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Venkata Hitesh Matthi

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**Reverse Logistics Optimization
(At a Cellular Providing Company)**

by

Venkata Hitesh Matthi

A Starred Paper

Submitted to the Graduate Faculty of

St. Cloud State University

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for the Degree of

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Abstract

The purpose of the Reverse Logistic Optimization project is to achieve best in class logistics and repair capabilities by integrating with an insurance providing company as a reverse logistics return center for remorse returns for all channels to a cellular providing company. Product recovery, which comprises return, refurbish and repair processes, requires an efficient reverse logistic network.

One of the main characteristics of reverse logistics network problem is uncertainty that further amplifies the complexity of the problem. The degree of uncertainty in terms of the capacities, demands and quantity of products exists in reverse logistics parameters. The goal is to expedite the repair process, leverage their dynamic handling of blind receipts and improved Reverse Logistics Planning–Repair Plan and Kitting Plan to optimize cost and provide new opportunities for revenue creation. The benefits of integration and control will reduce costs in megabucks by optimizing the return, refurbish and repair processes. Very nearly all organizations expect an increment of administration consideration for reverse logistics, and the results demonstrate a substantial potential regarding outsider administration suppliers, including choice help devices around there. Besides, the paper also presents the analyzed hidden reasons for the general low turn around logistics execution and call attention to issues that need change.

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I am introducing you to my capstone project; this project document wouldn't have been possible without the valuable guidance and support from many individuals and organizations.

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Chapter I

INTRODUCTION

Introduction

Logistics framework design gives a perfect platform for the beneficial and effective Supply Chain Management (SCM). It is a basic and imperative operations organization issue in SCM, which incorporates various conflicting objectives; for instance cost, organization level, resource utilization, responsiveness, etc. All around, logistics framework design decisions fuse choosing the numbers, ranges, and cutoff points of workplaces and the measure of the stream between them. Since opening and closing a facility is an expensive and extensive time consuming philosophy, and settling on changes in facility region decisions is incomprehensible in a short run. Since key and operational decisions are determined after the key decisions, the course of action of logistics framework will transform into a prerequisite for tactical and operational level decisions.

Reverse logistics take generally diverse methodology from forward logistics having attributes of exceptionally divided return amounts, different return channels, complex transportation directing, larger amount of expected serviceability for numerous customers and mixed bag of manner alternatives. Because of such attributes, acknowledgment or execution of reverse logistics regularly involves numerous new challenges. Two noteworthy difficulties of reverse logistics would incorporate expense of quality recuperation process and low return rates from clients. Strategizing efficient and cost productive product return arrangement has been creating eagerness for the change of reverse logistics that leads a stream of returned things from the end customers back to the manufacturing units or equipment makers.

Problem Statement

Challenges and difficulties in item/product return procedures involve cautious assessment of two key issues of reverse logistics so as to minimize the variable expense, while advancing higher client item return recurrence. They include wary appraisal of beforehand resolving of issues of logistics system. This paper particularly proposes the characterizing goal of the study, talks about difficulties and constraints in practices of reverse logistics and proposes a system of building introductory gathering focuses as a major aspect of returned inventory network, an arrangement of building social affair as a real part of return stock system; so as to reduce the variable expenses exercised on logistics and to build the item return rate by giving advantageous return areas to clients. The paper shows a scientific system to streamline the variable expense connected with reverse logistics, exploratory framework to optimize the variable costs associated with inverse logistics and uses a lone objective solitary goal for advancement regarding different imperatives and progression in regards to diverse goals.

Nature and Significance of the Problem

As a significant part of supportable progression action, product return system urges manufacturing companies to change importance of supportability into business practices that would reduce common wastes, while reducing continuously creating waste organization cost from common governments. This proposition evaluates the diverse nature of reverse logistics as to product return system progression and presents a programmed philosophy of choosing fitting number and territory of starting social affair centers that would diminish variable cost, while progressing more constant thing return.

Objective of the Project

There has been developing enthusiasm for the improvement of reverse logistics which are profitable to large scale organizations and execution of these reverse logistics would give firms a focused edge in the improvement of economy, yet benefit producing, business methods giving a centered edge in the change of sparing, ultimately for the advantage of delivering business routines successfully. Effective system and appropriate execution of reverse logistics would progress fiscal, and natural focal points not only economic, but also with many other environmental benefits. Advanced monetary, as well as ecological advantages, provide an estimation of returned items, those ought to be checked towards reserve funds of raw material and also an estimation towards the store trusts of material for work.

Limitations of the Project

Other reverse logistics domains that impact the large scale industry are warranties and repairs. These things might turn around to the retailer, yet more likely end up back with the manufacturer. For each circumstance there is an opportunity to give a quality customer experience that may provoke customer dependability and positive casual presentation. There is also an open entryway for the producer to get cost and time profitability in their operations. Repairs frequently go into a thoroughly disconnect work procedure, obliging parts, staff and strategies that are not same as new products. Without a reverse logistics process and proper arrangements set up to regulate returns, organizations need detectable quality into the volume and the method for benefits. This can realize compelling spending on repair parts and staffing levels.

Definition of Terms

Circuiting at the End-of Life Cycle: This can be based mainly upon the conditions concurred at the retailers which infers that the old things must be tossed rapidly and ultimately leading into the break of product returns.

Customer Dissatisfaction: Purchasers may exploit a return policy, and take the advantage when they have issues with item installation or return an item in light of the fact that it is flawed. Return policies sureties are standard practice for most direct deals channels.

Electronic Business Channels: E-commerce has moved the measure of returned items to levels requesting each official's consideration. The rise of offering products by means of the Internet has prompted numerous organizations concentrating on their reverse logistics ability. With the ascent of electronic business channels, there has been a critical increment in buyer returns.

Go-green consideration: Natural and monetary contemplations like environmental and economic considerations will have prompt the manufacturers taking their items back. Common and financial thoughts will incite them, to establish a reverse logistic activity, at the end of their lifetime.

Guarantee or Warranty: Imperfect items or parts can be sent back to retailers or the manufacturer for repair. Items may either be faulty on entry, not-working as specified or for any cosmetic wear and tear. This could happen either to the retailer or the end customer. On the other hand, some items may separate over the span of their life cycle losing its actual functionality.

Knowledge Constraints: At the point when logistics chiefs abruptly need to toss their inventory network into opposite, they confront a wide range of issues framing against an

extensive variety of issues. The logistics managers have to be very careful in reviewing or constructing a reverse logistics design.

Overflow of Goods: Retailers need to make their ledgers and other accounts once in a while, noteworthy, so as to reorganize it again after the end of a money related period. This is a regular practice in various business industries, and also sometimes for specific occasions.

Problematic Ordination: This is a common issue in certain electronic businesses where in a return rates are not surprising. Confounded set-up techniques and an absence of clear and basic directions fuel the issue exacerbating the problems that ultimately leads an idea for returning that product.

Product Recall: A product recall is an appeal to give back an item after the disclosure of wellbeing issues or item abandons that may imperil the shopper or put the manufacturer or dealer at danger of lawful activity. Usually recalls show up in the auto, pharmaceutical, etc.

Shipping Faults: Shipping issues or the insufficient shipments on the other hand impact missing parts, miss quantity, duplicate shipments etc., and unpropitious transport, which can lead the customer to leave behind without an intended usage of that product. Delivery issues, unsold stock, the end of a life cycle or certifiable thing deformities can brief the landing of a product into returns category.

Chapter II

REVIEW OF LITERATURE

Introduction

This chapter provides a review of literature of research methodology, the background of services from T-Mobile, and the issues related to the inefficiency of the services.

T-Mobile International AG is a German holding company for Deutsche Telekom AG's various mobile communications subsidiaries outside Germany. Based in Bonn, Germany, its subsidiaries operates GSM, UMTS, and LTE-based cellular networks in Europe, the United States, Puerto Rico, and the U.S. Virgin Islands. The company has financial stakes in mobile operators in both Central and Eastern Europe. The T-Mobile brand is present in 12 European countries—Austria, Croatia, Czech Republic, Germany, Hungary, Macedonia, Montenegro, the Netherlands, Poland, Romania, Slovakia, and the United Kingdom, as well as the United States, Puerto Rico, and the U.S. Virgin Islands.

T-Mobile U.S., Inc. is the United States-based subsidiary of T-Mobile International AG. It provides wireless voice, messaging, and data services in the United States, Puerto Rico, and the U.S. Virgin Islands under the T-Mobile, MetroPCS, and GoSmart Mobile brands. The company operates the fourth and fifth largest wireless networks in the U.S. market with 53 million customers and annual revenues of \$21.35 billion. Its nationwide network reaches 96% of Americans. Globally, T-Mobile International is the world's 15th largest mobile phone service provider by subscribers and the fourth largest multinational.

Background of the Problem

One of the main characteristics of reverse logistics network problem is uncertainty that further amplifies the complexity of the problem. The degree of uncertainty in terms of the capacities, demands and quantity of products exists in reverse logistics parameters. The goal is to expedite the repair process, leverage their dynamic handling of blind receipts and improved Reverse Logistics Planning—Repair Plan and Kitting Plan to optimize cost and provide new opportunities for revenue creation. The benefits of integration and control will reduce costs in megabucks by optimizing the return, refurbish and repair processes. Very nearly all organizations expect an increment of administration consideration for reverse logistics, and the results demonstrate a substantial potential regarding outsider administration suppliers, including choice help devices around there.

Logistics framework design gives a perfect platform for the beneficial and effective Supply Chain Management (SCM). It is a basic and imperative operations organization issue in SCM, which incorporates various conflicting objectives; for instance, cost, organization level, resource utilization, responsiveness, etc. All around, logistics framework design decisions fuse choosing the numbers, ranges, and cutoff points of workplaces and the measure of the stream between them. Since opening and closing a facility is an expensive and extensive time consuming philosophy; and settling on changes in facility region decisions is incomprehensible in a short run. Since key and operational decisions are determined after the key decisions, the course of action of logistics framework will transform into a prerequisite for tactical and operational level decisions (Ryder, n.d.).

As a significant part of supportable progression action, product return system urges manufacturing companies to change importance of supportability into business practices that would reduce common wastes, while reducing continuously creating waste organization cost from common governments. This proposition evaluates the diverse nature of reverse logistics as to product return system progression and presents a programmed philosophy of choosing fitting number and territory of starting social affair centers that would diminish variable cost, while progressing more constant thing return. The utilization of this hypothesis would permit “green” open entryways for relationship to strategize and execute cost-efficient reverse logistics to impel sensibility. Challenges and difficulties in item/product return procedures involve cautious assessment of two key issues of reverse logistics so as to minimize the variable expense, while advancing higher client item return recurrence.

Reverse logistics take generally diverse methodology from forward logistics having attributes of exceptionally divided return amounts, different return channels, complex transportation directing, larger amount of expected serviceability for numerous customers and mixed bag of manner alternatives. Because of such attributes, acknowledgment or execution of reverse logistics regularly involves numerous new challenges. Two noteworthy difficulties of reverse logistics would incorporate expense of quality recuperation process and low return rates from clients. Strategizing efficient and cost productive product return arrangement has been creating eagerness for the change of reverse logistics that leads a stream of returned things from the end customers back to the manufacturing units or equipment makers.

Literature Related to the Problem

It is desired by the reverse logistic planning team that once the forecast is generated it has to be segregated based on rules on whether it is considered for repair, or it has to be sent to OEM (Original Equipment Manufacturer) or if it goes into asset management and so on. This will help in speeding up the process as the number of items which T-Mobile using for repair is a subset of the forecast. This process of segregation happens only after the yield process has taken place. The reasons for returning products can be distinguished by where the returns initiated, and the current process to be employed now, only has to deal with single return center “*FWRC (Ingram)*.” It is assumed that this design is true only for SKU (Stock Keeping Unit) identifier, dealt by T-Mobile.

Throughout this lifecycle, the four given companies have been engaged in one way or another to stimulate a successful reverse logistics optimization. Root-cause analysis should be at the heart of every reverse logistics system. A return goods management system provides a window into manufacturers’ faults. The real benefit comes from sharing information with design, production, packaging and other departments on such things as what products are coming back and why they are coming back. This way reverse logistics systems can nip return problems ‘in the bud’.

A good reverse logistics system includes proper data collection and effective reporting. To understand a consumer’s reason for returning a good, TMUS must collect structured and consistent data concerning the reason for the return and the product and its condition. With this information, trends should be analyzed in individual products and consumer segments to determine root causes.

Literature Related to the Methodology

A specialist service provider in the reverse logistics arena can significantly make improvements to reduce costs, to improve customer service and to increase revenues. Including the wary appraisal of resolving of issues of logistics system, this project particularly proposes the characterizing goal of the study, talks about difficulties and constraints in practices of reverse logistics and proposes a system of building introductory gathering focuses as a major aspect of returned inventory network, an arrangement of building social affair as a real part of return stock system; so as to reduce the variable expenses exercised on logistics and to build the item return rate by giving advantageous return areas to clients. The project shows a scientific system to streamline the variable expense connected with reverse logistics, exploratory framework to optimize the variable costs associated with inverse logistics and uses a lone objective solitary goal for advancement regarding different imperatives and progression in regards to diverse goals.

There has been developing enthusiasm for the improvement of reverse logistics which are profitable to large scale organizations and execution of these reverse logistics would give firms a focused edge in the improvement of economy, yet benefit producing, business methods giving a centered edge in the change of sparing, ultimately for the advantage of delivering business routines successfully. Effective system and appropriate execution of reverse logistics would progress fiscal, and natural focal points not only economic, but also with many other environmental benefits. Advanced monetary, as well as ecological advantages provide an estimation of returned items, ought to be checked towards reserve funds of raw material and estimation towards the store trusts of material for work.

At the point when large scale manufacturers inspect the aggregate estimation of products gave back, the sheer size of the chance to take advantage of shrouded benefits can be amazing. For large scale industries, reverse logistics offers a wealth of wage opportunities despite techniques that can help them be more capable and dodge fines. With everything taken into account, the business organization spends over billions on returns reliably. Front line makers without an all that much supervised reverse logistics approach could be losing more than 50 per cent of the returned stock quality since the majority of offers for returned things can be sold in assistant channels. This lost open entryway could mean millions for a medium to large scale associations. Despite missing wage opportunities, large scale associations could similarly stand up to basic disciplines in case they don't have a reliable reverse logistics change set up with respect to the matter of regulations (Stock & Mulki, 2009).

Expanding income is constantly invited by any organization, along with securing the benefits, which can be generally described as discrimination of development and these securing advantages can be considered for the most part as segregating for advancement. For manufacturers and retailers alike, this sort of enactment builds centralized control, reporting necessities, checking abilities and potential budgetary dangers. Taken in its whole, the developing budgetary danger of fines and different risks is essentially more prominent than the expense of fitting returns handling or even the estimation of all returned stock. These expanded dangers, along with constantly developing handling expenses and the rising estimation of profits, oblige that producers and retailers inspect their current reverse logistics methodologies to guarantee that they have full control over the procedure and the resulting item mien. There are

certain situations where the non-flawed thing may be in faultless working demand or damaged by the customer yet in the meantime repairable.

Hence, the returns system guidelines make to decide when a thing is to be returned and under what conditions it will be recognized. These large scale organizations need to develop their assurance and return techniques with a finished objective to strike a concordance between giving a satisfactory level of customer service and guaranteeing the organization. On the other hand, return procedures decrease the customer's risk when getting the stock. In any case, organizations, in significantly competitive markets, for instance, the bleeding edge industry, have generously more liberal return methods that actually concentrate on reduction of their customer's risks, which will therefore drive customer constancy, which is ultimately beneficial to that organization.

The amount of returns and the strategy for preparing them, drive the aggregate expense of profits. Organizations can change the way they are to oversee returns, modify the way they process returns, utilization propelled innovation to process all the more proficiently and to counteract returns or eventually outsource their whole returns inventory network.

Chapter III

METHODOLOGY

Introduction

This chapter provides a detailed description of the methodology used to study. The objective was to analyze the process and understand the inefficiencies in the system and to help find ways to eliminate them.

Design of Study

First, the process flow, facility design, and service were understood by conducting a walkthrough survey and meetings with the management. After the problems were identified, data was collected with the data collection tool. Next, the marketing strategies, service recovery principles and customer relationship management were improvised and then suggestions were discussed with the management with a qualitative and quantitative approach (Aberdeen Group, 2006).

Other reverse logistics domains that impact the large scale industry are warranties and repairs. These things might turn around to the retailer, yet more likely end up back with the manufacturer. For each circumstance, there is an opportunity to give a quality customer experience that may provoke customer dependability and positive casual presentation. There is also an open entryway for the producer to get cost and time profitability in their operations. Things returned for repairs are frequently viewed as inbound shipments; nonetheless, they are not the same as tolerating raw materials or fragments. Repairs frequently go into a thoroughly disconnect work procedure, obliging parts, staff and strategies that are not same as new products. Without a reverse logistics process and proper arrangements set up to regulate returns,

organizations need detectable quality into the volume and the method for benefits. This can realize compelling spending on repair parts and staffing levels (National Retail Federation, 2011).

Detectable quality and tracking are in like keys for sending repaired products back to customers and to ensure the capability and customer loyalty. Because of this, various organizations with greater competencies keep up stricter returns policies that place a more noteworthy measure of the risk on their customer. In the purchaser perspective, customers expect repairs and surety cases to be had a tendency to quickly and unequivocally. Appropriately, how well an organization gets, tracks, techniques, addresses the repair or warranty case and a short time later passes on the thing back to the customer has regard paying little mind to the way that money does not change hands (Fleischmann, 2005).

Various equipment organizations address these sorts of benefits in some limit, yet the most forceful complete effective affiliate's trade advantages that depend energetically on speak logistics heavenliness. To be sure, to handle the amount of repairs made by the bleeding edge showcase, an absolutely new sub-industry of untouchable repair associations has created. (Ref #11) Dynamic creators who need to get bit of the pie will be in likely manner of grasping the impelled exchange programs, which extend the benefits course of action well beyond. The flawed product will be returned after the customer gets a substitution thing. This minimizes downtime for the customer and gives the manufacturer a way to deal with shipping holders and can urge to minimize the additional mischief to the product in the midst of the landing back the product all through. Exchange undertakings are significantly huge for producers of expensive

products and organizations with discriminating field service programs that give better customer service (Golinska, n.d.).

Basically, a service must be designed from the customer's perspective. A quantitative method focused on numbers and frequencies helped to analyze the deficiencies in the system, whereas a qualitative method focused on collecting data and help understand the customer needs.

The following steps were followed to design the study:

1. Initially, a thorough understanding and analysis of the process was performed by observing, discussing and getting familiar with the management, employees and facility.
2. An utility is created for Subcontract Repair Expiry process, whereby any goods on a subcontract purchase order that have not been received within receiving distribution center within 45 days will be "expired". This will be used as daily background job run.
3. A custom report program (ZTRMM_EXPIRE_SUBCONTRACT_PO) is created for Subcontract Repair Expiry process, whereby any goods on a subcontract purchase order that have not been received within receiving distribution center within 45 days will be "expired." This will be used as daily background job run.
4. Extended IDOC DELVRY03 to ZRDELVRY is included and new message type ZRDESADV which will have the additional segments as per the mapping required and IDOC user exit is been enhanced to add logic to populate the new segment fields.
5. For TMO Return scenarios TMRABD, TMRACD, TMRAWEB, the serial numbers are obtained from the forward transactions using VBFA and ZTMM_IMEI_OER table to get the forward delivery and their serial numbers.

6. For the other Return scenarios, TMRADL, TMRAINS, and TMRAWAR, the serial number is obtained for the Z_EXPECTEDRETURN event. After the 'serial numbers' are determined, RFC-Z_TMM_DEVICE_INFORMER_RFC is called to get the device informer data from OER HANA [via OER] for the serial numbers and scenario.
7. The outstanding quantity is calculated and the ZE1 movement is posted. Outstanding quantity will be Shipped quantity - EKET-WEMNG.
8. The shipped quantity calculated with "PO number" and "Line item number" in table EKBE. All records with field "Delivery" and "Shipped Quantity" are derived and status of delivery pass EKBE-BELNER in LIKP is verified to check if WADAT_IST is blank, and then record from selection is filtered out. Finally EKBE-MENGE is aggregated to get Shipped Quantity.
9. A solution is required in order to monitor IDOC messages exchanged between Assurant and T-Mobile. The ALE Audit message is used to communicate a summary of all IDOC messages received and the corresponding IDOC status.
10. All IDOCs that have status 4 are sent to Assurant, indicating the message was received and successfully processed in the Assurant system.
11. All IDOCs that have status 53 received from Assurant, indicating the message was received and successfully processed in the T-Mobile system.
12. OER table entries are created as follows that will ensure (a) serial number for 541 movement, (b) set serial number for 101 movement, and (c) find out missing IMEI number.

Data Collection

All the data collection was performed at T-Mobile. It involved two types of the collection. One was a face-to-face interview with the Senior Managers for EIT Developments, Ram Kammili, and Roy Debadrita; and other leads involved in the crucial developments for various managerial issues internally in T-Mobile. Other was the questionnaire, which was a survey method filled out by the customers involved in Returns, Refurbishing and Repairs.

A report was developed in which data was captured based on the list of processes gathered. The purpose of this report is to verify Master Data setup and verify the integrity of the data. In order to verify the master data setup for BroadTech we got to include Plant DC35 and Storage Location DC35.

A Substitution Matrix Inventory Report was developed that has contents of the Third Party logistics provider Substitution and Exchange Matrix. A-stock and refurbished SKU's are been entered into the substitution matrix. A change in selection parameter was made on the default Return Plant to DC35 instead of the existing Return Plant DC30, however Distribution Centre remained DC15.

The data collection software was created, approved and then installed by the T-Mobile management and was online for easy access to customers, which paved a great favor to collect data through the survey. This was helpful in creating Service Blueprint. The survey was conducted within a span of year. All data was recorded randomly. The data collected from the survey was useful in listing the inefficiencies and proposing the recommendations to overcome the issues (Prophet, n.d.).

Data Analysis

The quantitative data analysis was performed using the Data tabulation (frequency distribution and percent distributions) method because the data collected had three levels of measurement listed below:

1. Nominal data: Data which is a basic classification and does not have a logical distinguishing.

Example: Male or female

2. Ordinal data: Data has logic but the difference between the values is not constant.

Example: Returns, Refurbish, Repairs etc.

3. Interval data: data is continuous and has a logical order, there is no zero value but have standardized difference between the values.

Example: Rank your satisfaction on a scale of 1-5

- 1 = very dissatisfied
- 2 = Dissatisfied
- 3 = Satisfied
- 4 = Very satisfied
- 5 = Excellent

After the survey was conducted and the data was collected, the data tabulation method was applied. It helped calculate the frequency distribution and percent distributions. These helped corner out the inefficiencies and then come up with service improvement analysis.

From the interview, it was noted that the Customer Relationship and customer satisfaction was an important aspect of the service recovery strategy for T-Mobile. It was used to

study situations in which customers are satisfied or dissatisfied and how their expectations were met and how the service quality was improved. Long waiting times result in dissatisfied customers. This was overcome with implementing online written complaints or reporting of devices. The brand recognition and quality maintenance were critical in the implementation. The types of customers were categorized and then the rooms and services were allocated accordingly. (destinationCRM.com, 2013).

Timeline

The executed timeline for this project is shown in Table 1 and Figure 1.

Table 1

Project Timeline

Task Id.	Task	Days	Start Date	Finish Date
	<i>Implementing Reverse Logistics Optimization for T-Mobile</i>	303	1/5/2015	11/4/2015
1	Project Idea Formulation and Research	53	1/5/2015	2/27/2015
2	Project Proposal Write-up	18	3/2/2015	3/20/2015
3	Gathering the requirements	18	3/23/2015	4/10/2015
4	Analyzing the requirements	18	4/13/2015	5/1/2015
5	Designing the code	25	5/4/2015	5/29/2015
6	Developing the code	60	6/1/2015	7/31/2015
7	Testing the developed code	25	8/3/2015	8/28/2015
8	Deploying the tested code	15	8/31/2015	9/15/2015
9	Evaluating the Web Application	14	9/16/2015	9/30/2015
10	Project Write-up	8	10/1/2015	10/9/2015
11	Final Defense	2	11/2/2015	11/4/2015

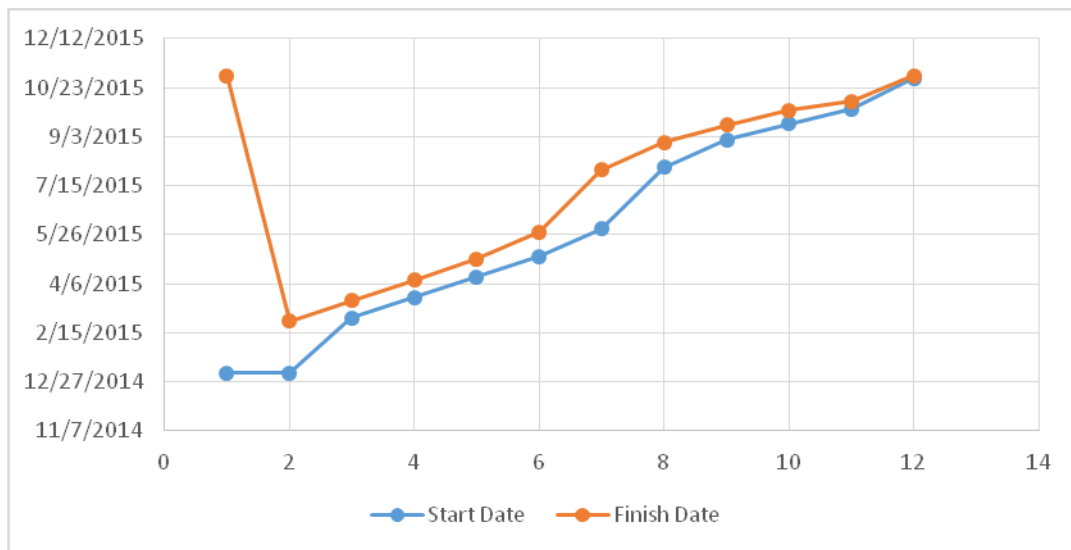


Figure 1

Project Timeline

In Figure 2, the Pie Chart representing the total days that this project has consumed and the respective percentage for each individual task is depicted.

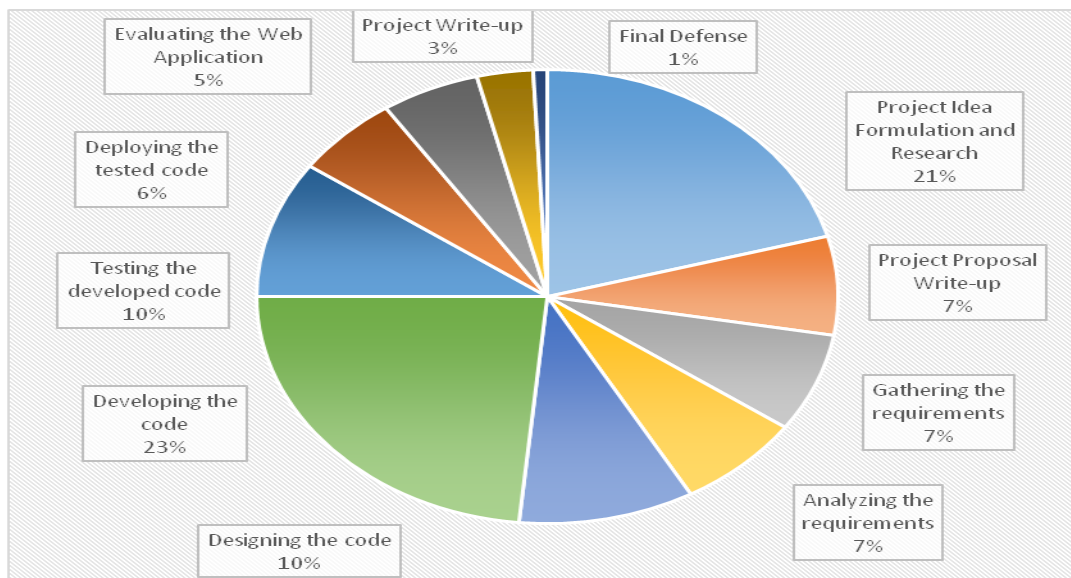


Figure 2

Pie Chart for Percentage Representation

Chapter IV

DATA PRESENTATION AND ANALYSIS

Introduction

This chapter will focus on the data, interpretation and strategies used to analyze and formulate the recommendations. In addition, this chapter will outline the process and evaluations performed to optimize the reverse logistics operations.

Data Presentation

Smart executives will be looking to capture the value that is locked within the reverse supply chain. After successfully accomplishing the project, the following potentials might be satisfied based on the results obtained from the project (Prophet, n.d.):

- *Maintenance of Eligibility Matrix.* With the introduction of ASSURANT as return center for returns through BIASE REMORSE (BR1), eligibility matrix values should be adjusted so that eligibility of the material for repair at both the return locations (FWRC and ASSURANT) is taken into consideration. Only changes that will take place to Eligibility Matrix are the possible values be maintained against different buckets for the eligibility of the material for respective buckets.
- *Upload of Eligibility Matrix.* It also requires upload functionality so if required they can upload eligibility for group of planning materials. Business user can maintain eligibility values in an excel spreadsheet for the group of planning materials and upload it to APO using the upload functionality. The file structure and validations required are explained in the design section.
- *Beyond Economic Repair (BER) %.* With introduction of ASSURANT as an additional return location this functionality may need some changes as business will

require having different BER% to be maintained for the materials based on the return location from where it is to be sent to repair vendors. Apart from eligibility, reverse logistics teams also enter the Beyond Economic Repair Percentage (BER) per material/model so that can be taken into consideration while doing the supply planning on how much quantity to expect from the repair vendor.

- *As-Is Business Process:* As part of this, BER% can be maintained interactively or can be uploaded to APO for materials returned only at return location FWRC.
- *To-Be Business Process:* For this to happen, we will require two separate entries, each representing BER% for a repair location.

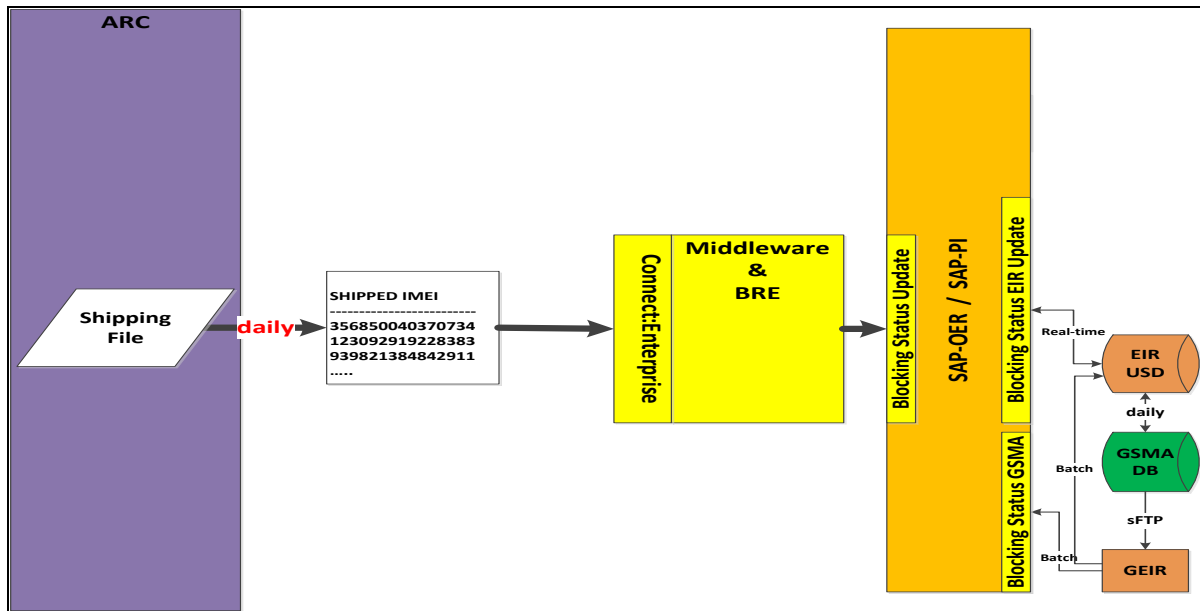


Figure 3

Process Overview of Shipping File

In product advancement and procedure streamlining, a prerequisite is a solitary recorded physical and useful need that a specific configuration, product or procedure must have the capacity to perform. It is most normally utilized as a part of a formal sense in system designing,

building programs, or enterprise engineering. It is an announcement that recognizes an essential trait, ability, trademark, or nature of a system for it to have quality and utility to a client, association, inside client, or other partner. A prerequisite detail alludes to an unequivocal arrangement of necessities to be fulfilled by a material, configuration, item, or administration (Aberdeen Group, 2010).

At T-Mobile, thousands of suppliers provide the goods and services required to support business operations and serve growing customer base. Because the goods and services provided by suppliers affect products and services, high standards are maintained, seeking the highest quality solutions and service at the best value.

Table 2

Process Requirements

Transaction Name or Batch Job: Describe any transaction codes and batch jobs that would trigger the interface.	RSP Middleware Batch Block/Unblock
Application Pre or Post Processing: A process is initiated after the message has been processed.	None identified
Sequencing Requirements Is there any requirement for records to be applied in a certain order, either across loads or within a load?	None identified
Data overlay protection What if the same data is processed twice on the target system? Is that a risk to the business? If so, is there appropriate logic on the target system to prevent it?	None identified

There is a chance that a T-Mobile device might be blocked. Many mobile carriers participate in blocking programs, sometimes referred to as IMEI blocking, to help reduce fraud.

When a phone is blocked, it cannot use services on networks that participate in the blocking program.

Table 3

Data Validation Scenarios

Step No.	Scenario Title	Steps Performed	Screen Name or Trans code	Expected Results
1	BLOCKED with 1 REASON CODE	Process an ARC Unblock file containing an IMEI that is currently BLOCKED in OER with one reason code	n/a	OER will UNBLOCK IMEI (one UNBLOCK request for the IMEI)
2	BLOCKED with multiple REASON CODES	Process an ARC Unblock file containing an IMEI that is currently BLOCKED in OER with multiple reason codes	n/a	OER will UNBLOCK IMEI (multiple UNBLOCK requests for the IMEI)
3	NOT BLOCKED	Process an ARC Unblock file containing an IMEI that is currently UNBLOCKED in OER	n/a	Middleware will throw out the record

All RRR's require a return authorization from the factory. This return authorization (RA) number allows tracking of the return and ensures timely and prompt service. All returns, repairs, and refurbishes must be sent freight paid. The process involves labor to diagnose the problem(s), and then to repair or replace, the minor components needed to remedy the repair.

Data Analysis

Smart executives will be looking to capture the value that is locked within the reverse supply chain. After successfully accomplishing the project, the following potentials might be satisfied based on the results obtained from the project (Barnes, 2010):

1. *Project Assignment and Roles Identification*: A team will be developed including all the resources that could accomplish this task. Project manager will then identify the capability of each resource and assigns specific tasks for them. Agile methodology is

- being followed in this specific project where project assigns various roles such as team lead, business analysts, developers and testers to the team members. This completes the team formation and assigning project.
2. *Project planning and Sprints:* Initial project meeting will be held to discuss various life cycles of the project with all the team members. This also includes the design of layout of the project and design of the database to store all the data needed for this. There will be a daily scrum meeting for all the team members every morning to discuss the tasks they have accomplished yesterday, obstacles they are facing today, today's goals and also project tracking meeting conducted by the TDM (Task Delivery Manager) twice every week till the completion of whole project.
 3. *Data Collection:* This includes gathering all the in hand data that is available about the tracks and store it in the database. This is the first stage of software development life cycle for each sprint timeline. Customer is going to provide with the specific requirements that are needed and also the data that can be useful for developing application.
 4. *Analyzing Requirements:* Once all the data is collected the project starts with designing a database which stores all this data. Designing a database includes creating tables and developing a relation among them. Once the database design is done functional lead, business analysts, project manager and development team will meet to check whether the customer specifications to develop the web application could be developed within estimated time and project manager assigns tasks to the development team. Various software, hardware and tools that will be required to

- develop the software will be identified; manage and track the progress of the web application development.
5. *Code Design:* A team leader who is assigned by the project manager assigns the task of creating a script for developing database and then inserting the data. Team chooses the best design for the software development and it can be used by anyone universally. SAP APO has been employed as the primary Object Oriented Software to develop this application. Web application layout prototype will be designed using HTML, XML and Java Script. Each member of the team will be assigned specific functionality of the web application development and certain estimated time will be allotted to develop the functionality of the web application.
 6. *Code Development:* A code development practice will be chosen during the team meeting which has to be followed by each and every team member. In this code is developed by each team member individually for their specific assigned task. Developed code must be tested and pass through the team leader check before it is committed.
 7. *Code Testing:* Each and every team member's code must be checked before they are actually delivered. For User interface Selenium IDE testing and for code SAP QA testing has been employed, that will be taken care by BW team. Generally, development and testing is done parallel in order to eliminate delayed code errors, bugs and functionality mismatch.
 8. *Deployment and Maintenance:* As per the customer requirement, once the basic functionalities of the web application are developed, the web application software is

deployed and the web application goes live so that it can be the actually used by the end users of the client. If there are any errors or bugs while using the web application, these are reported to developers/testers. The assigned developers and testers take the responsibility to solve the issues.

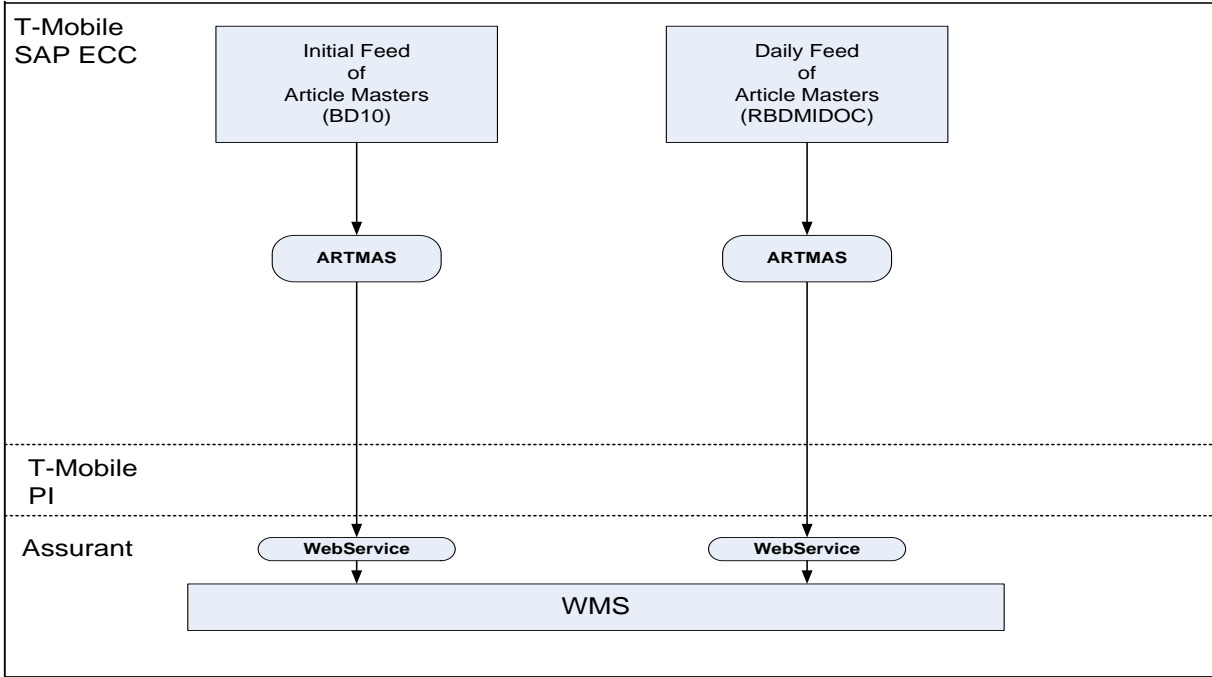


Figure 4
Process Flow

Chapter V

RESULTS, CONCLUSION, AND RECOMMENDATIONS

Introduction

This chapter will discuss the results of the marketing and service recovery strategy and optimization. Conclusions and recommendations will also be discussed based on the results drawn.

Results

Reverse Logistics consolidates planning and utilization of a stream flow of stock and imperative information from the actual place of utilization to the place of initiation. It has been a genuine sensitivity toward manufacturers and retailers on account of the high costs of unsold and over piled products. The main requirement included in reverse logistics optimization incorporates a course of action towards building up a software or an electronic application especially to streamline the movement of goods through the reverse logistics pipeline, from the point of initiation through last emanation.

This type of software improve edge recovery up to 20% of standard, besides the benefits to various on-line retailers by extending the adequacy of benefits taking care of, overhauling dispositions to engage most noteworthy recoveries and by giving helpful and exact compliance and reconciliation information through organization driven data openness, accessibility and organization management. It streamlines and enhances the endeavors performed while administrating returns, improving the capability and responsiveness to end customers. This strategy makes the replenishment solicitation and the associated purchase orders which are sent to the close-by business systems. The most comprehensive and versatile reverse logistics

programming opened, it can be tweaked to suit in every practical sense and in any organization establishment. It can be used over diverse industry sections, to give a complete response for processing benefits from store, customer or dealer to the final product disposition. It redesigns transportation optimization, trader organization and multi-channel re-marketing and can process returns at the customer, store and return center levels (Petersen & Kumar, 2010).

RLO software can do perform at the SKU, trader, and grouping levels, or be tweaked to meet customer necessities of products and the store-customer information can be inspected or hand keyed, dependent upon customer limits. It moreover houses the business that choose product quality framework (return to stock, return to dealer, liquidation, refurbish, reuse) and these measures bring about automation to manual methods by discarding human errors and increasing the speed of product flow, that leads to decline the costs incurred on returns.

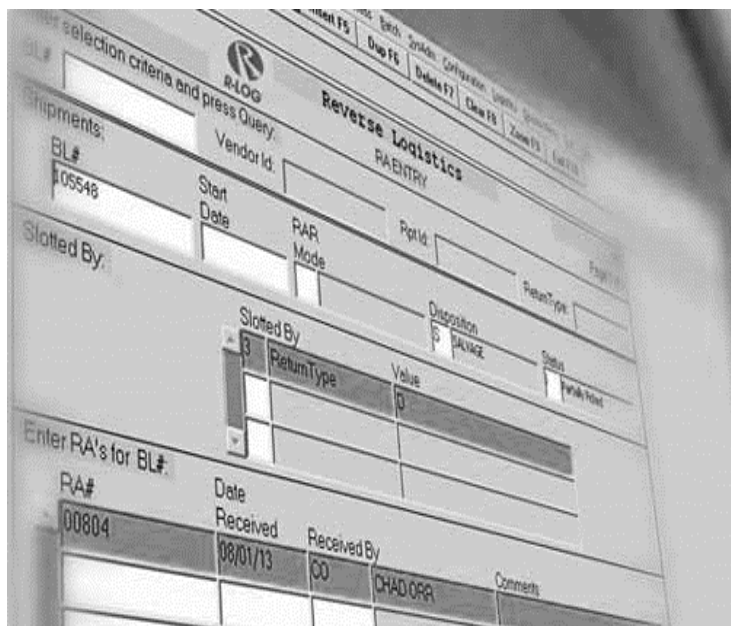


Figure 5

Example of a Reverse Logistics Optimization Through Software

RLO Development:

1. *Screen*: Screening is the process of verifying the gathered return items, performed at the point of initiation for ensuring the cause for the return is valid accordingly. There are many situations where, in general, items enter the store that, in fact, are not ought to begin. It ultimately raises the position of unnecessary transportation, coordination and so on, dealing with costs, which is a disaster for the organization's economy. In an impeccable Reverse Logistics system, things are to be screened initially behind aggregation, according to regulations of the manufacturer. Consequently, sophisticated choice systems need to be kept up to permit demeanor, taking into account of client concession for item-by-item premise. With the omnipresent vicinity of the Internet, many chances exist to do this and are an expense effective in all possible viable ways.
2. *Select*: Through feasible reverse logistics operations, organizations should be able to uproot inefficient returns that result in pointless transportation moves that involves extra costs. Selection involves typical criterion for many purposes viz. exchange from place to another and to allot the product's entitlement, to assign for a specific capacity, etc. There are a wide range of approaches to select the items that are opted to enter the reverse logistics chain. Retailers frequently need to send their return items back to their suppliers' distinctive distribution centers all through their network. Distinctive procedures should be set up to encourage making profits out of these returned stocks.
3. *Classify*: Classification of stock retrieved in reverse logistics supply chain is to be done efficiently to benefit the organization to maximize its profits form returned

goods. Classification is done based various strategies like Order fulfillment, Traffic and transportation, Warehousing and storage, Plant and warehouse site location, Materials handling, Industrial packaging, Purchasing, Demand forecasting, Inventory control, Production planning, Parts and service support, Return goods handling, Salvage and scrap disposal, Customer service levels etc.

4. *Discard*: Returned goods ought to expand the profits for the organizations and if in case they are not, they are to be discarded to merchandise in the most financially effective way. There are three approaches that can be followed before actually discarding the item: offer as-is, repair or reuse. And if not recognized, then eventually discard the item (Rogers & Tibben-Lembke, 1998).

Benefits of RLO Software:

Following are some of the benefits of using software for optimization of reverse logistics networks:

1. Empowers a quick response to the customers reducing various burdens.
2. Increases the capability of everyone included in the product return flow.
3. Supports stock turns and improve in real-time disposition from return to merchant, liquidation, refurbish or reuse for most of the processes.
4. Facilitates all channels, including stock from stores or internet purchase, and products moved out of assignments.
5. Virtual transfer of store work to process returns, causes less inventory costs.
6. Reduced stock and improved speed of transactions by automation of returns process.

7. Immediate use of vendor credits to the records payable structure at maximum regard from returned items.
8. Complete detectable quality and control through a web-based gadget that gives continuous information on returns stock and access to reports that help you regulate reverse logistics.
9. Streamlined product transaction coming in view of end user exceptions.
10. Visibility for in-travel returns for improved organizing.
11. Fewer future returns through effective capture and reporting of problems related to reverse logistics (Pawlewski & Greenwood, 2014).

Profit Centric Creation:

Regardless of most organizations choose to think a more noteworthy measure of their thought on the forward logistics system in light of the fact that its impact on an association's fundamental concern is fundamentally huger. Hence, regardless, they are missing opportunities to improve their associations' advantages and execution. For one thing, returns organization gives an opportunity to upgrade business capability amid a time when the unimportant cost of progress in forward supply chain operations has been rising. For the other, returns organization offers diverse wellsprings of revenue from various sources like bargains, auctions, refurbishing, recycling, reusing etc. The reverse logistics system, also, offers a plenitude of significant understanding that can be used to improve product design configuration, strategic design plans, and operations (Profit Point, 2014).

The key is to focus on emanation routines for returned things and materials, for instance, donating, offering sales, trading, refurbishing, smoldering, and reusing, among others.

Determination of one character method over another should be a part of the cash related favorable circumstances to be gotten furthermore of nonfinancial consequences, for instance, brand esteem and managerial suitability. Organizations can develop a framework for picking the best demeanor methodology by taking a gander at cash related trades in the reverse logistics system as a profit and loss (P&L) and cash-flow enunciation, and supplementing it with nonfinancial considerations. Additionally, this kind of structure can help to screen the execution of the reverse logistics system and perceive ranges for advancement (Bogataj & Bogataj, n.d.).

But, product returns can have negative results, on handling with the real time upgrade of an organization's relationship, with customers and other end-users. For example, how an organization deals with its guarantees, item reviews, product audits, and other equivalent activities will have a noteworthy impact on its reputation. Doubtlessly the reverse logistics system (which can incorporate everything from inadequate and end-of-life things, to shipment overages and rejected items, to reusable convenient assets like informal lodging) is rapidly growing in noteworthiness. Additionally, returns organization and reusing can be over the top activities in a way that can associate and manage the limits without including unsupportable costs. It should be made possible in any circumstance to assuage those costs, and even to make the reverse logistics system into a revenue or advantage center in a beneficial focus (Pochampally & Nujala, 2009).

Conclusion

This capstone project was completed at T-Mobile highlighting and emphasizing the significance of optimization for reverse logistics. The significant commitment of this research was in building up a model for breaking down the reverse logistics system and giving valuable

bits of knowledge in optimization. As in the process, optimization has been enhanced to expense effectiveness through the multi-channel reverse logistic system. There are strategies followed in transportation for those return amount reliance, and which are in concurrence with the fundamental justification behind the methodology.

The following were optimized after interpreting and analyzing the issues:

1. *Customer Relationship and Customer Satisfaction:* By integrating CRM (Customer Relationship Management) magazine into its everyday operations, T-Mobile realized significant improvements in customer satisfaction and increased in customer contract extensions.
2. *Marketing Strategy:* T-Mobile call it selves the Un-Carrier to vividly emphasize that it is doing something different. It was the whole philosophy around doing exactly what the customers want as indicated by their feedback. T-Mobile protected its innovative, disrupter position with breakthrough brand-building and ongoing game-changing innovation.
3. *Service Recovery Principles:* This phone carrier, which serves millions of subscribers, has used Response-Tek's Collection Solution to solicit feedback from customers who call customer service, visit a store, or use the self-service interactive voice response (IVR) system.

Recommendations

Reverse Logistics can build benefits and consumer loyalty. In contrast, a frail Reverse Logistics project can push clients away and make expenses and liabilities. Reverse Logistic is a fundamental piece of the supply chain network that merits creating, development and the

principle effect. Despite the facts those are possibly ignored, there are few procedures or techniques that have as much potential to affect the economy of the Reverse Logistics system.

Further researches ought to evaluate time variable of reverse logistics regarding tracking, routing, transshipping etc., so as to be more consistent and selective over choices for specific time constraints. Such would further coordinate reverse logistics to time-obliged quality recuperation forms all together to create dynamic monetary legitimizations. Some of the key recommendations for those considerations, enhancing the Reverse Logistics procedures ought to be:

1. *Strong knowledge of Returns:* Conduct doing frequent discussions that lead to getting an in-depth knowledge of various kinds of profits that the organizations achieve. This can find and monitor the regular transactions, fixing everything to the profit-oriented processes.
2. *Change to leading practice organizational structure:* Organizations must understand that reverse logistics is a progressing process that is to be carefully obliged and requires watchfulness. Transportation expenses, returns preparing, staffing needs and organization society changes may appear to be expensive until weighed against the long time budgetary advantages that can come about, because of a thorough reverse logistics arrangement.
3. *E-auction:* Getting esteem out of any reverse logistics program depends on being productive and exploiting each chance to press more income from every single returned item. E-auctions are the best methodologies to be implemented for the benefit of organizations. Essential transportation from processing centers, staff

- allocation to execute the logistics arrangement etc., can be considerably squeezed using e-auction systems Consumer Electronics Association, 2010).
4. *Implement state-of-the-art information technology:* In a modern world of technology, it is critical that the resources be centered around creating data innovation abilities. IT support for acknowledgements, tracking etc. that focus on the regulated potential process of returns can emphatically affect both financial and administration quality related performances. This is an intelligent way of handling reverse logistics execution for ultimate benefits to the organization.
 5. *Analyze to prevent returns:* Contingent upon the worth that exist and various opportunities for a returned item, organizations need to set an objective that helps in perceiving achievement and profits through reverse logistics. A good reverse logistics project must lead to expand the revenue and achieve shielding income various from potential dangers.
 6. *Outsource the returns process:* Reverse logistics is frequently outsourced to outsider logistics suppliers like Third Party Logistics (3PLs) provider, even by organizations that have best-in-class inventory network capacities and complex worldwide systems. The main reasons behind this outsourcing are accomplishing more prominent adaptability at higher speed to market; and making a defensive obstruction against outside strengths to defend potential liabilities (Aberdeen Group, 2007).

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5. Interface Direction (select one)

What is the direction of the interface in relation to SAP (Check One)

Inbound Outbound Bi-Directional

6. Impact related on all SAP Systems (check all that apply)

SAP-related systems that are being impacted as part of this project.

ECC CRM PI APO SRM EWM
 Portal BW BI Mobile OER

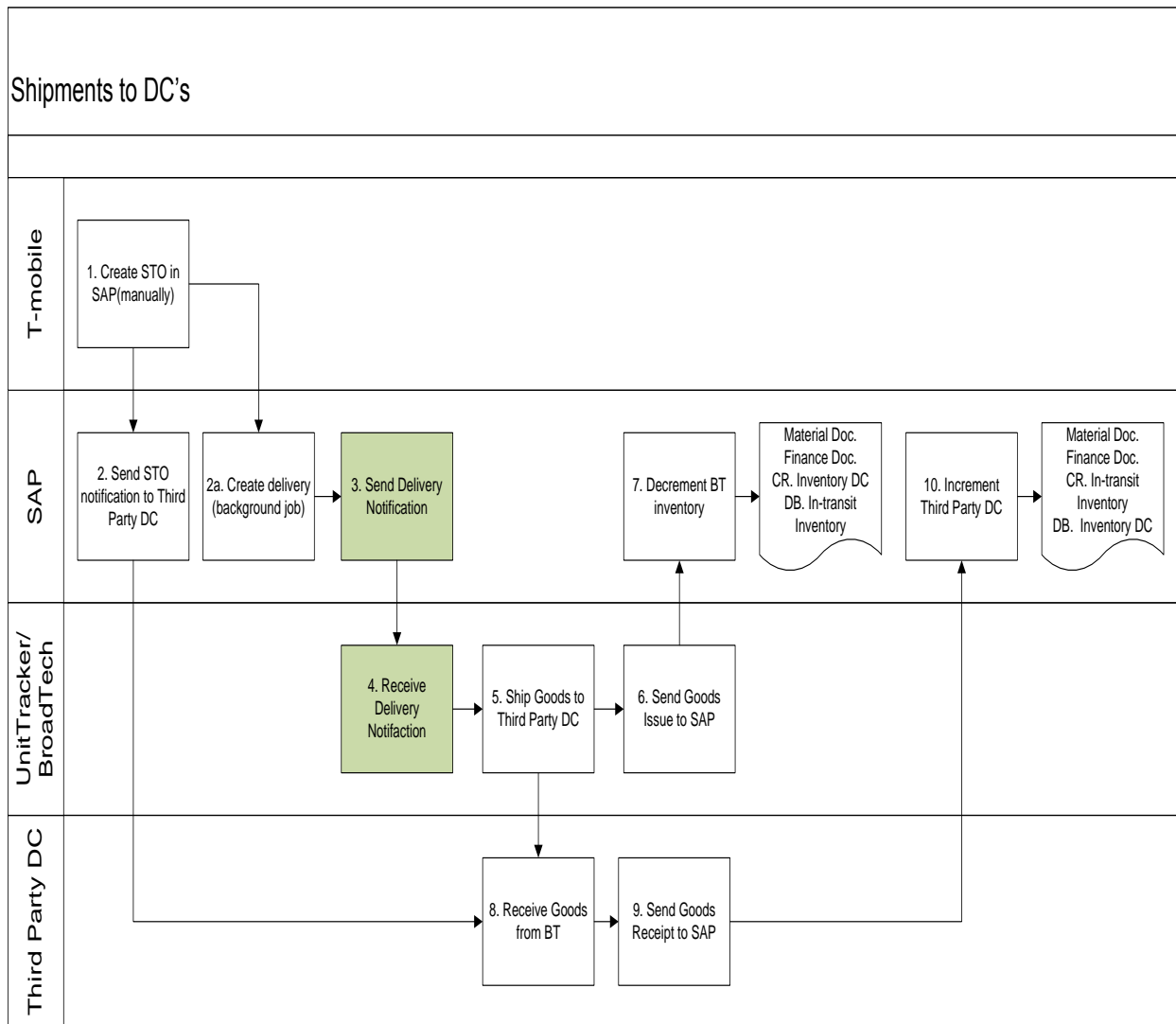
7. Overview Section (Example)

Interface Name	Article Master
Volumes	Varies – there will be an initial send of all article master data to Assurant TX and thereafter any material created/changed will be sent in the daily
Type <Automated or Manual>	Manual – initial send of all article data
Complexity <High, Medium or Low>	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High
SAP Transaction(s)	BD10 – Send Material (use for initial send of all article masters)
Frequency	Initial Load - On demand as part of project cutover

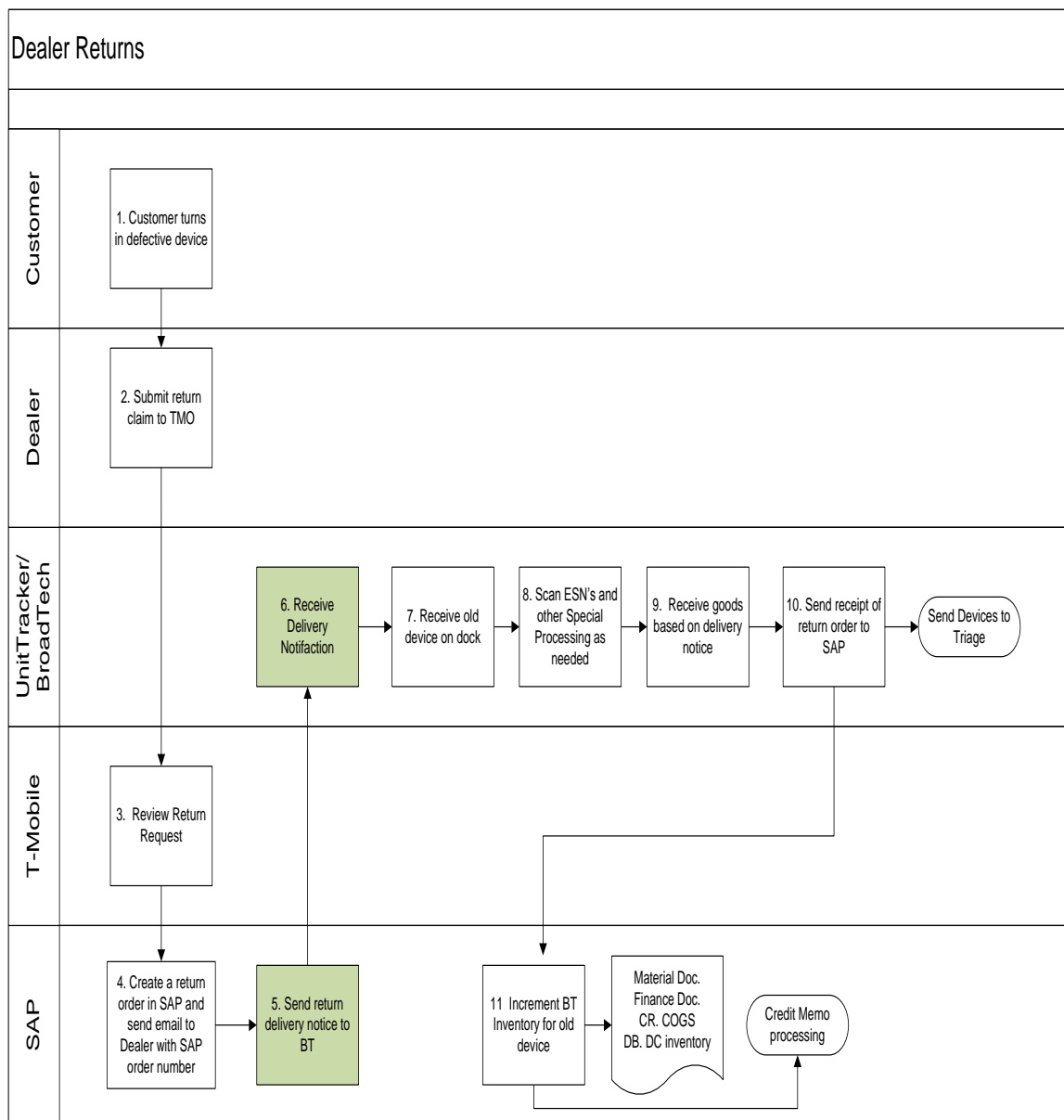
Appendix B

Flow Charts

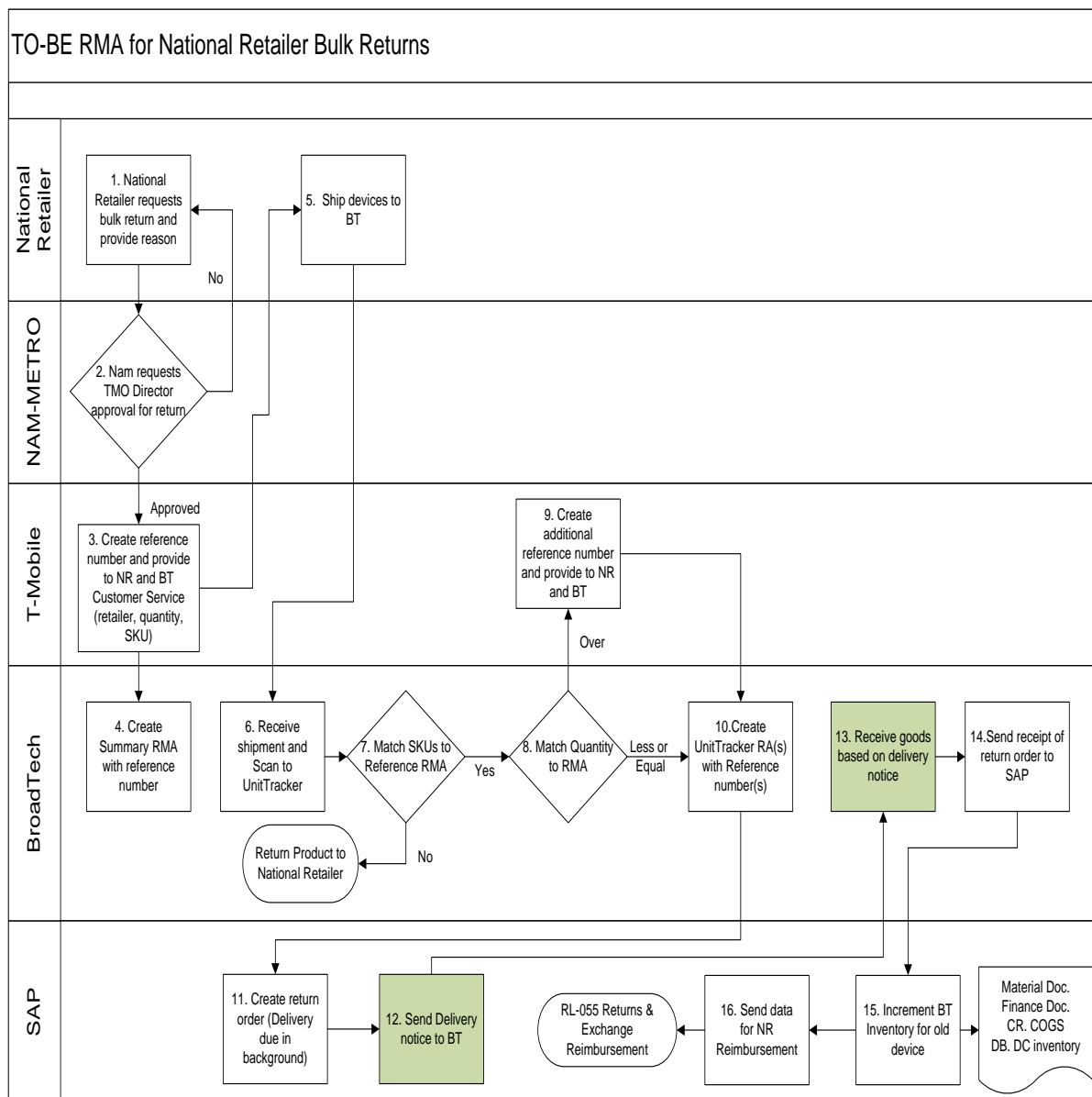
1. The proposed TO-BE business process for BroadTech to DC STO's is shown below.

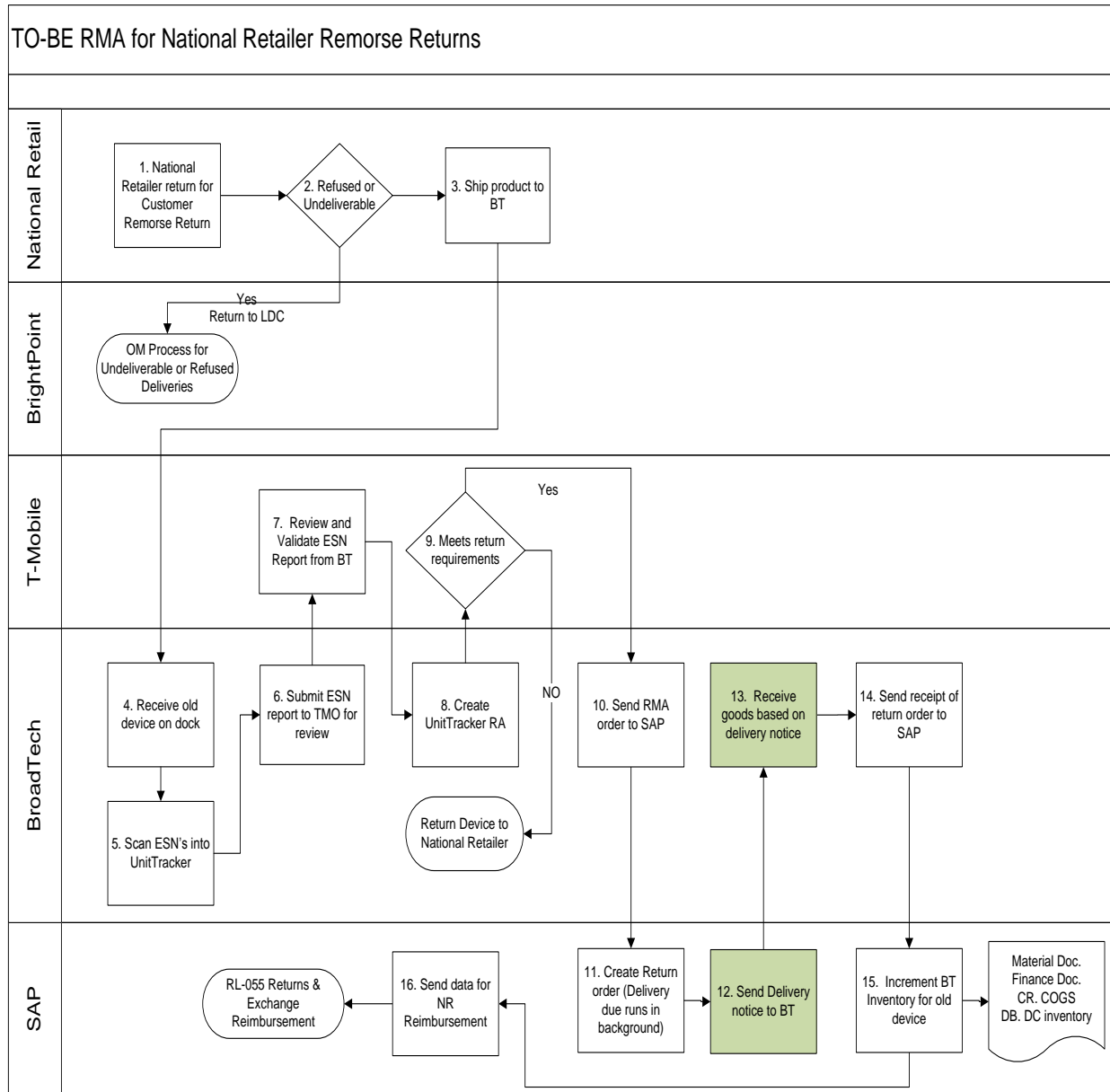


2. The proposed TO-BE business process for TMUS Dealers is shown below.



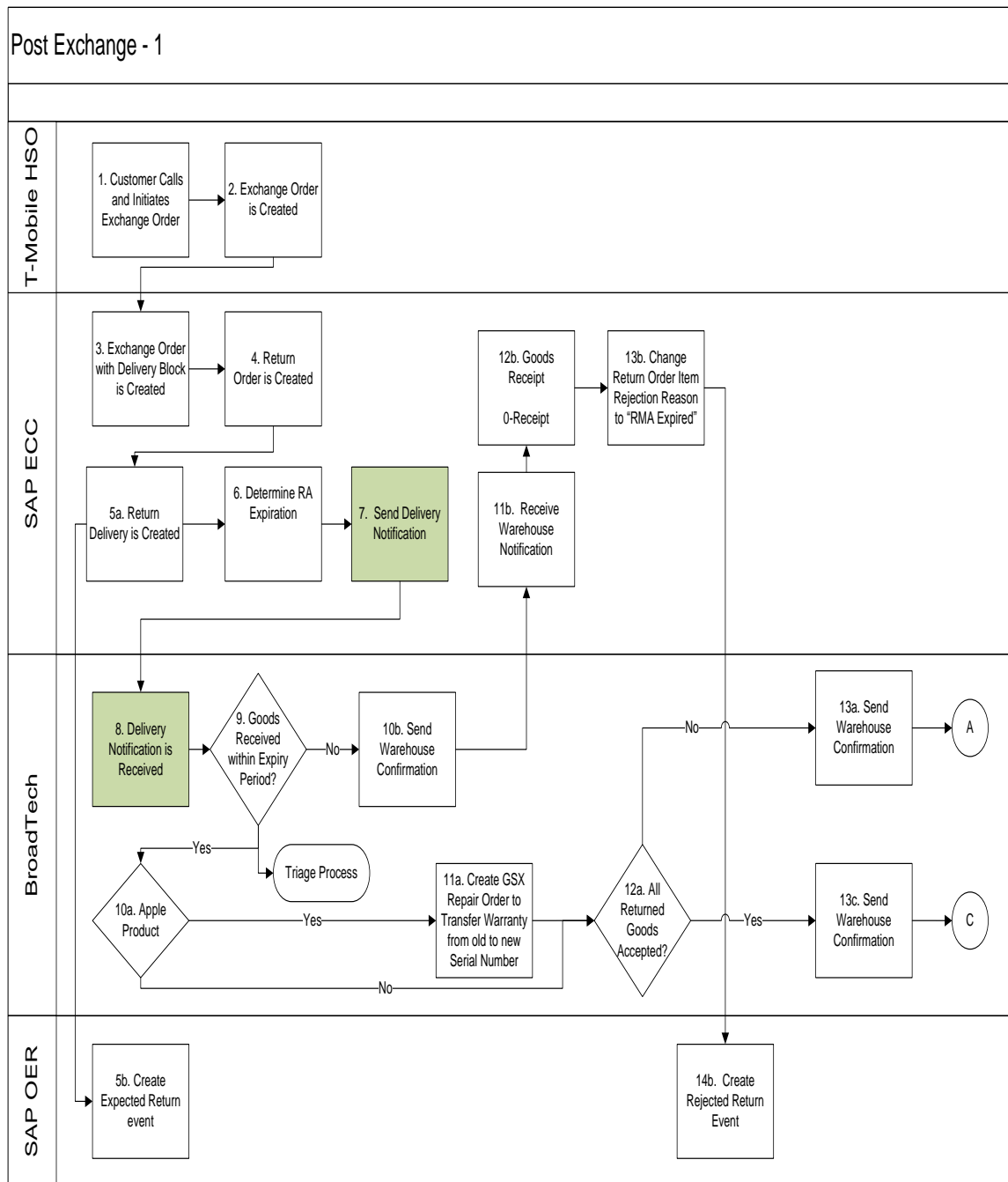
3. The proposed TO-BE business processes for National Retailers returns are shown below.



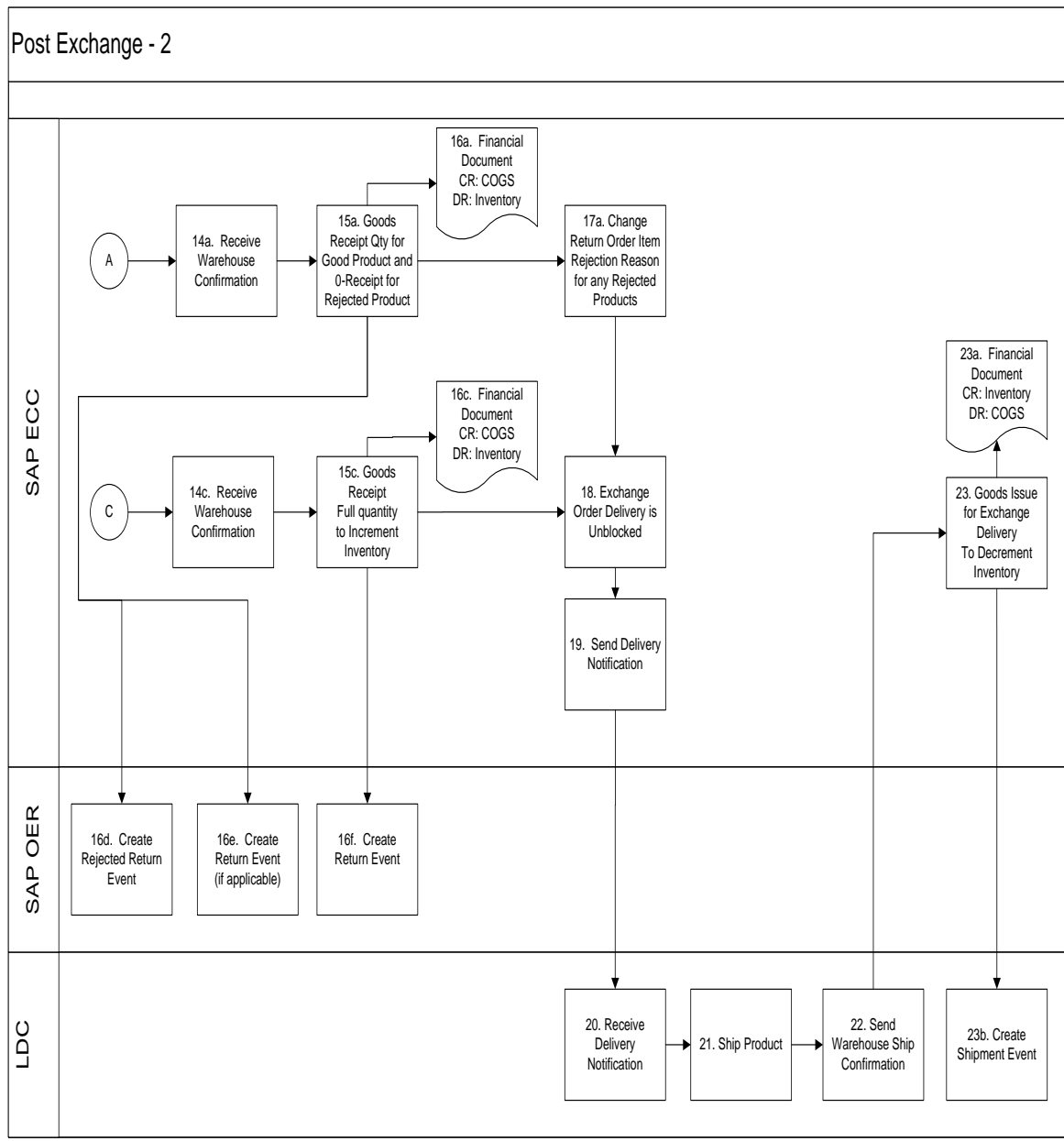


The necessary interface is highlighted.

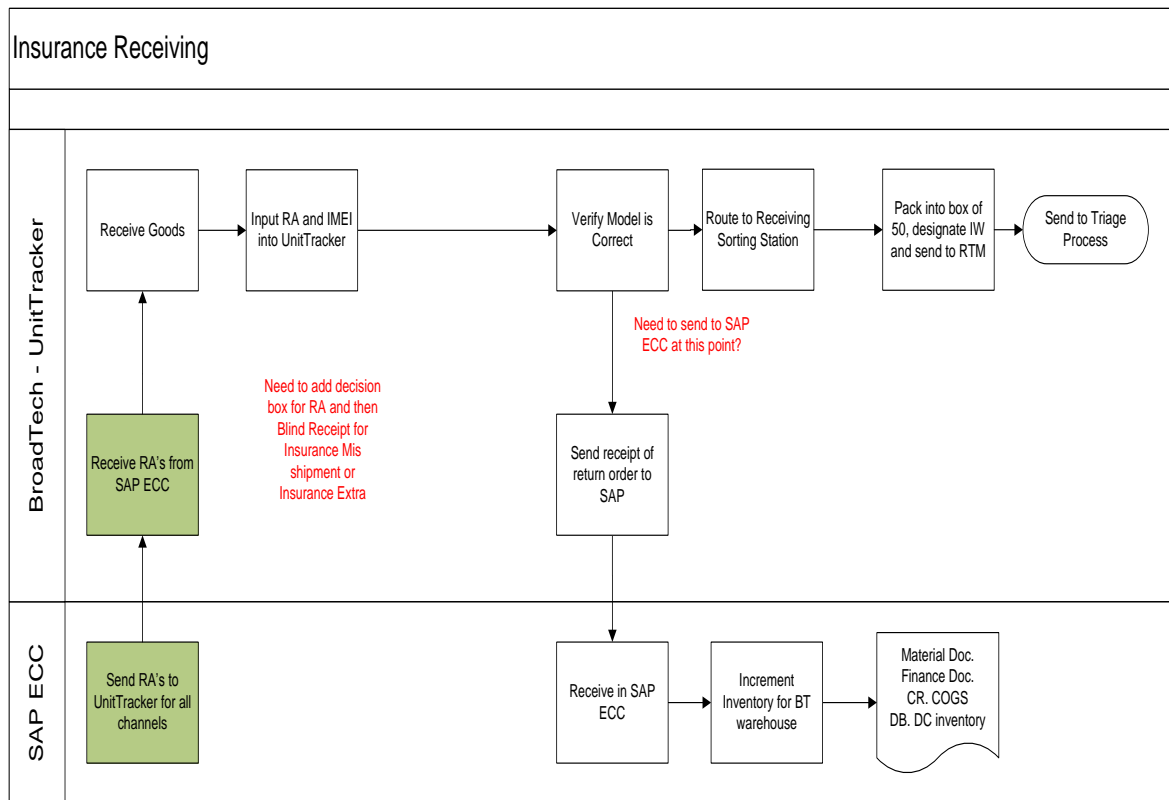
5. Part 1 of the Post Exchange flow is included for completeness, but does not include any interfaces between UnitTracker and SAP ECC



6. Part 2 of the Post Exchange flow is included for completeness, but does not include any interfaces between UnitTracker and SAP ECC



7. The proposed TO-BE business process for TMUS Insurance (PHP) returns is shown below.



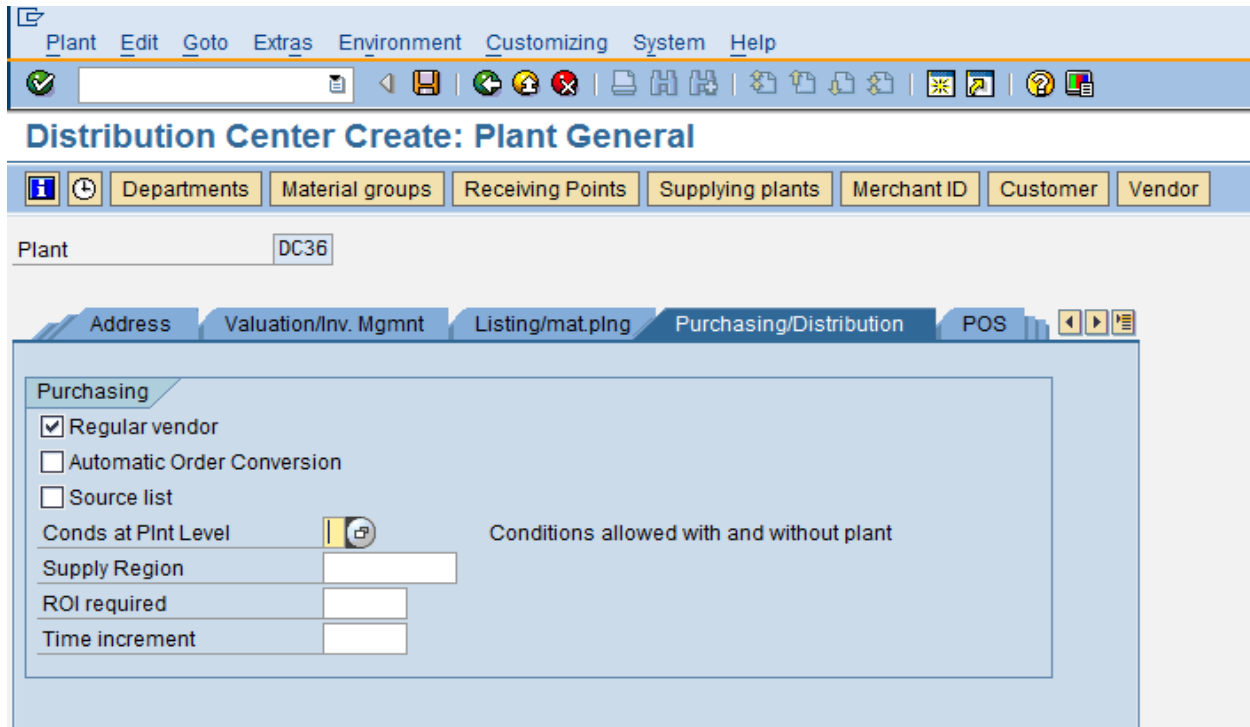
The necessary interface is highlighted.

Appendix C

Screenshots

1. Reference from DC

- All values default from reference DC



The screenshot shows the SAP 'Distribution Center Create: Plant General' form. The 'Plant' field is set to 'DC36'. The 'Purchasing' tab is active, displaying the following fields and options:

- Regular vendor
- Automatic Order Conversion
- Source list
- Conds at PInt Level: [Field] Conditions allowed with and without plant
- Supply Region: [Field]
- ROI required: [Field]
- Time increment: [Field]

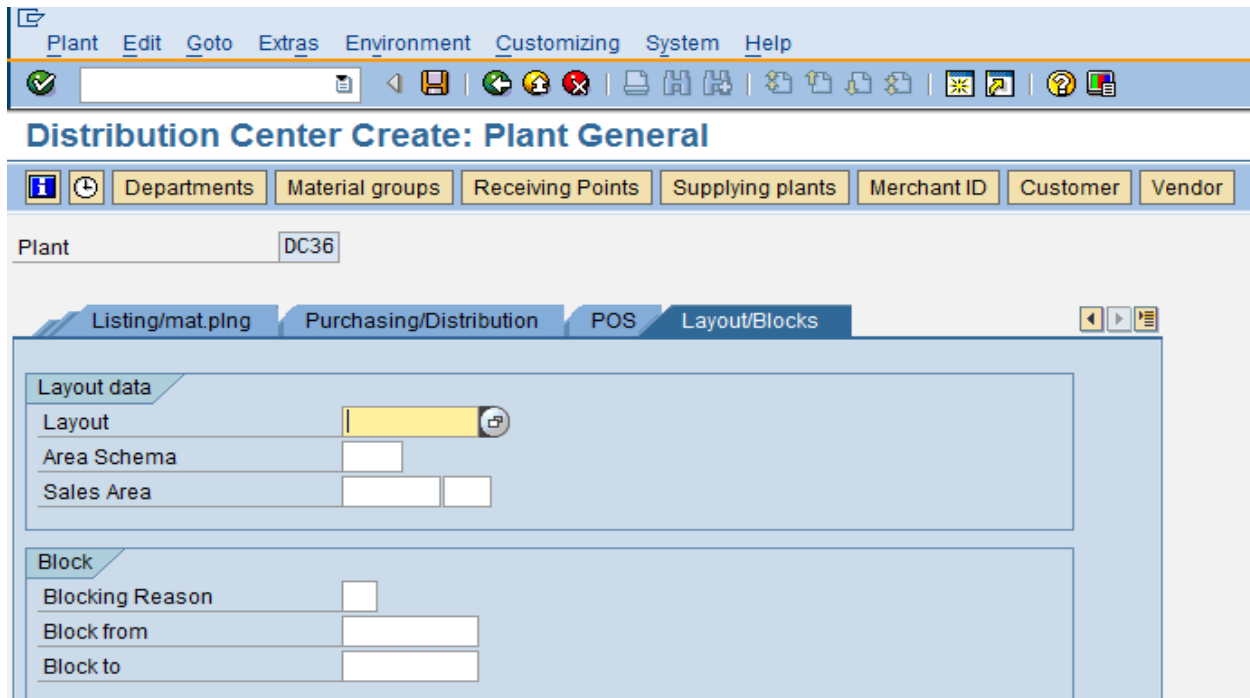
- POS Tab



The screenshot shows the same SAP 'Distribution Center Create: Plant General' form, but with the 'POS' tab active. The 'Plant' field remains 'DC36'. The 'POS' tab displays the following fields and options:

- POS outbound profile: [Field]
- POS Inbound Profile: [Field]
- POS currency: USD American Dollar
- Assort. List Profile: [Field]

➤ Layout/Blocks Tab

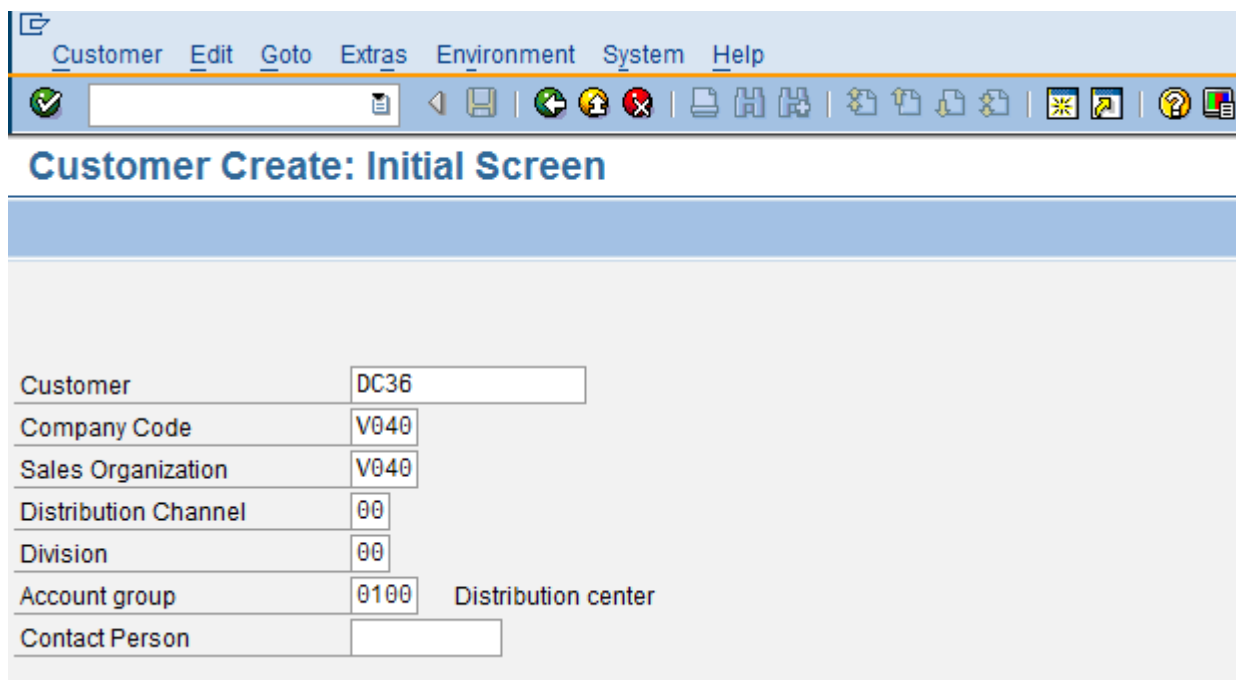


The screenshot shows the SAP 'Distribution Center Create: Plant General' interface. The menu bar includes 'Plant', 'Edit', 'Goto', 'Extras', 'Environment', 'Customizing', 'System', and 'Help'. The toolbar contains various icons for navigation and actions. Below the title bar, there are tabs for 'Departments', 'Material groups', 'Receiving Points', 'Supplying plants', 'Merchant ID', 'Customer', and 'Vendor'. The 'Plant' field is set to 'DC36'. The 'Layout/Blocks' tab is active, showing a form with two sections: 'Layout data' and 'Block'. The 'Layout data' section includes fields for 'Layout', 'Area Schema', and 'Sales Area'. The 'Block' section includes fields for 'Blocking Reason', 'Block from', and 'Block to'.

Layout data	
Layout	<input type="text"/>
Area Schema	<input type="text"/>
Sales Area	<input type="text"/>

Block	
Blocking Reason	<input type="text"/>
Block from	<input type="text"/>
Block to	<input type="text"/>

2. Customer Create



The screenshot shows the SAP 'Customer Create: Initial Screen' interface. The menu bar includes 'Customer', 'Edit', 'Goto', 'Extras', 'Environment', 'System', and 'Help'. The toolbar contains various icons for navigation and actions. The form contains the following fields:

Customer	<input type="text" value="DC36"/>
Company Code	<input type="text" value="V040"/>
Sales Organization	<input type="text" value="V040"/>
Distribution Channel	<input type="text" value="00"/>
Division	<input type="text" value="00"/>
Account group	<input type="text" value="0100"/> Distribution center
Contact Person	<input type="text"/>

➤ Control Screen

Customer Edit Goto Extras Environment System Help

Customer Create: Control

Tax Categories Additional component

Customer DC36

Account control

Vendor Authorization

Trading Partner Corporate Group

Tax information

Tax Number 1 Equalizatr tax

Tax Number 2 Natural Person

Fiscal address Liable for VAT

VAT Reg. No. More

Type of Busines

➤ Marketing Screen

Customer Edit Goto Extras Environment System Help

Customer Create: Marketing

Other Industries

Customer DC36

Classification

Nielsen ID Regional Market

Customer class. Hier.assignment

Industry

Industry Code 1 Add.ind.codes

➤ Accounting Information Accounting Screen

Customer Edit Goto Extras Environment System Help

Customer Create: Accounting information Accounting

Additional component

Customer DC36
Company Code V040 V040 TMO PCS Holdings LLC

Account management

Recon. account	<input type="text"/>	Sort key	<input type="text"/>
Head office	<input type="text"/>	Subsidy indic.	<input type="text"/>
Authorization	<input type="text"/>	Planning group	<input type="text"/>
Release group	<input type="text"/>	Value adjust.	<input type="text"/>

Interest calculation

Interest indic.	<input type="text"/>	Last key date	<input type="text"/>
Int.calc.freq.	<input type="text"/>	Last int.calc.	<input type="text"/>

Reference data

Prev.acct no.	<input type="text"/>	Personnel No.	<input type="text" value="0"/>
Buying Group	<input type="text"/>		

➤ Payment Transaction Accounting

Customer Edit Goto Extras Environment System Help

Customer Create: Payment transactions Accounting

Additional component

Customer DC36
Company Code V040 V040 TMO PCS Holdings LLC

Payment data

Payt Terms	<input type="text"/>	Tolerance group	<input type="text"/>
Cr memo terms	<input type="text"/>	Known/neg.leave	<input type="text"/>
B/e chrges trms	<input type="text"/>		
Chk cashng time	<input type="text" value="0"/>	<input type="checkbox"/> Record pmnt history	

➤ Correspondence Accounting

Customer Edit Goto Extras Environment System Help

Customer Create: Correspondence Accounting

Additional component

Customer DC36
Company Code V040 V040 TMO PCS Holdings LLC

Dunning data

Dunn.Procedure Dunning Block
 Dunn.recipient Leg.dunn.proc.
 Last Dunned Dunning Level 01
 Dunning clerk Grouping key **Dunning areas**

Correspondence

Acctg clerk Acct statement
 Acct at cust. Coll.invce.var.
 Customer user Local processing
 Act.clk tel.no.
 Clerk's fax
 Clrk's internet
 Account memo

➤ Insurance Accounting

Customer Edit Goto Extras Environment System Help

Customer Create: Insurance Accounting

Additional component

Customer DC36
Company Code V040 V040 TMO PCS Holdings LLC

Export credit insurance

Policy number
 Institution number
 Amount insured 0.00 USD
 Valid To
 Lead months 0
 Deductible 0 %

➤ Sales Sales Area

Customer Create: Sales Sales area

Customer	DC36	
Sales Org.	V040	VS Alloc/Retl/Resell
Distr. Channel	00	Sales Channel
Division	00	Sales Division

Sales order

Sales district	<input type="text"/>	Order probab.	100 %
Sales Office	<input type="text"/>	AuthorizGroup	<input type="text"/>
Sales Group	<input type="text"/>	Item proposal	<input type="text"/>
Customer group	<input type="text"/>	Acct at cust.	<input type="text"/>
ABC class	<input type="text"/>	UoM Group	<input type="text"/>
Currency	USD American Dollar	Exch. Rate Type	<input type="text"/>
<input type="checkbox"/> Rounding off		PP cust. proc.	<input type="text"/>

➤ Shipping Sales Area

Customer Create: Shipping Sales area

Customer	DC36	
Sales Org.	V040	VS Alloc/Retl/Resell
Distr. Channel	00	Sales Channel
Division	00	Sales Division

Shipping

Delivery Priority	<input type="text"/>	<input checked="" type="checkbox"/> Order Combination
Shipping Conditions	<input type="text"/>	
Delivering Plant	<input type="text"/>	
POD timeframe	<input type="text"/>	<input type="checkbox"/> Relevant for POD

➤ Billing Sales Area

The screenshot shows the SAP Customer Create: Billing Sales area interface. At the top, there is a menu bar with options: Customer, Edit, Goto, Extras, Environment, System, Help. Below the menu bar is a toolbar with various icons for navigation and actions. The main title is "Customer Create: Billing Sales area". Below the title, there is a "Licenses" button. The main content area contains a table of customer data:

Customer	DC36	
Sales Org.	V040	VS Alloc/Retl/Resell
Distr. Channel	00	Sales Channel
Division	00	Sales Division

Below the table, there is a "Billing" section with the following options:

SubInvProcess Rebate Price determin.

Invoicing dates:

Inv.list sched.

3. Create VENDOR

Vendor Edit Goto Extras Environment System Help

Create Vendor: Initial Screen

Vendor	DC36	
Company Code	V040	
Purch. Organization	V040	
Account group	0100	Vendor distribution center

Reference

Vendor	DC30
Company code	V040
Purch. Organization	V040

➤ Control

Vendor Edit Goto Extras Environment System Help

Create Vendor: Control

Tax categories

Vendor DC36 Assurant Returns Center LEWISVILLE

Account control

Customer		Authorization	
Trading Partner		Corporate Group	

Tax information

Tax Number 1		Tax number type		<input type="checkbox"/> Equalizatr tax
Tax Number 2		Tax type		<input type="checkbox"/> Natural Person
Tax Number 3				<input type="checkbox"/> Liable for VAT
Tax Number 4		Tax base		<input type="checkbox"/> Tax split
Fiscal address		Soc. Ins. Code		<input type="checkbox"/> Social Ins.
VAT Reg. No.		Other		
Type of Busines				
Type of Industr				
Rep's Name				

➤ Accounting information Accounting

Vendor Edit Goto Extras Environment System Help

Create Vendor: Accounting information Accounting

Vendor Assurant Returns Center LEWISVILLE
 Company Code V040 TMO PCS Holdings LLC

Account management

Recon. account <input type="text"/>	Sort key <input type="text"/>
Head office <input type="text"/>	Subsidy indic. <input type="text"/>
Authorization <input type="text"/>	Planning group <input type="text"/>
Minority indic. <input type="text"/>	Release group <input type="text"/>
	Certifictn Date <input type="text"/>

Interest calculation

Interest indic. <input type="text"/>	Last key date <input type="text"/>
Int.calc.freq. <input type="text"/>	Last int.calc. <input type="text"/>

➤ Payment transaction Accounting

Vendor Edit Goto Extras Environment System Help

Create Vendor: Payment transactions Accounting

Vendor Assurant Returns Center LEWISVILLE
 Company Code V040 TMO PCS Holdings LLC

Payment Data

Payt Terms <input type="text"/>	Tolerance group <input type="text"/>
Cr memo terms <input type="text"/>	<input type="checkbox"/> Check double invoice
Chk cashng time <input type="text"/>	

➤ Correspondence Accounting

Vendor Edit Goto Extras Environment System Help

Create Vendor: Correspondence Accounting

Vendor DC36 Assurant Returns Center LEWISVILLE
 Company Code V040 V040 TMO PCS Holdings LLC

Dunning data

Dunn.Procedure	<input type="text"/>	Dunning Block	<input type="text"/>
Dunn.recipient	<input type="text"/>	Legal dunning proc.	<input type="text"/>
Last Dunned	<input type="text"/>	Dunning Level	<input type="text" value="0"/>
Dunning clerk	<input type="text"/>	Grouping key	<input type="text"/>
Dunning areas	<input type="text"/>	Account statement	<input type="text"/>

Correspondence

Local processing

Acctg clerk	<input type="text"/>
Acct w/ vendor	<input type="text"/>
Clerk at vendor	<input type="text"/>
Act.clk tel.no.	<input type="text"/>
Clerk's fax	<input type="text"/>
Clrk's internet	<input type="text"/>
Account memo	<input type="text"/>

➤ Purchasing Data

Vendor Edit Goto Extras Environment System Help

Create Vendor: Purchasing data

Vendor DC36 Assurant Returns Center LEWISVILLE
 Purchasing Org. V040 Voice Stream Purchas

➤ Partner Functions

Vendor Edit Goto Extras Environment System Help

Alternative data Partner address Delete line

Vendor DC36 Assurant Returns Center LEWISVILLE
Purchasing Org. V040 Voice Stream Purchas

Partner Functions

P	Name	Number	Name	D

4. Copy Assortment – WSK3

- Source Assortment = DC30
- Target Assortment = DC36
- Listing Procedure = 02
- List Supplying Plants = Check

Program selection criteria, assortment copy	
Source Assortment	DC30
Target Assortment	DC36
Select valid listings to	11/30/2014
Listing Procedure	02
<input checked="" type="checkbox"/> List Supplying Plnts	
<input checked="" type="checkbox"/> Assortmnt Copy Without Check	

- Validate Assortments in table WLK1
- Validate entries in MARC (material master info)

5. Storage Location

An organizational unit allowing the differentiation of material stocks within a plant. All data referring to a particular storage location is stored at storage location level. This applies mainly to storage location stocks.

The following Storage Locations will be created for Plant DC36:

- 9000: ARC Virtual Storage Location
- DC36: ARC Storage Location

Configuration element	Storage Location
SAP Module	Enterprise Structure
IMG Path/ Node	Define: Enterprise Structure → Definition → Materials Management → Maintain Storage Location
Transaction code	Define: SPRO
Transport Request(s)	

Display IMG

Existing BC Sets | BC Sets for Activity | Activated BC Sets for Activity | Release Notes

Structure

- ▼ SAP Customizing Implementation Guide:
 - ▶ OpenText Archiving and Document Access for SAP Solutions
 - ▶ OpenText Business Suite for SAP Solutions
 - ▶ Activate Business Functions
 - ▶ SAP NetWeaver
 - ▼ Enterprise Structure
 - ▶ Localize Sample Organizational Units
 - ▼ Definition
 - ▶ Financial Accounting
 - ▶ Controlling
 - ▶ Logistics - General
 - ▶ Sales and Distribution
 - ▼ Materials Management
 - ▶ Restrictions for the Industry Solution for Defense Forces & Public Security
 - ▶ Maintain storage location
 - ▶ Maintain purchasing organization
 - ▶ Logistics Execution
 - ▶ Plant Maintenance
 - ▶ Human Resources Management

Note: A red arrow points to the 'Maintain storage location' node in the Materials Management sub-tree.

6. Shipping Point

Shipping Point is the organizational element, which is responsible for shipping the materials to customers.


One new Shipping Points will be created for Assurant:

- DC36

Configuration element	Shipping Point
SAP Module	Logistics Execution
IMG Path/ Node	<p>Define: IMG → Enterprise Structure → Definition → Logistics Execution → Define, copy, delete, check shipping point</p> <p>Assign to Plant: IMG → Enterprise Structure → Assignment → Logistics Execution → Assign shipping point to plant</p> <p>Assign Shipping Points: IMG -> Logistics Execution -> Shipping -> Basic Shipping Functions -> Shipping Point and Goods Receiving Point Determination -> Assign Shipping Points</p>
Transaction code	SPRO
Transport Request(s)	n/a

The screenshot shows the SAP SPRO configuration interface for a Shipping Point. The title bar indicates 'Table View Edit Goto Selection Utilities(M) System Help'. The main heading is 'New Entries: Details of Added Entries'. Below this, there are several input fields:

- Shipping Point:** DC36
- ARC Shipping Point:** (empty field)
- Location:**
 - Country:** (empty field)
 - Departure Zone:** (empty field)
- Times:**
 - Factory Calendar:** US
 - Working Times:** (empty field)

Press the  button to enter the address

✎ Edit address: DC36

Name

Title

Name

Search Terms

Search term 1/2

Street Address

Street 2

Street/House number

Postal Code/City

Country USA Region

PO Box Address

PO Box

Postal Code

Company postal code

Communication

Language

Telephone Extension

Mobile Phone Extension

Fax Extension

E-Mail

Standard Comm.Method

Comments

Preview International Versions

Assign Shipping Point to Plants

✎ Assignment Edit Goto System Help

Shipping Points -> Plants: Overview

Assign Analyze error(s) Delete Select/Deselect Deselect

Plant

Shipping Points

DC36 Assurant Returns Center

- C001 Consignment Issue Shipping Pt
- DC36 ARC Shipping Point
- DC99 Non-Stock Warehouse

7. Picking Location Determination

8.

Storage location is determined in order to identify the correct storage location to be used based upon the Shipping Point, Plant, and Shipping Condition.

Configuration element	Picking Location Determination
SAP Module	Logistics Execution
IMG Path/ Node	Assign Picking Locations: IMG -> Logistics Execution -> Shipping -> Picking -> Determine Picking Locations -> Assign Picking Locations
Transaction code	SPRO
Transport Request(s)	n/a

The screenshot shows the SAP SPRO configuration interface for 'Picking Location Determination'. The title bar reads 'New Entries: Overview of Added Entries'. Below the title bar is a toolbar with various icons. The main content area contains a table with the following data:

Picking Location Determination				
	ShPt	Plnt	SC	SLoc
	DC30	DC36	ST	DC30
	DC36	DC36		DC36
	DC36	DC36	FG	DC36

The screenshot shows the SAP SPRO configuration interface for 'Logical Systems'. The title bar reads 'New Entries: Overview of Added Entries'. Below the title bar is a toolbar with various icons. The main content area contains a table with the following data:

Logical Systems	
Log.System	Name
PIDC36	Assurant Returns Center (ARC)

8. ALE Partner Profile

Expand partner type LS and select PITSW, select Copy

The screenshot shows the SAP 'Partner profiles' window. The left pane shows a tree view of partner types, with 'Partner Type LS Logical system' expanded and 'PITSW' selected. The right pane shows the details for 'PITSW', including 'Partner No.' (PITSW) and 'Partn.Type' (LS). A red arrow points to the 'Copy' icon in the top toolbar. Below the main details, there are sections for 'Post processing: permitted agent' and 'Classification', and two tables for 'Outbound parmters.' and 'Inbound parmters.'.

Partner	Description
ARIBA	SAP-ARIBA Ada
BPPCLNT810	- PCDCCLNT810
CP1CLNT890	CUA PRD Mast
ESOURCING	E-Sourcing Cor
EXIGN	SAP - XIGN Log
HPPCLNT810	logical system f
LS_SAMSON	Logical System
MERCATORLS	Mercator Logica
MMLOGSYSCR	Logical System
MPPCLNT810	VPP Client 810
PIDC15	Integration to PI
PIOER	Integration to PI
PITSW	Integration to PI
PMHCLNT100	TMO Germany C
RPPCLNT810	- PBPCLNT810
SAPEDI	Logical System
SAP_SUPEDI	Logical System
SPPCLNT810	- PSCCLNT810
TIBCO_DC15	BrightPoint Tibc
TIBCO_DC20	BrightStar Tibcc
TIBCO_JDA	TIBCO_JDA Co
TIBCO_RIM	TIBCO_RIM
TQACLNT810	TQA Client 810
UDVCLNT810	UDVCLNT810
UDVCLNT820	UDVCLNT820
UDVCLNT830	UDV Client 830
VD1CLNT810	VD1 Clnt 810 fo
VD1CLNT820	VD1CLNT820

Partner Role	Message Type	Message var...	MessageFu...	Test
	ARTMAS			<input type="checkbox"/>
	ORDCHG			<input type="checkbox"/>
	SYNCH			<input type="checkbox"/>
LS	DESADV			<input type="checkbox"/>

Partner Role	Message Type	Message var...	MessageFu...	Test
	MBGMCR			<input type="checkbox"/>
	MBGMCR	OUT		<input type="checkbox"/>
	ORDCHG			<input type="checkbox"/>
	ORDERS			<input type="checkbox"/>

The 'Copy partner' dialog box shows the source partner profile 'PITSW' (Integration to PI and Touchstone, Logical system) being copied to the target partner profile 'PIDC36' (Logical system).

From:

Partner No. PITSW Integration to PI and Touchstone
 Partn.Type LS Logical system

to:

Partner No. PIDC36
 Partn.Type LS

9. Change Conditions

Output conditions Edit Goto System Help

Change Output - Condition Records : Shipping

Key combination

Output Type ZZVA Outg ship notif.

Key Combination

Shipping point

Ship-to

✓ ✗

Output conditions Edit Goto System Help

Change Condition Records (Outg ship notif.): Fast Change



Communication

Condition Recs.

Shi	Name	Func	Partner	M	Dat	Lang
DC10	ATCLE Shipping Point	LS	DCMTIBC0	6	4	EN
DC15	BrightPoint Shipping	LS	PIDC15	6	4	EN
DC20	BrightStar Shipping	FLS	TIBC0_DC20	6	4	EN
DC30	Touchstone Shipping	FLS	PITSW	6	4	EN
DC35	BroadTech Shipping Po	LS	PIDC35	6	4	EN
DC36	ARC Shipping Point	LS	PIDC36	6	4	EN

Output_conditions Edit Goto System Help

Change Condition Records (DC Notification): Fast Change

Communication  



Purchasing Doc. Type Purchase requisition
 Purch. Organization Voice Stream Purchas

Condition Recs.

	Plant	Name	Funct	Partner	M	Dat	Lang
	DC20	Brightstar Puerto Rico	LS	TIBCO_DC20	6	4	EN
	DC30	Touchstone Wireless	LS	PITSW	6	4	EN
	DC35	BroadTech, Inc.	LS	PIDC35	6	4	EN
	DC36		LS	PIDC36	6	4	EN
<input checked="" type="checkbox"/>							

Output_conditions Edit Goto System Help

Change Condition Records (DC Notification): Fast Change

Communication  



Purchasing Doc. Type Stock transport ord.
 Purch. Organization Voice Stream Purchas

Condition Recs.

	Plant	Name	Funct	Partner	M	Dat	Lang
	DC15	BRIGHTPOINT	LS	PIDC15	6	4	EN
	DC30	Touchstone Wireless	LS	PITSW	6	4	EN
	DC35	BroadTech, Inc.	LS	PIDC35	6	4	EN
	DC36		LS	PIDC36	6	4	EN
<input checked="" type="checkbox"/>							

Output_conditions Edit Goto System Help

Change Condition Records (DC Notification): Fast Change

Communication  



Purchasing Doc. Type ZRTP Return PO
 Purch. Organization V040 Voice Stream Purchas

Condition Recs.

Plant	Name	Funct	Partner	M...	Dat...	Lang...
DC35	BroadTech, Inc.	LS	PIDC35	6	4	EN
DC36		LS	PIDC36	6	4	EN

Output_conditions Edit Goto System Help

Change Condition Records (DC Notification): Fast Change

Communication  

Purchasing Doc. Type ZUB PKMS tranprt ord.
 Purch. Organization V040 Voice Stream Purchas

Condition Recs.

Plant	Name	Funct	Partner	M...	Dat...	Lang...
DC35	BroadTech, Inc.	LS	PIDC35	6	4	EN
DC36		LS	PIDC36	6	4	EN
<input checked="" type="checkbox"/>						