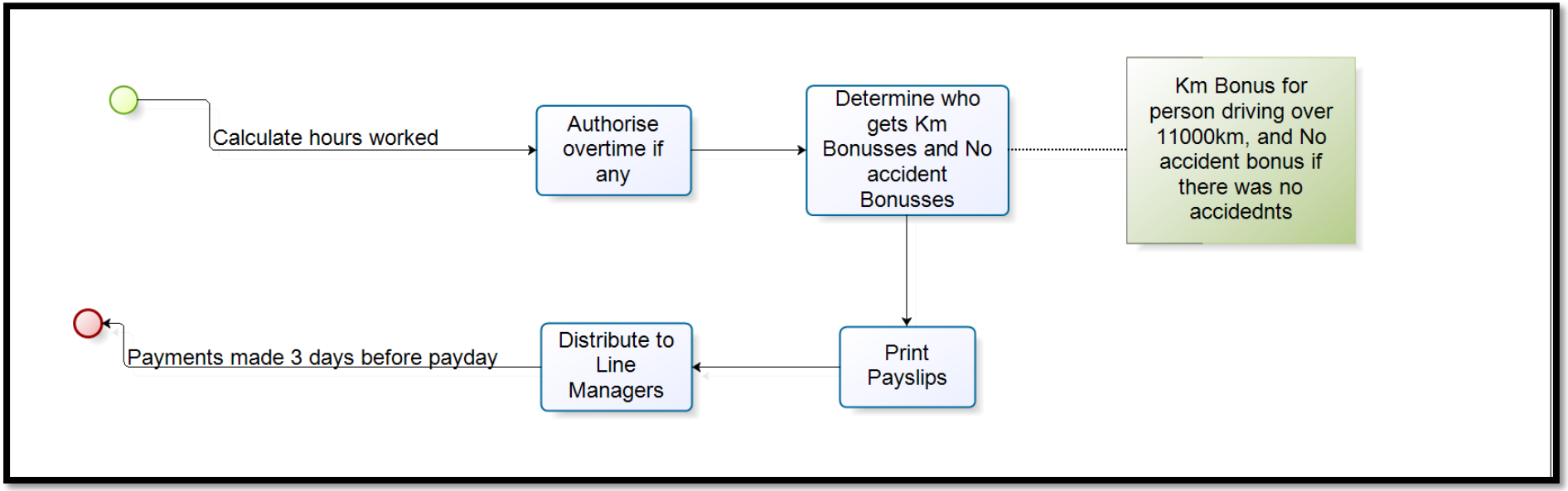
2.2.7. Training and development - HR Manager



2.2.8. Performance Management – HR Manager



2.2.9. Payment of salaries – HR Manager



2.3 Administration

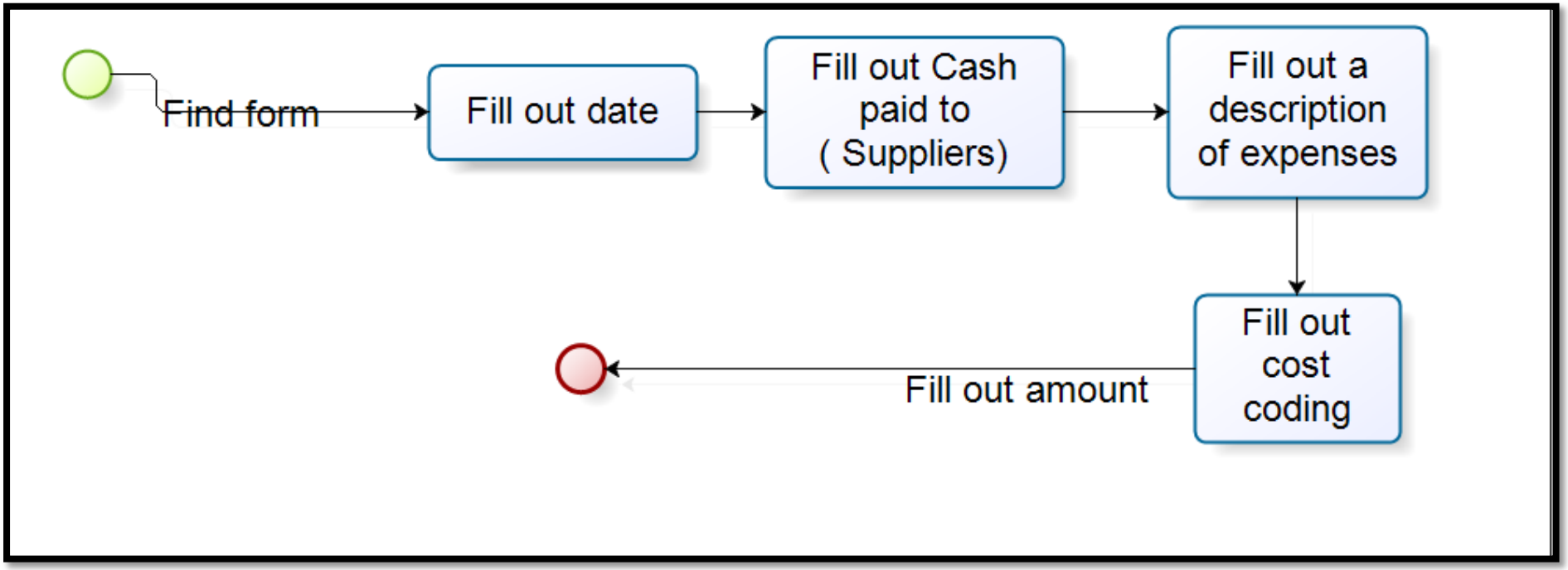
2.3.1. Petty Cash Requisition - Person Requiring Petty Cash

Petty Cash Requisition must be approved by authorised people of that specific department:

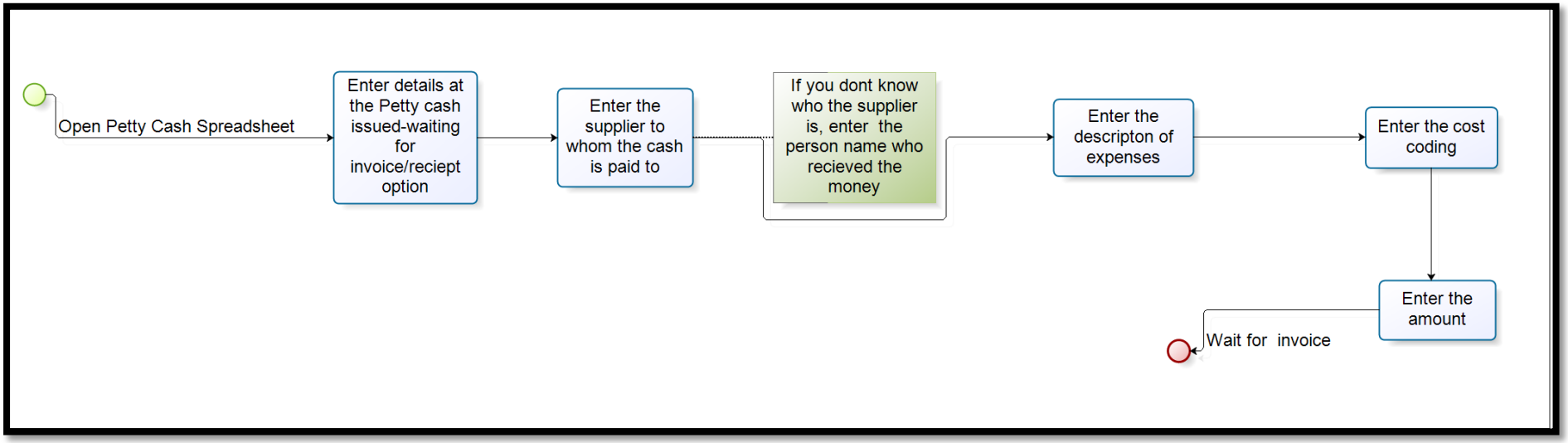
Up to R200- Department Supervisors

Up to R500- Heads of Departments

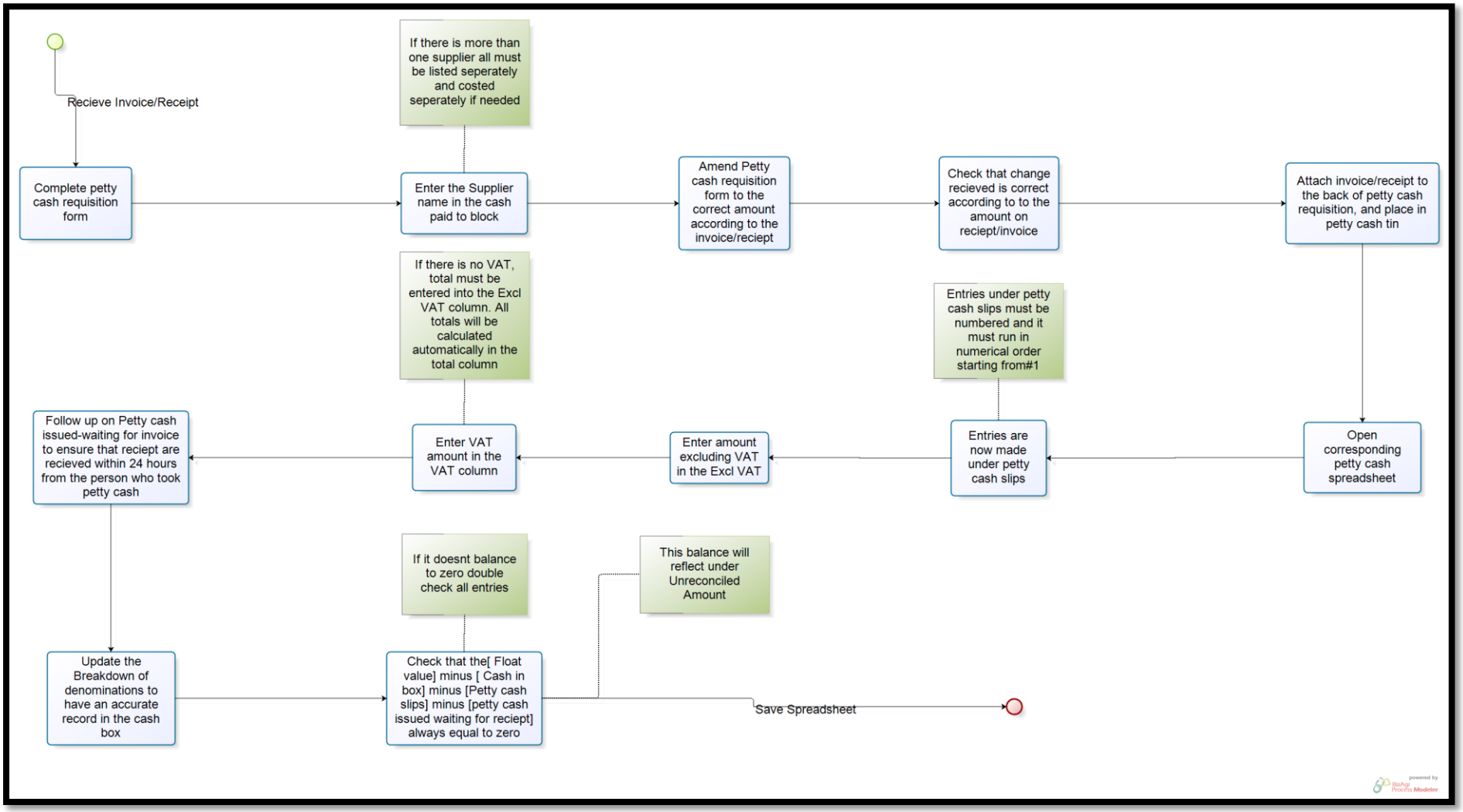
Above R500- Accountant or Director



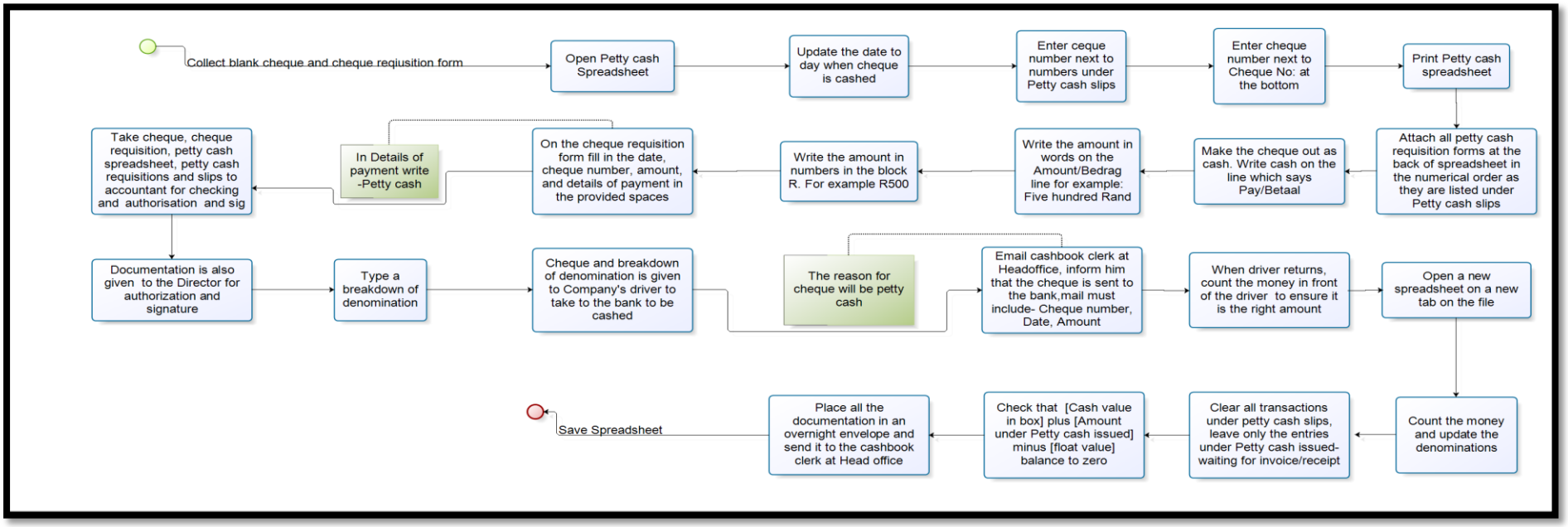
2.3.2. Capturing Petty cash Step 1 - Admin Administrator



2.3.3. Petty cash 2 - Admin Administrator

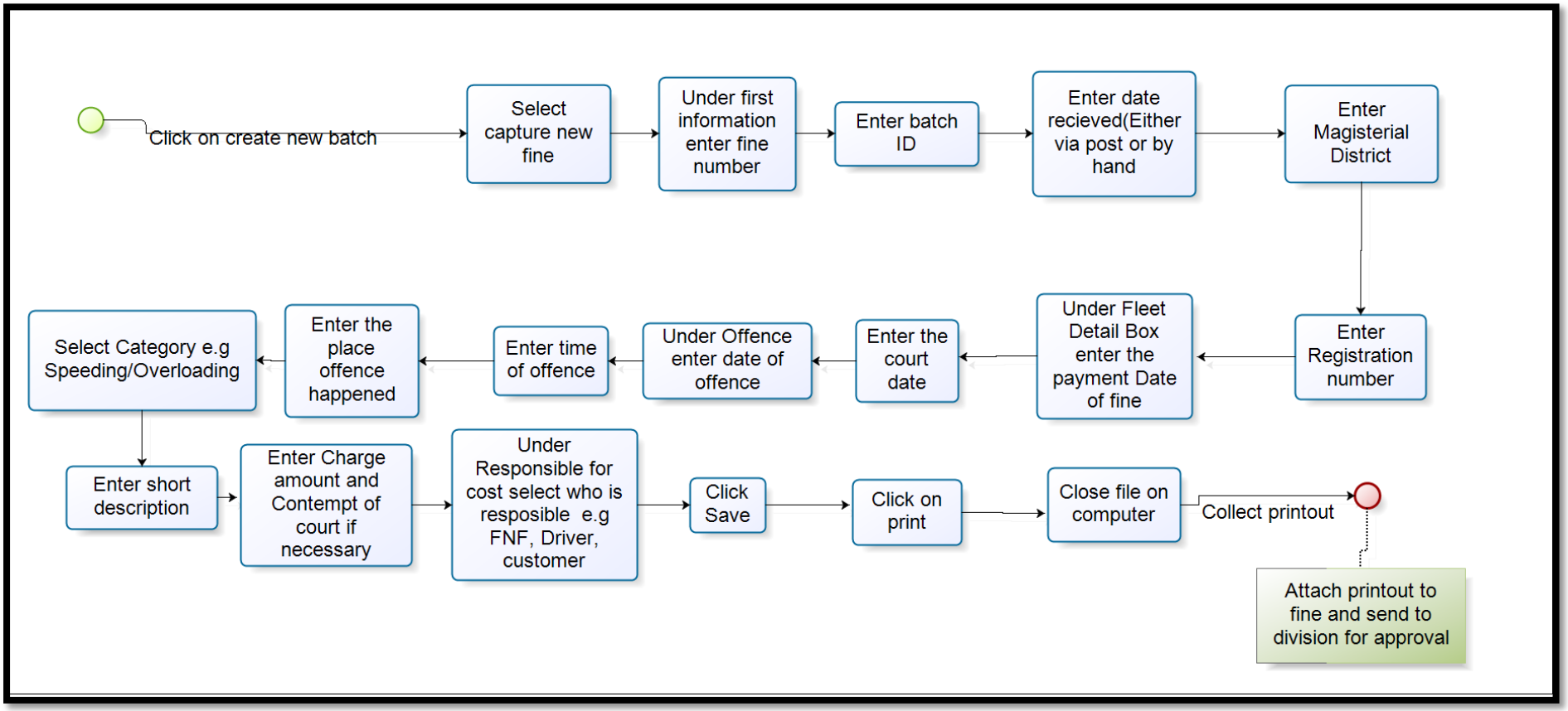


2.3.4. Reimburse petty cash - Admin Administrator

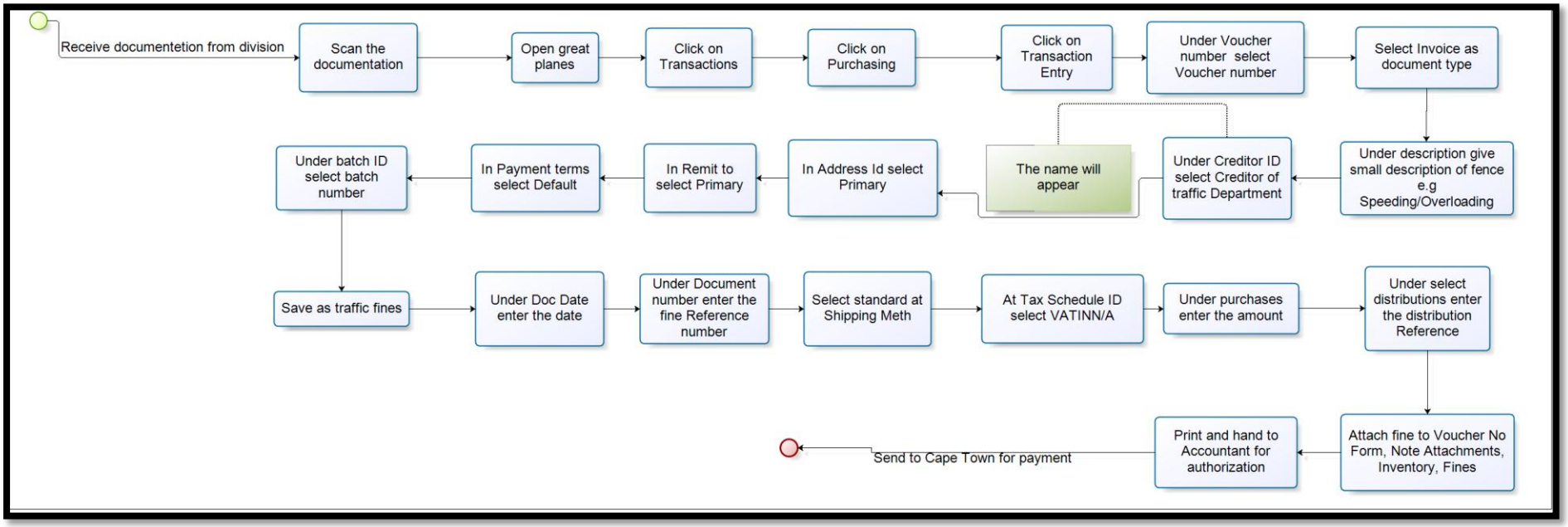


Petty cash tin is always locked and one designated person is responsible for issuing money and ensuring all documentation is correct. Should this person be sick or on leave for less than 48 hours the Accountant will take responsibility. If the person are sick or on leave for longer than 48 hours Petty cash must be signed by designated person, and the person receiving petty cash as per instruction of the accountant, showing the amount of money and entries as per the day of handover. On return of designated person another handover must be done and signed for and all money must be double checked. Petty cash tin must always be kept in a locked drawer during office hours and locked in Accountants office over weekends.

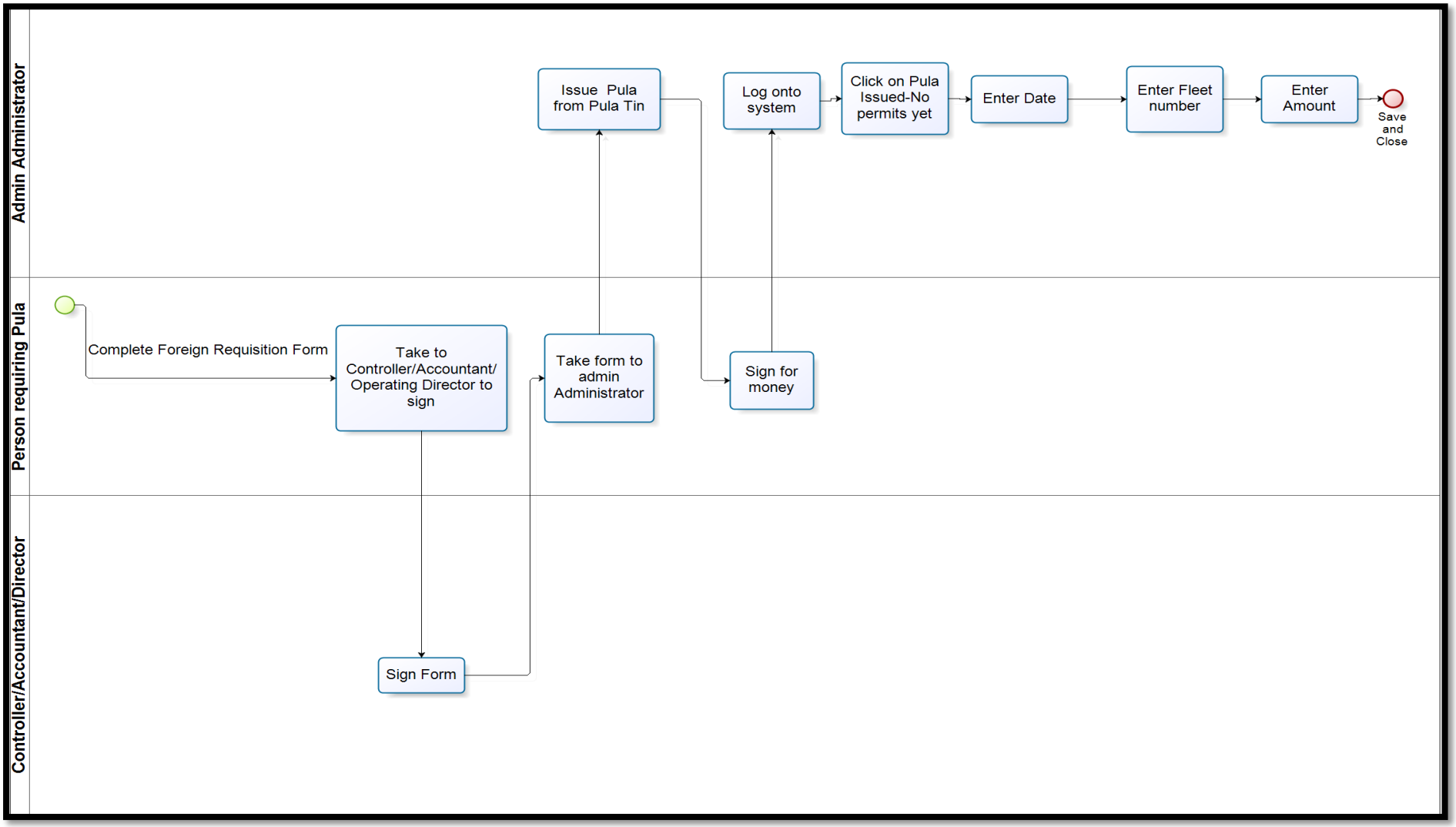
2.3.5. Capturing Traffic Fines - Licensing Administrator



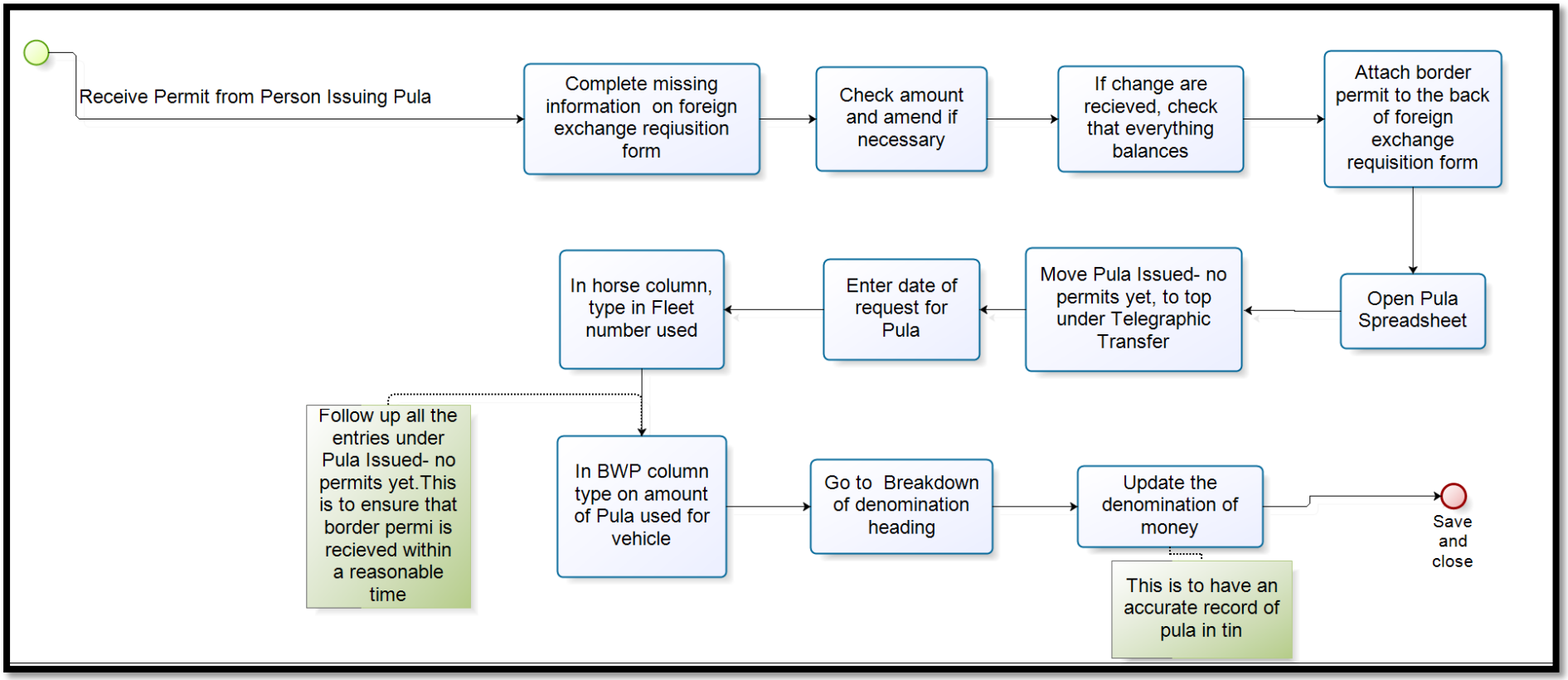
2.3.6. Capturing Great Planes - Licensing Administrator



2.3.7. Foreign Exchange Requisition Step 1

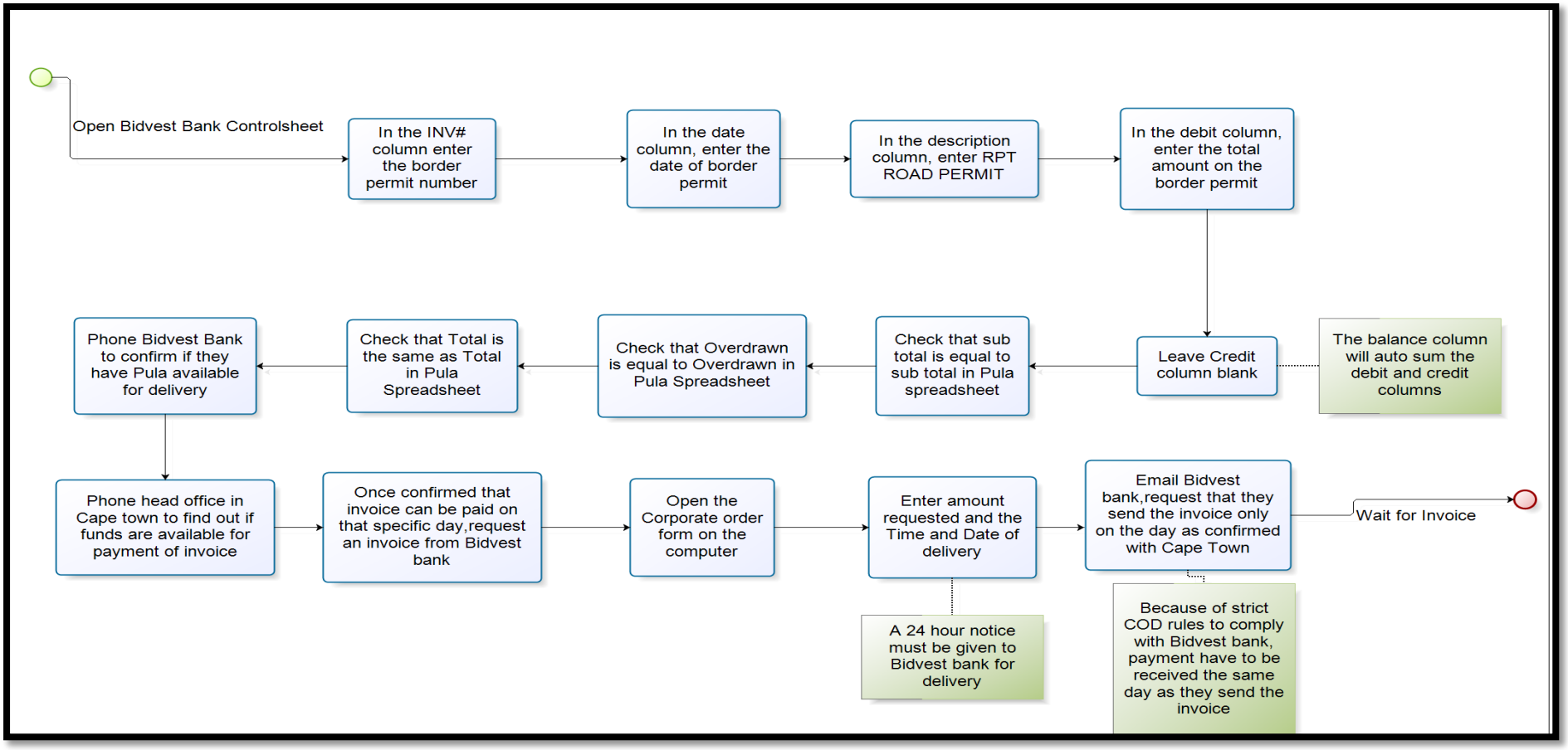


2.3.8. Foreign Exchange Requisition Step2 - Admin Administrator

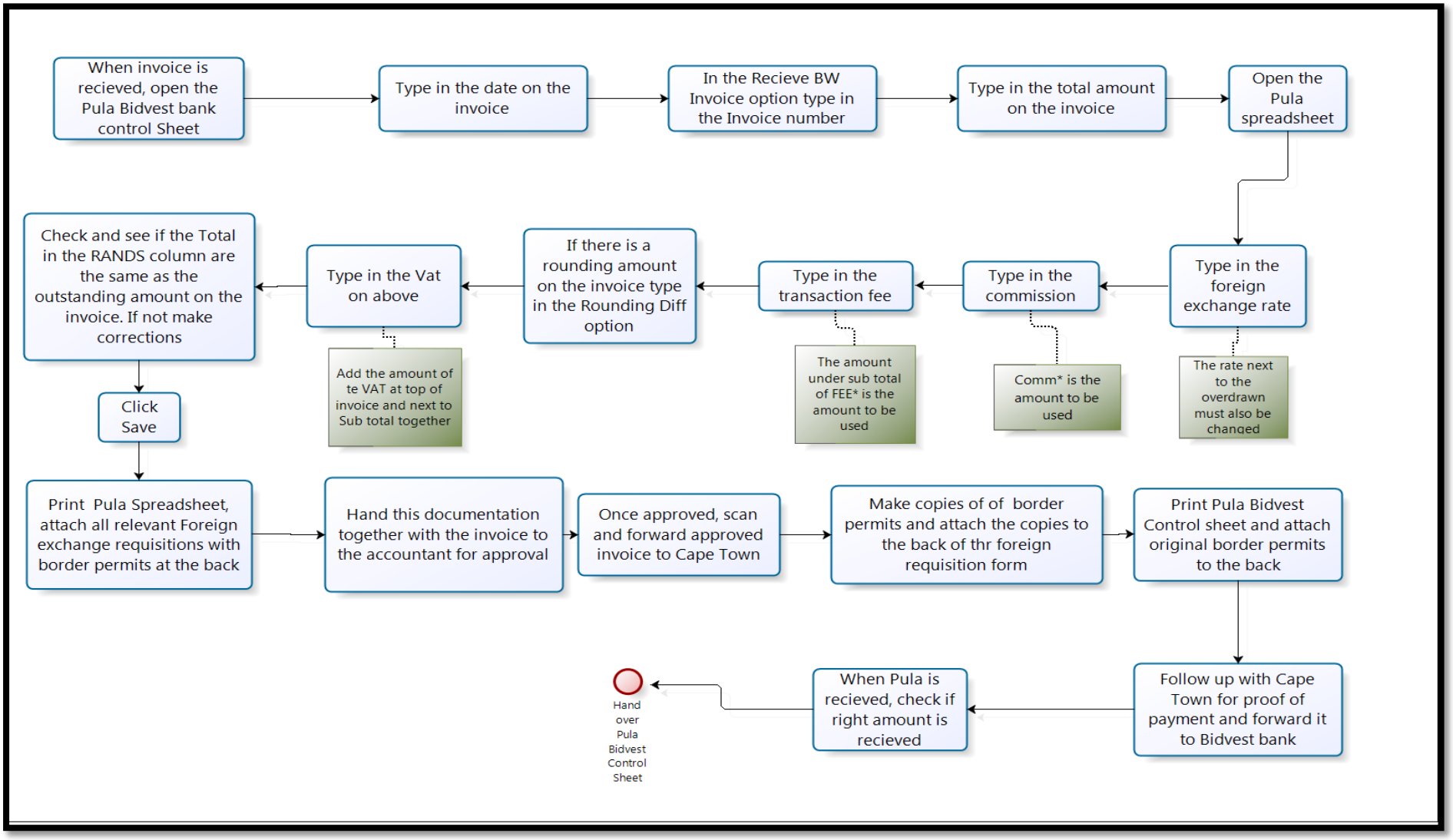


2.3.9. Reimbursing Pula Step 1 - Admin Administrator

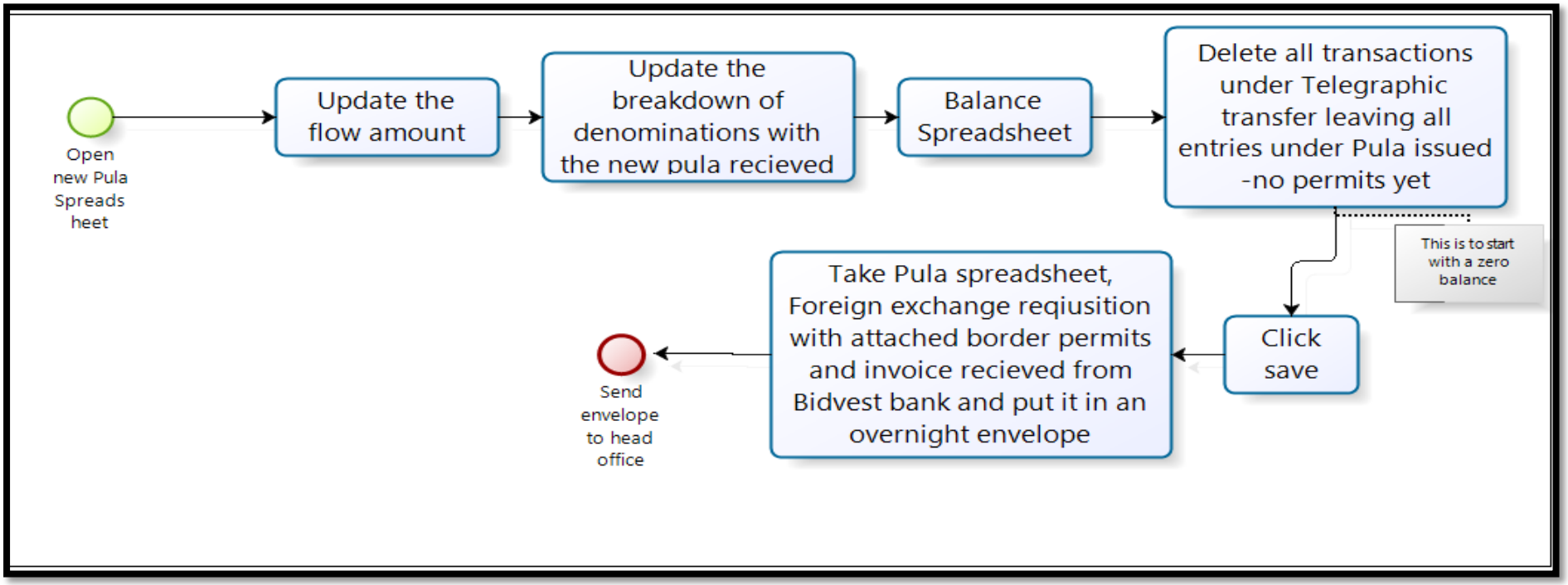
When Balance is between 1500 and 2000 Pula, Pula needs to be reimbursed. When starting reimbursement the total must always be rounded off to the nearest 100. The rounding amount must be entered into overdrawn. Round up to next 100



2.3.10. Reimbursing Pula Step 2 - Admin Administrator

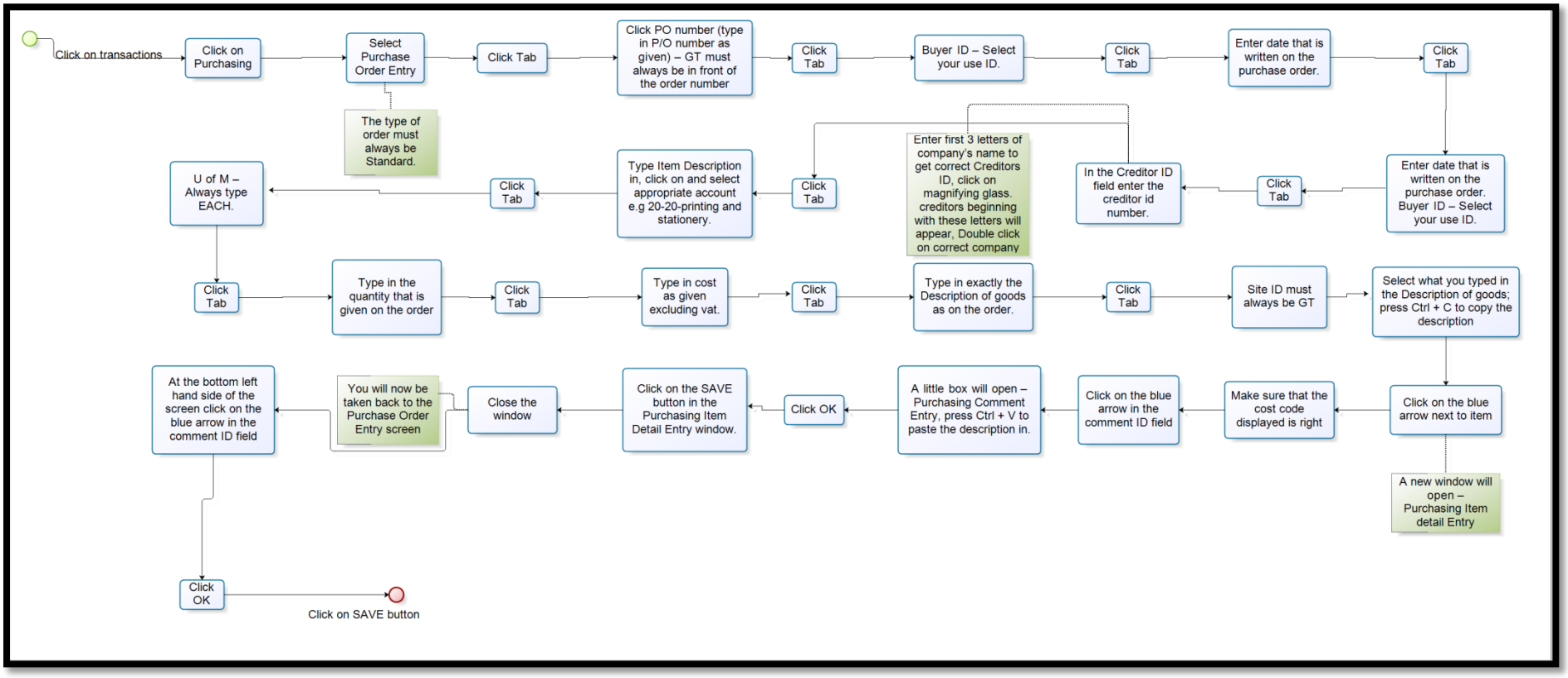


2.3.11. Closing of reimbursement-Admin administrator

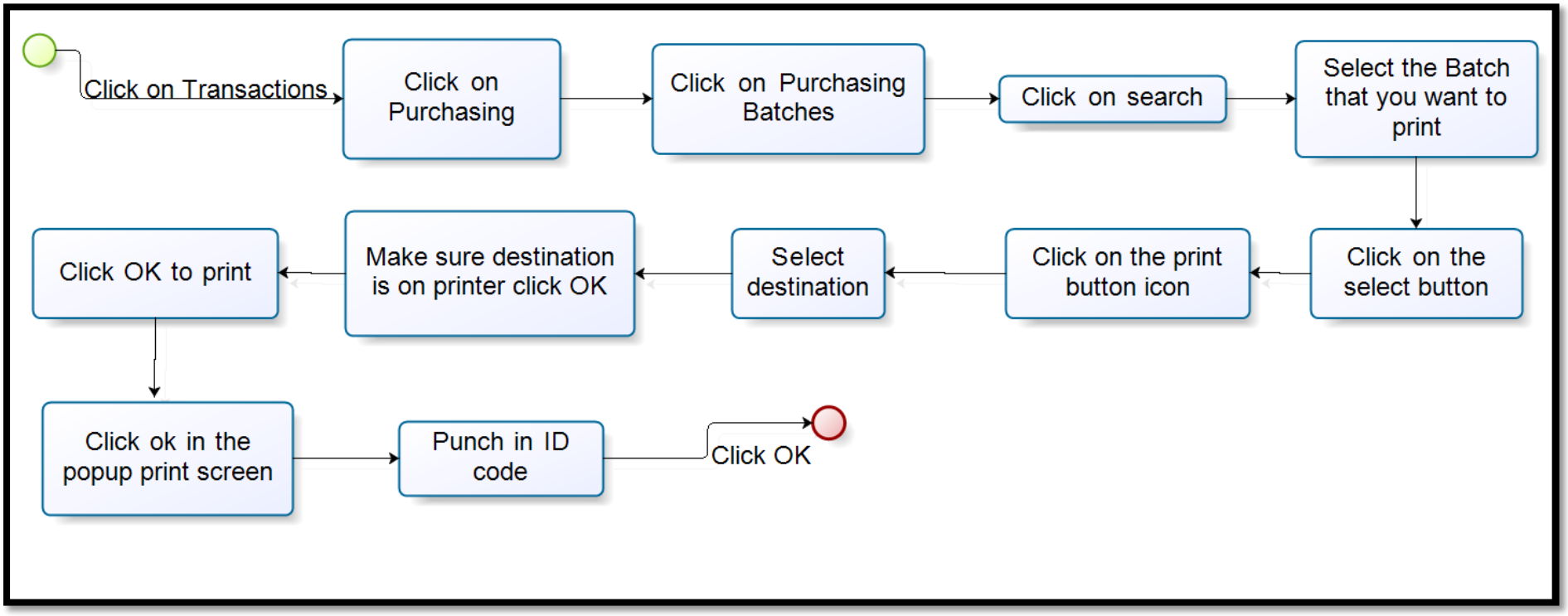


Pula tin is always locked and one designated person is responsible for issuing money and ensuring all documentation is correct. Should this person be sick or on leave the responsibility is handed to another person as per instruction of Accountant. If the person are sick or on leave for a long period Pula must be signed by designated person, and the person receiving Pula as per instruction of the accountant, showing the amount of money and entries as per the day of handover. On return of designated person another handover must be done and signed for and all money must be double checked. Petty cash tin must always be kept in a locked drawer during office hours and locked in Accountants office over weekends.

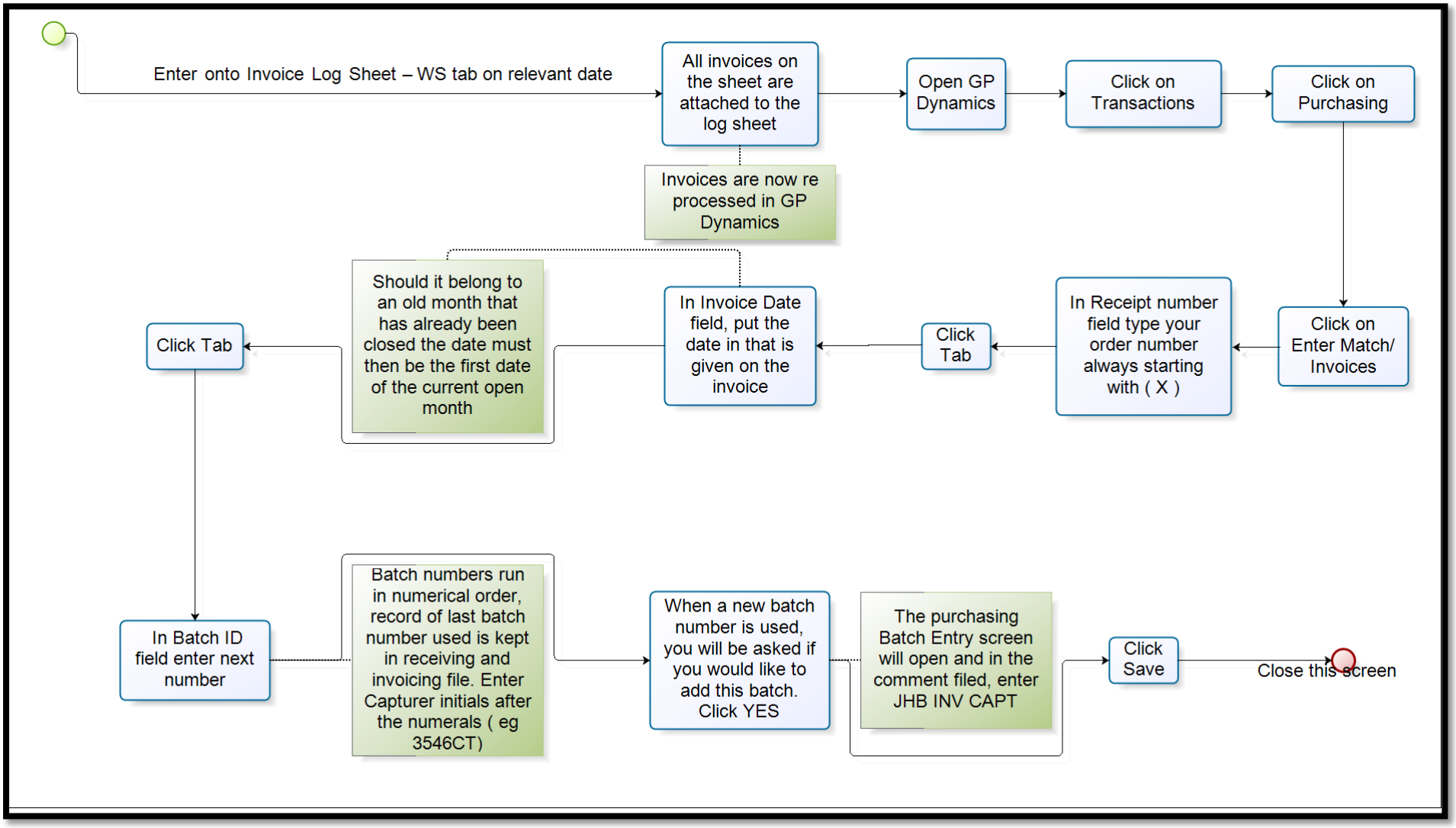
2.3.12. Capturing Purchase Order - Creditors Clerk



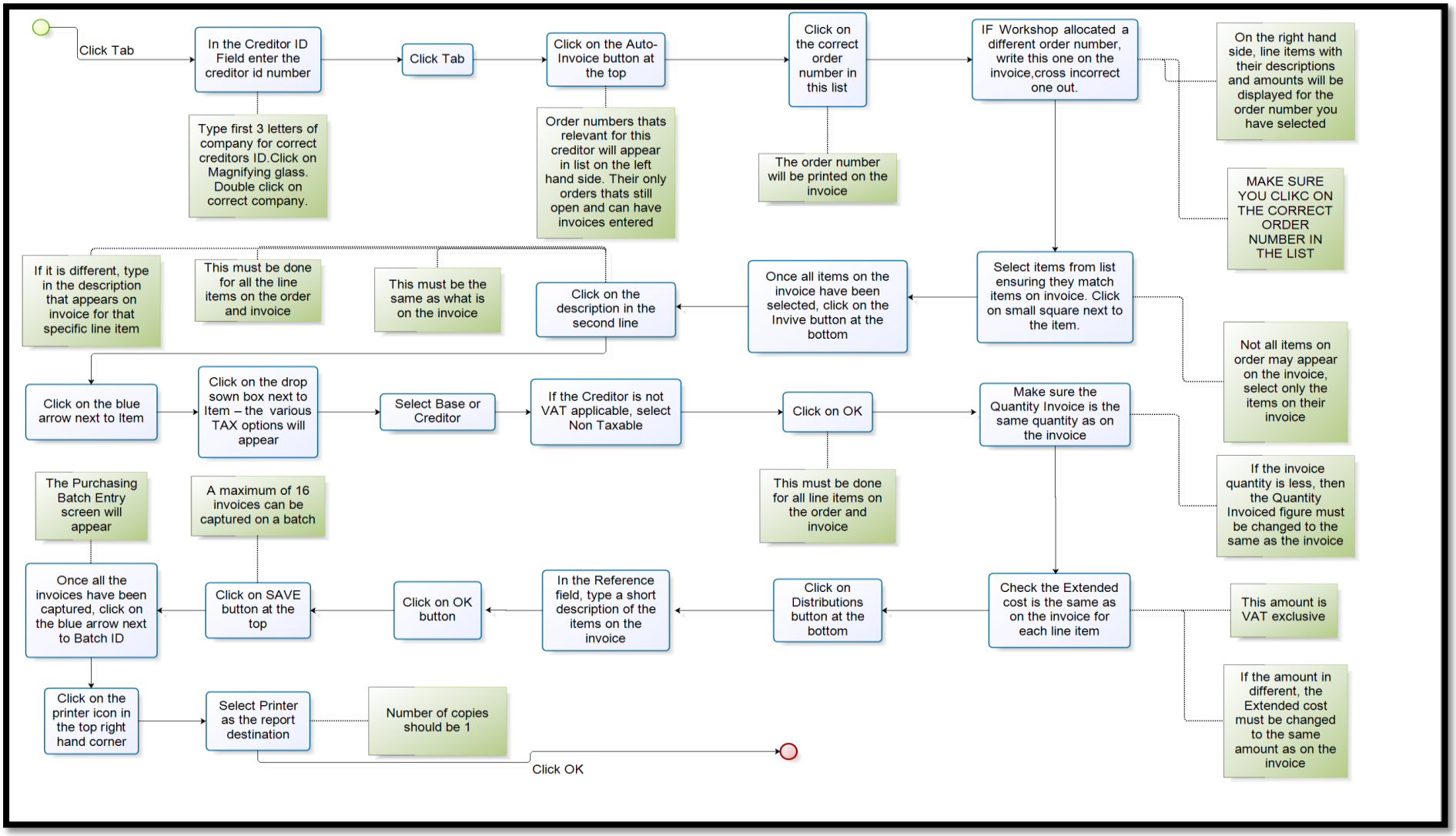
2.3.13. Print Receiving orders and Batch Orders - Creditors Clerk



2.3.14. Processing invoices 1 - Creditors Clerk

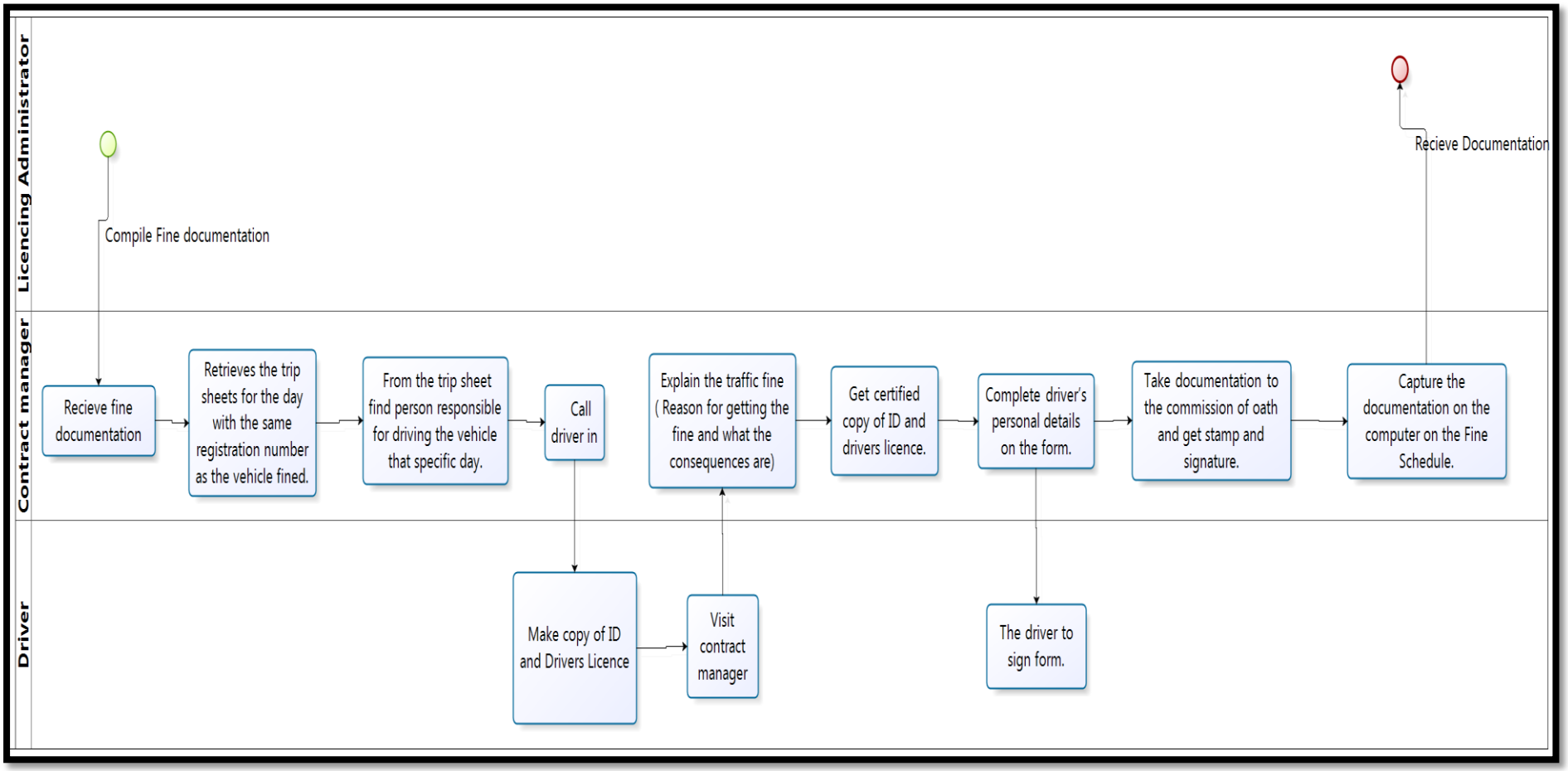


2.3.15. Processing Invoices 2 - Creditors Clerk

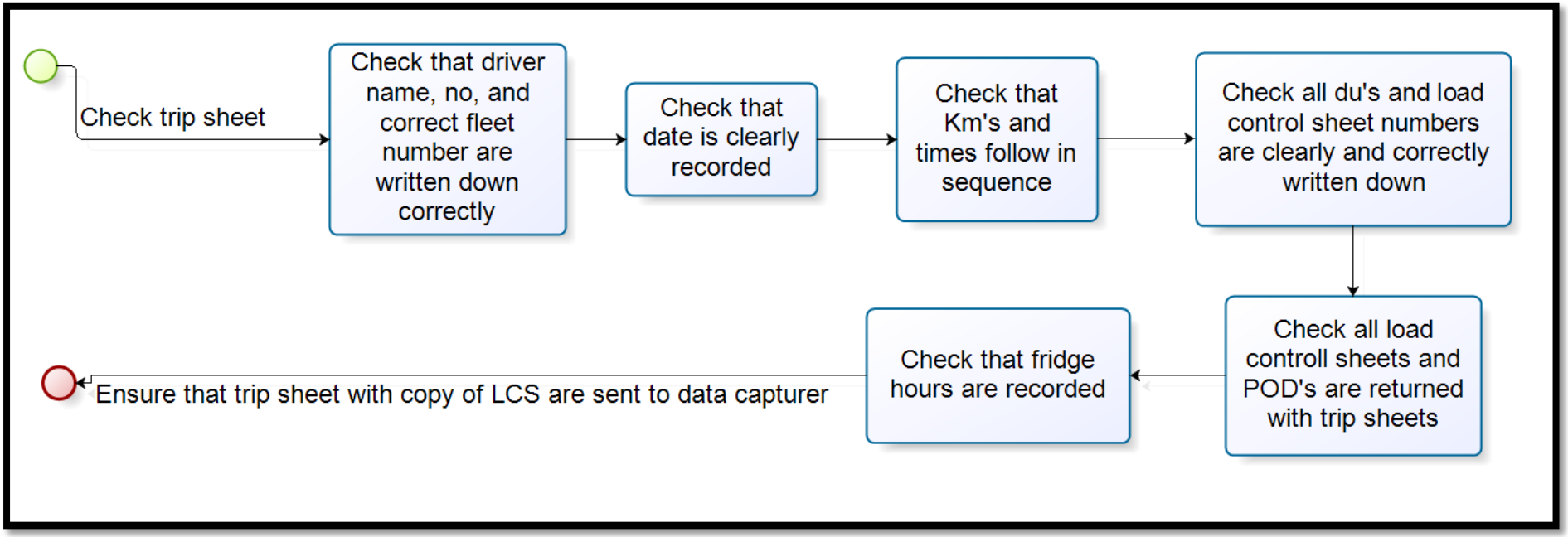


2.4 Operations

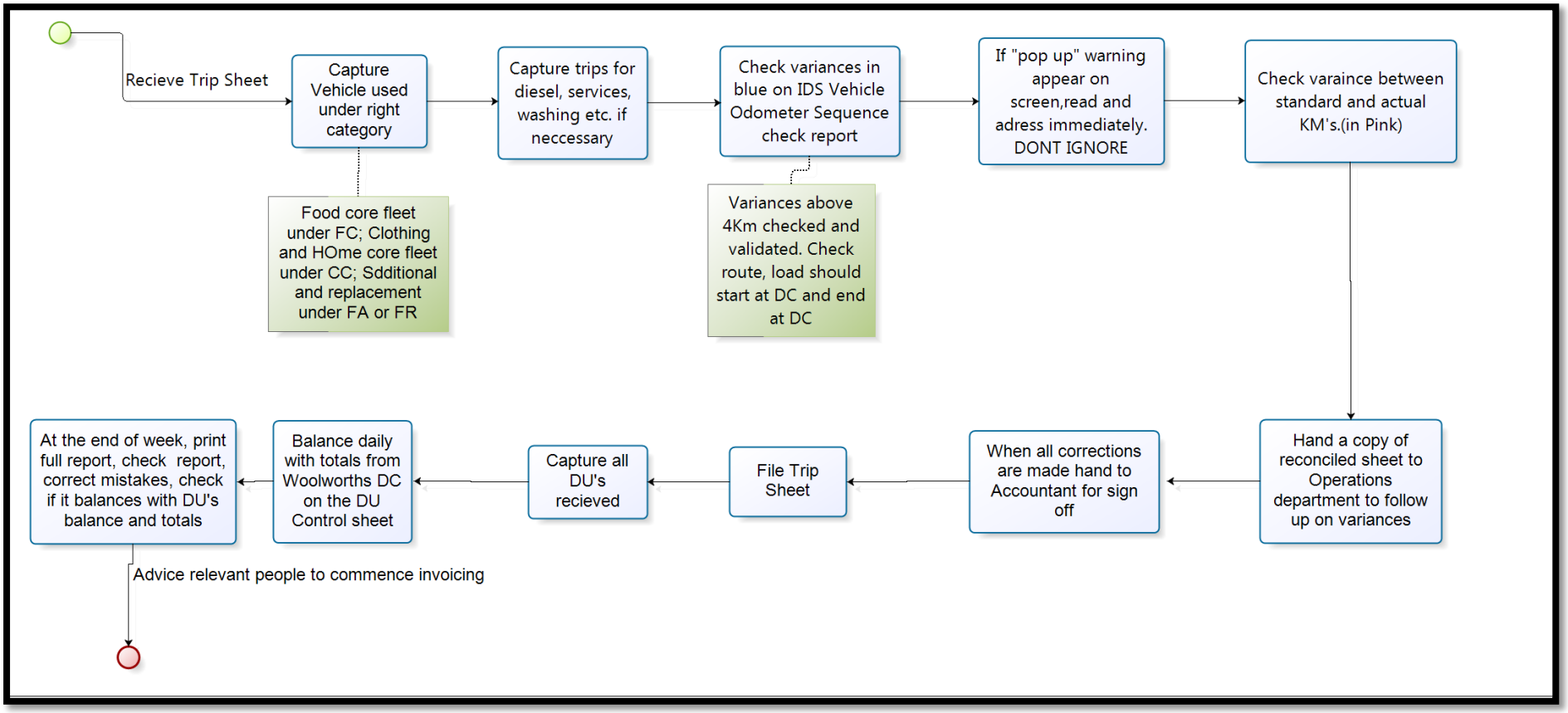
2.4.1. Fine Procedure



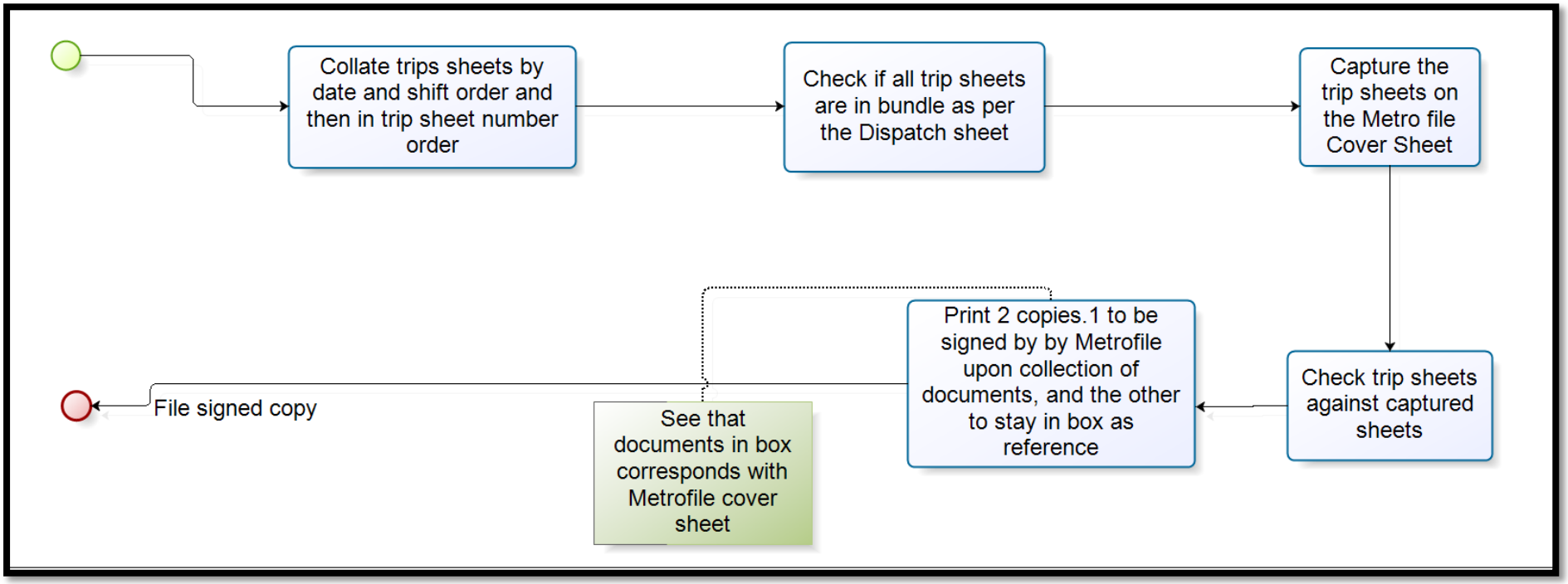
2.4.2. Checks on Trip Sheets - De-briefer



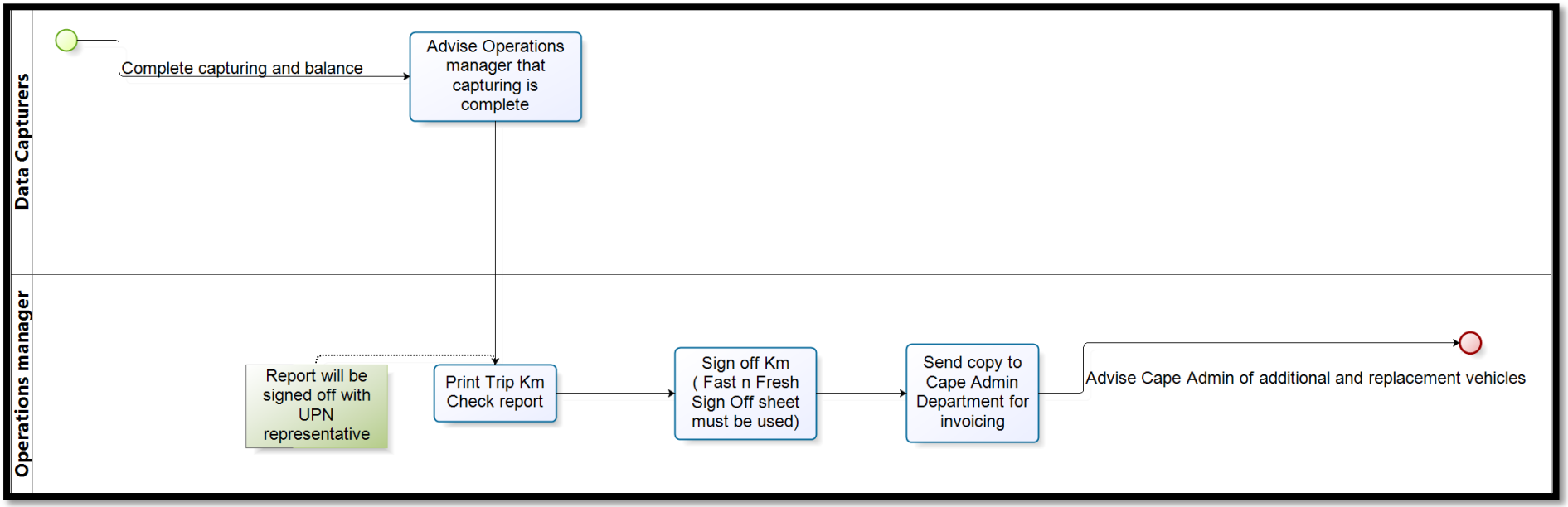
2.4.3. Capturing of Trip Sheets - Data Capturers



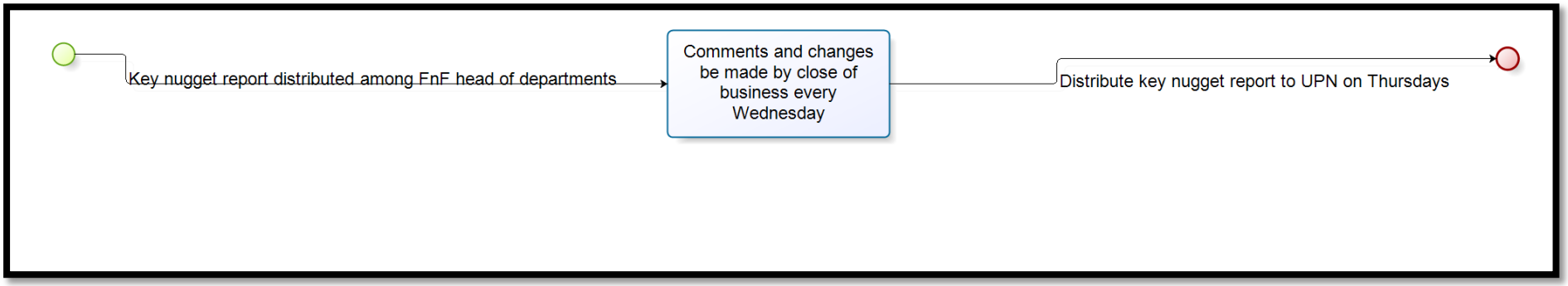
2.4.4. Filing of Trip Sheets (to Metro file) - Data Capturer



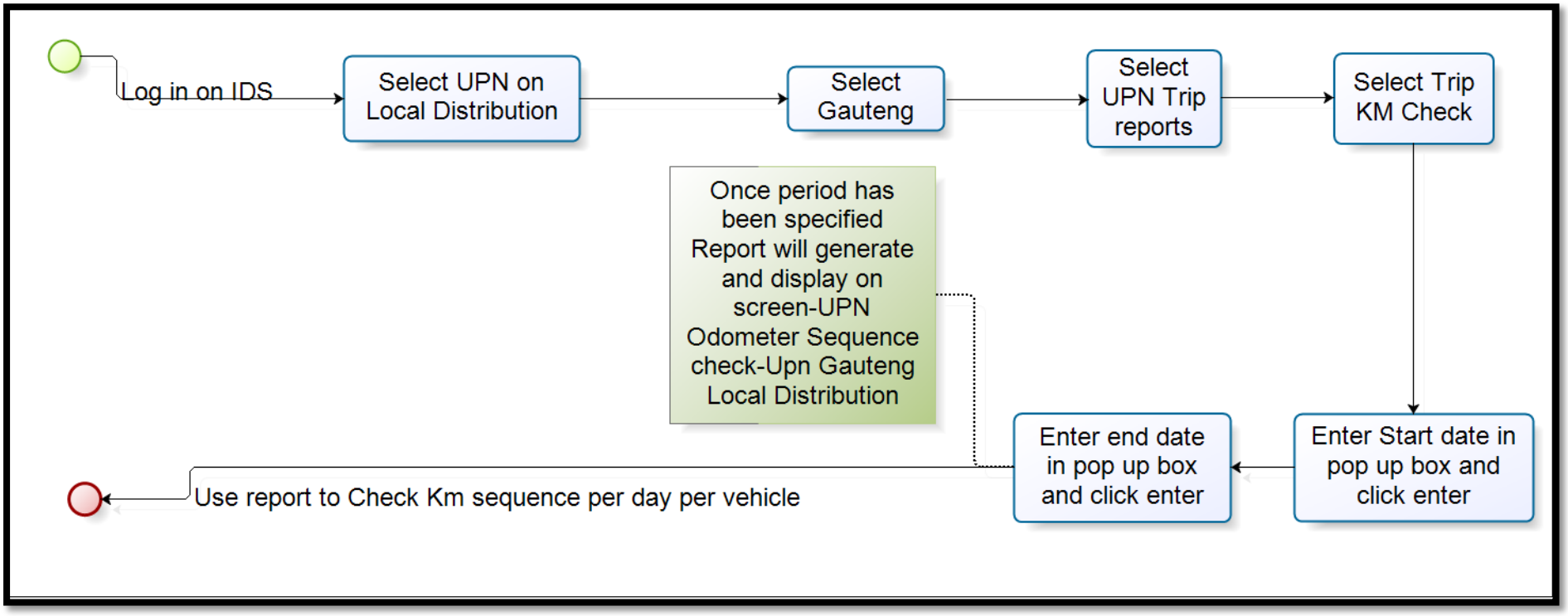
2.4.5. Signing of the kilometres



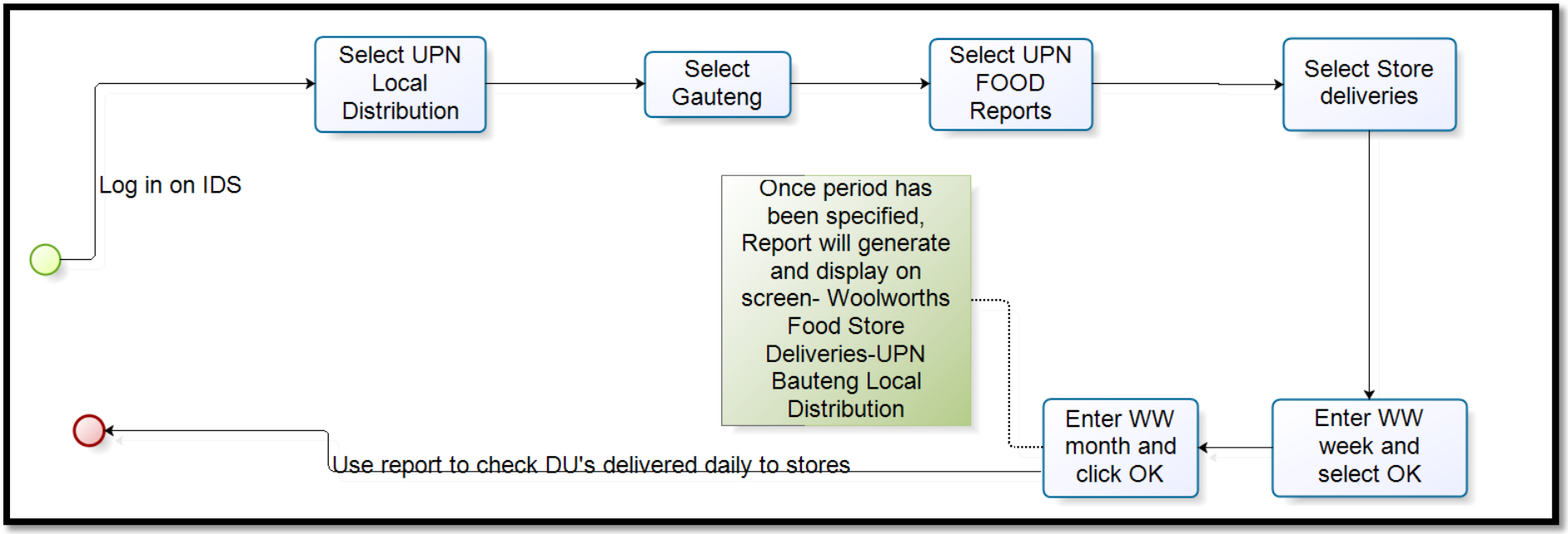
2.4.6. Key Nuggets - Fast 'n Fresh Heads



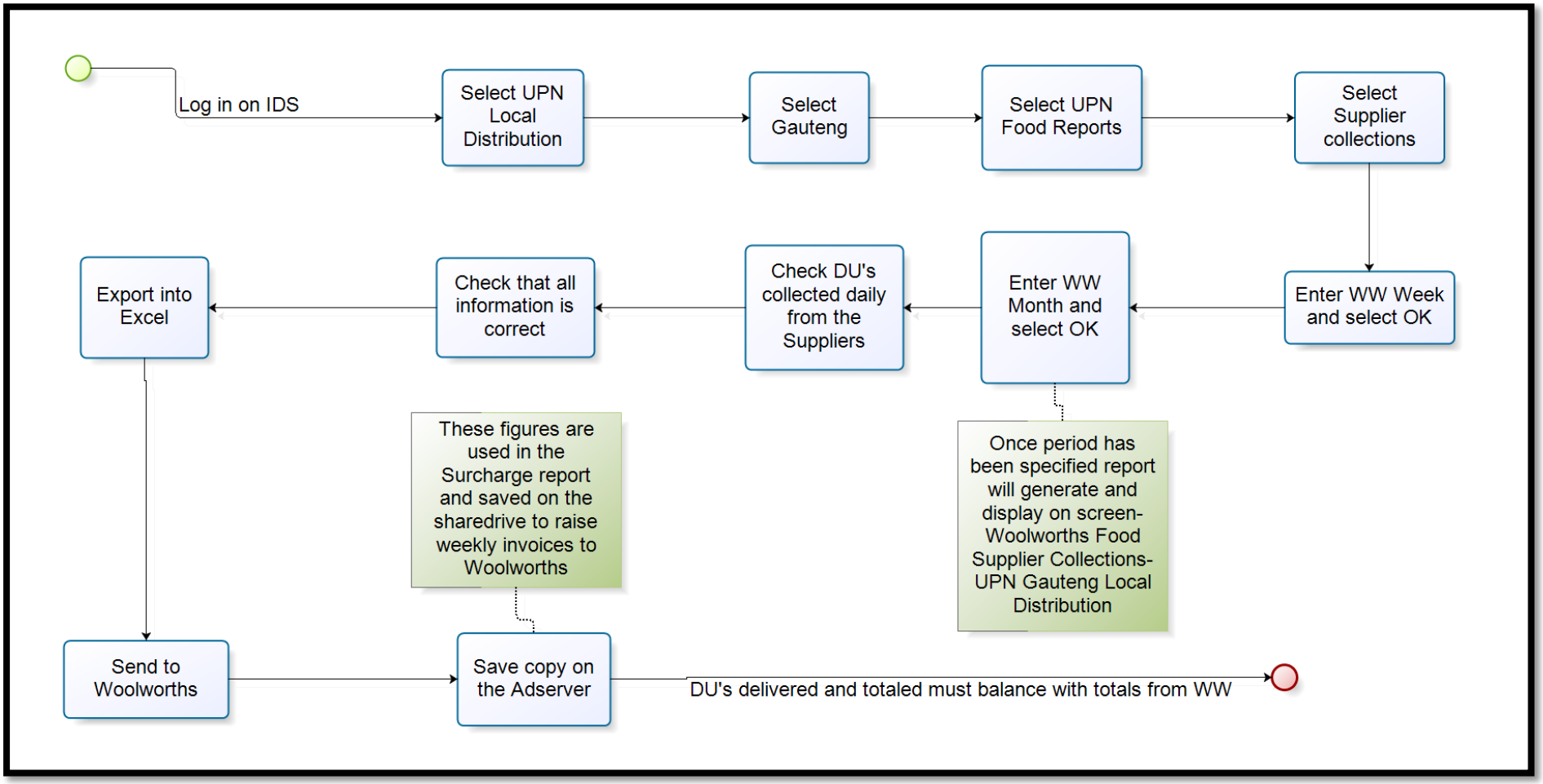
2.4.7. UPN Trip Reports - Data Capturer



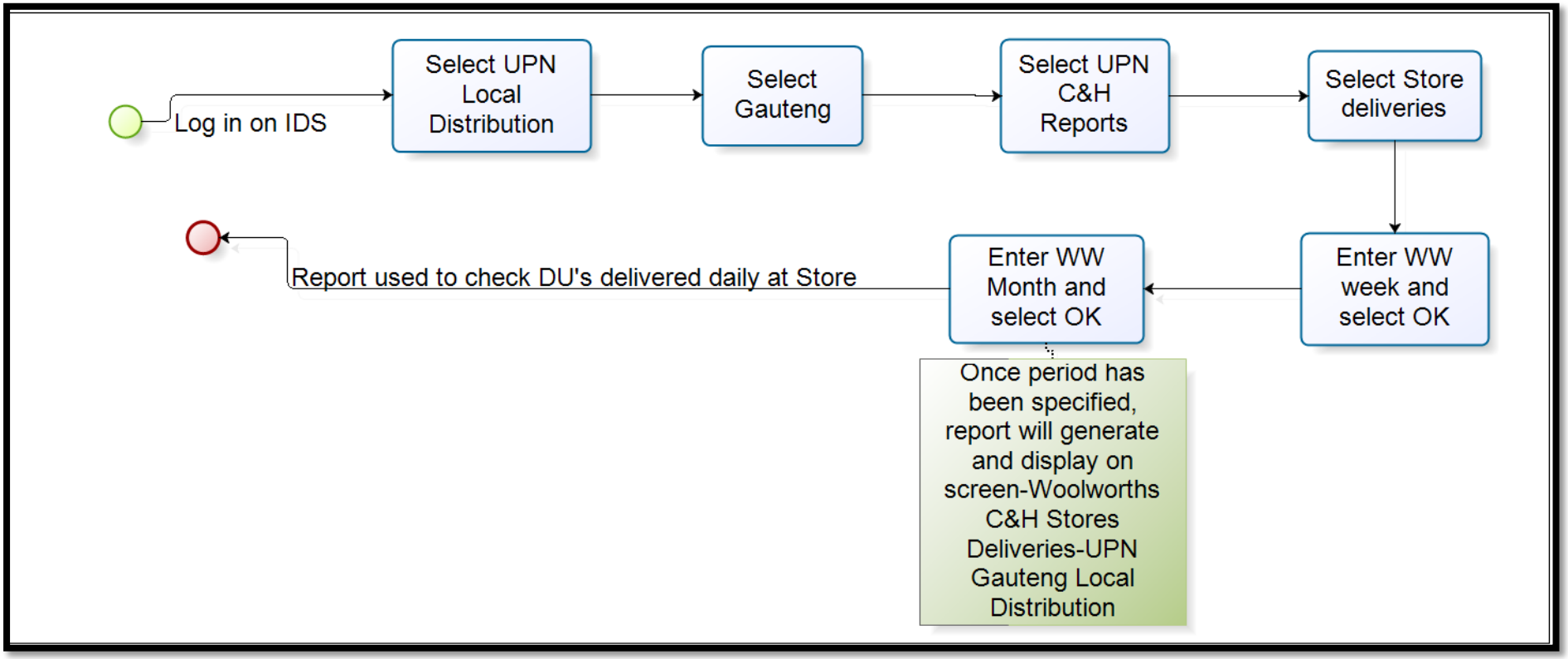
2.4.8. UPN Food report(Delivered) - Data Capturer



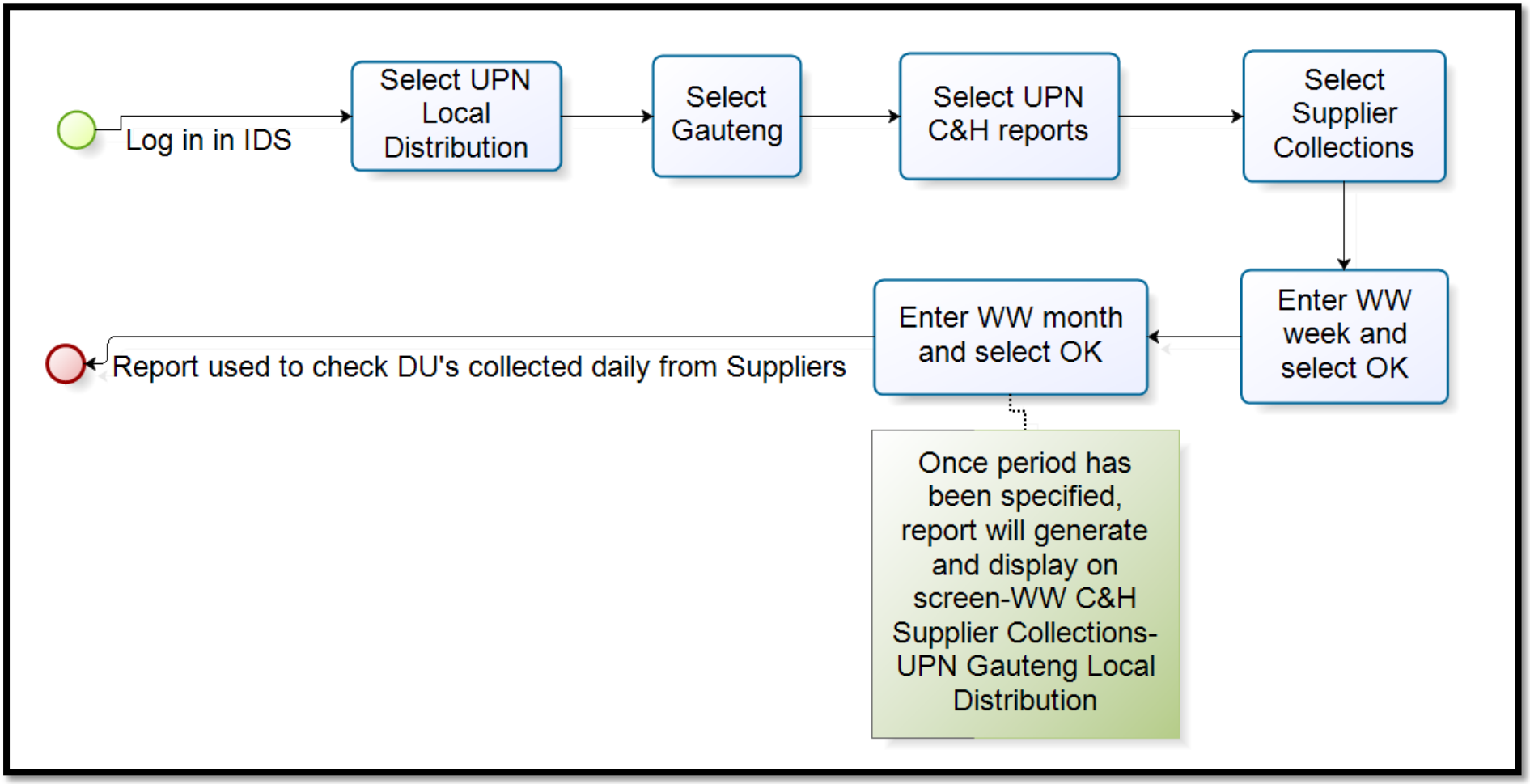
2.4.9. UPN Food reports (Collected) - Data Capturer



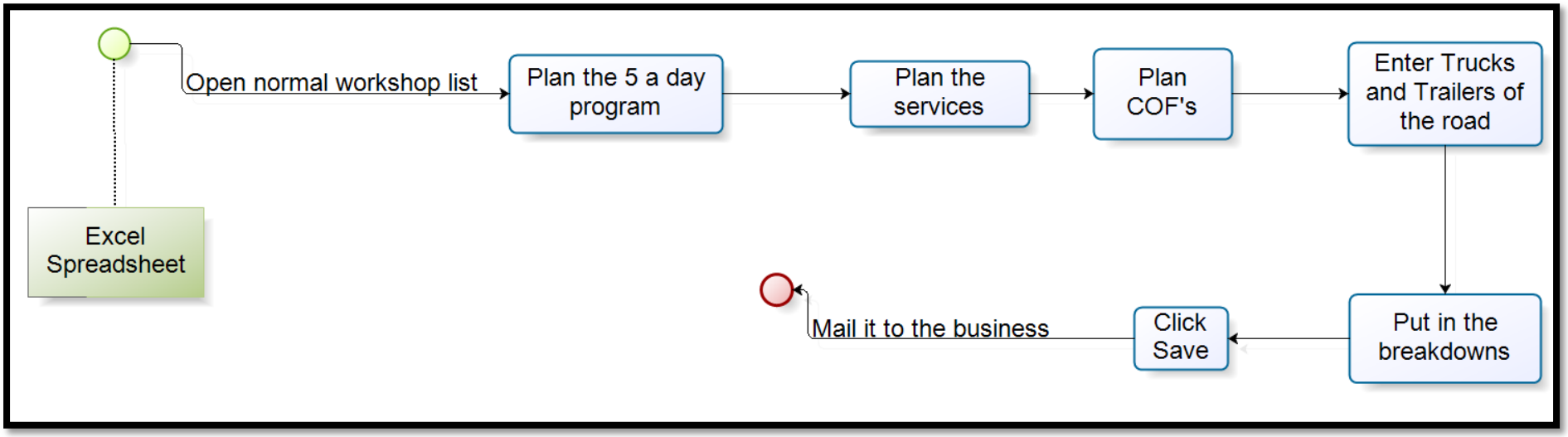
2.4.10. UPN C&H Reports (Store Deliveries)- Data Capturer



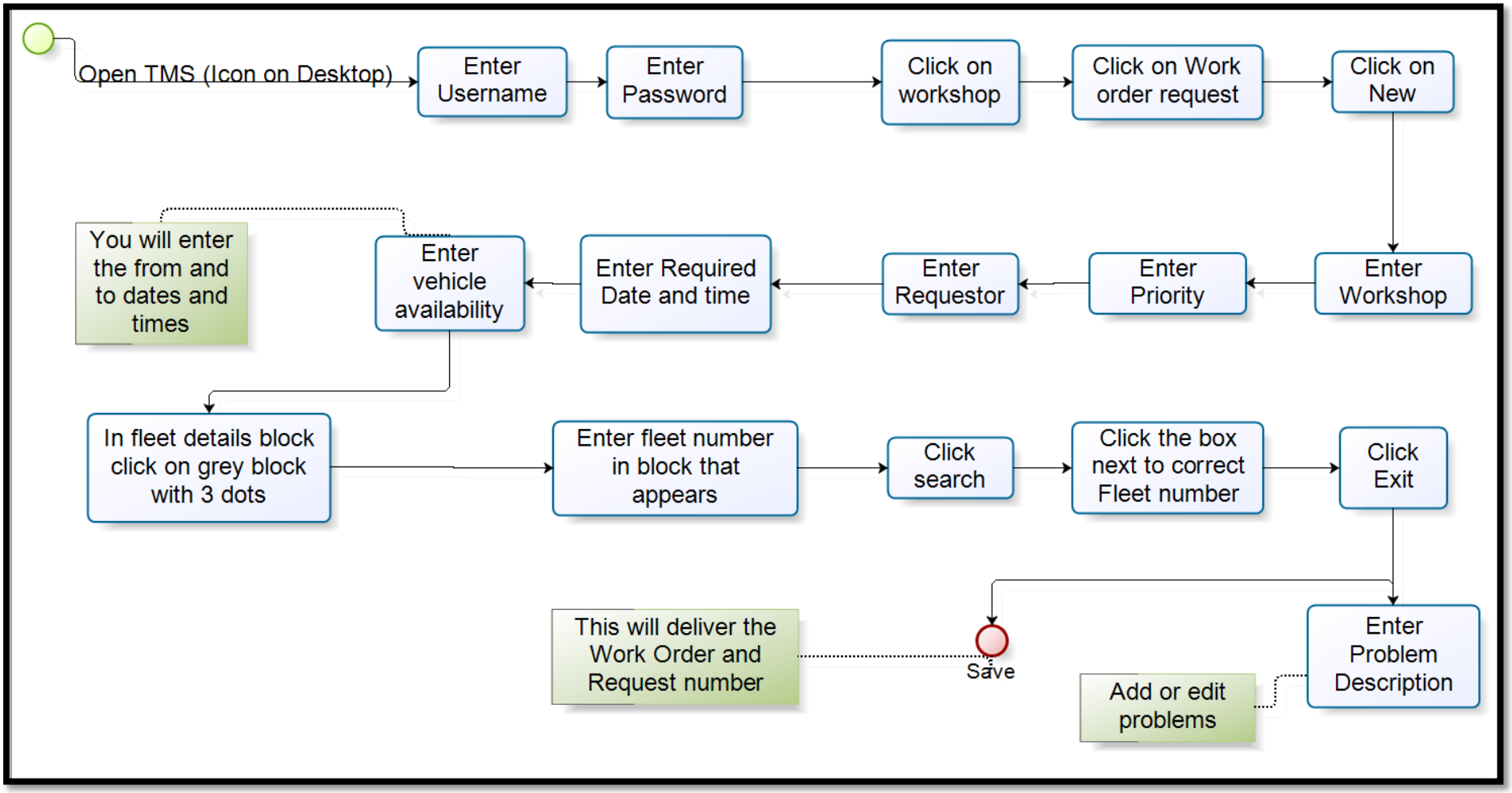
2.4.11. UPN C&H Reports-Supplier Collections - Data Capturer



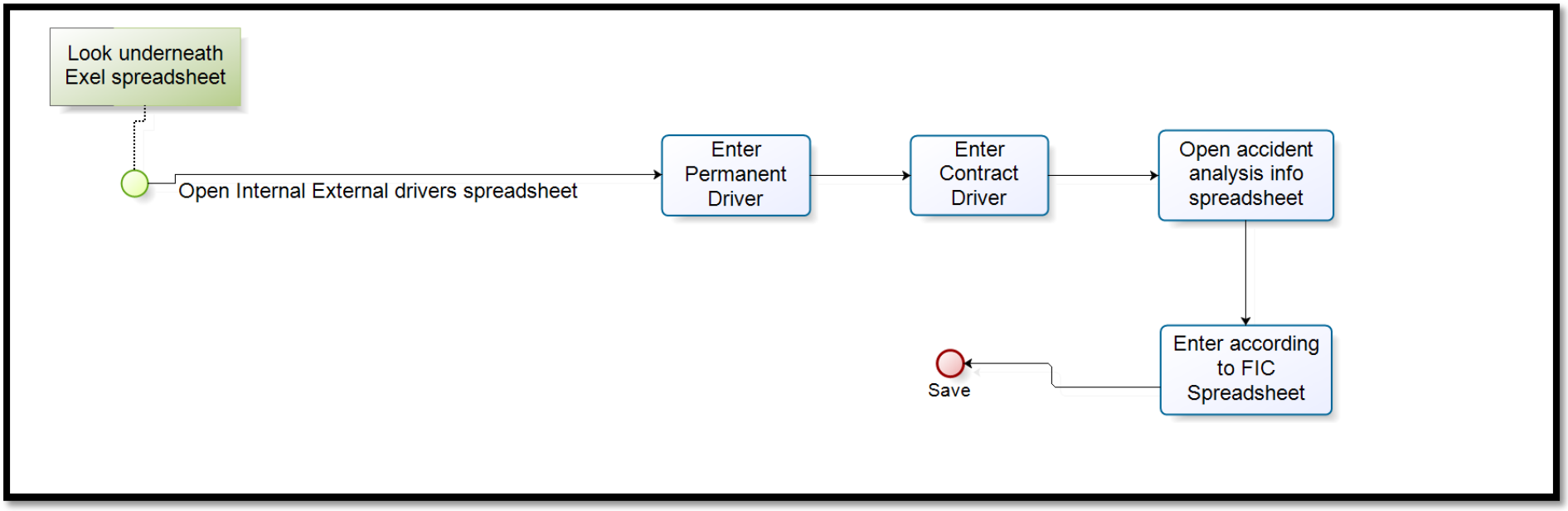
2.4.12. Capturing workshop vehicles(Step1) –Contract manager



2.4.13. Workshop Vehicles Step2 - Contract Manager



2.4.14. First Information of a claim 2 – Contract manager



2.3.15. Dispatching Procedure - Dispatcher