Introduction

ABC Bank is the biggest bank in Neverland. It is a public bank and it has approximately 1.500 branches and 20.000 employees working in branches. ABC Bank has branches in all cities in Neverland. Moreover it has branches in almost all provinces in Neverland. In this study, IT equipment purchase and distribution system of ABC Bank will be analyzed and possible improvements will be suggested.

Nowadays, ABC Bank provides all banking activities which are performed by private banks. So branch visitors are increasing and banking staff needs more technological equipment to deal with banking activities. KLM A.Ş. is one of ABC Bank's company focuses on purchase and distribution need of ABC Bank. KLM negotiate with suppliers, makes purchase decision based on need of bank and need of end user. KLM also makes planning of future IT infrastructure based on new branch openings, new personnel hiring and information system trend. All branches use servers, PCs, monitors, ATMs, network, phones, cameras, printers and supplies for those equipments. However, there is poor organization on purchasing, distributing, maintenance and reparation of IT staff. Some branches have new computers in their depots but some branches have computers which are 10 years old because of lack of efficient recording and distribution system.

This report's aim is to design IT equipment distribution channel for ABC Bank to remove the imbalance in distribution of IT equipment to help making future plan for IT infrastructure, to decrease over all IT equipment purchase, maintenance and reparation cost. Finally to meet all the IT need of ABC Bank in both physical equipment and usage of those equipments.

Current Situation

KLM A.Ş. is responsible of purchasing, stocking, distribution, maintenance and reparation of IT equipments. KLM has main buildings in Istanbul and Ankara. There small technical support offices in 16 cities. Main buildings store huge amount of equipments. Equipments can be new and they will be distributed to branches, equipments can be brought from branches and stored in warehouses either they will be repaired and send back or the equipment will be sent to other branches.

There is not manufacturing or physical production of goods in KLM. Only there are some times assembly of IT equipment such as assembly of IP phones; main part came form China and adaptor came from India. Once they assembled and sent branches, KLM is also responsible of establishment and maintenance. It should be noted that user manuals are not prepared by KLM.

Technical support offices are responsible of dealing with support calls of branches which they are responsible to serve. Mostly an office in a relatively big city serves cities around. Trabzon office, for example, is responsible of serving Giresun, Ordu, Rize, Artvin, Bayburt and Gümüşhane. If one of the branches faces with a problem with an equipment, server, PC, printer, fax, security camera or phone they open a help desk call by using help desk support software on their PCs. Once they typed their problem and recorded it to the system, technical support personnel check for call, categorize it and solve it. If branch could not enter a help call because of technical reasons such as not functioning modem, they call technical office on phone and explain the situation. Also if office could not understand the error they call the branches and gather information for understanding the problem. In most of the situation, the technical office needs to contact with branches to provide help because of insufficient explanations of branch personnel. Also technical personnel had to visit branches to understand the problem since the banking staff could not provide information or they are reluctant to share some thing because they think that they could be responsible of the problem.
Communication is established by using phones. Phone fee is normal fee of Turk Telekom Company. All the communication cost to the branches and the KLM A.Ş. is very high. Also because of misunderstandings and misinterpretation, there are not needed visits to branches, taking wrong equipments, giving wrong directions and ect.

KLM A.Ş. makes purchase decisions for all IT equipments. PCs which consist of monitors, keyboards, mouse, case, main board, RAM, hard disks, power supply, cables inside the case and out side the case. All branches have servers which connect the branch to main server in Ankara. All branches have at least one server and a few PCs. Also there are printers in branches. Some printers are just for printing pass sheet of deposit accounts. There are also printers for printing documents, word files or PDF files. All printers use cartridges in printing operations.

All branches have phones for communicating with customers, other braches and technical support offices. Communication cost is very high since branches talk with technical support office on MMM Telekon tariffs. Also branches use phone operators to call outside. Phone operation machine can include all mobile phone operator types and constant phone operator types. When a branch decides to call outside, operator matches the same operator according to first digits. For example, when an employee in credit department calls a customer on phone, he types 053… for contacting with customer on phone and the operator selects NNN number of branch to call customers to decrease costs. Phone operator machines are installed to branches according to demand of branches from KLM but branches must contact with GSM operators to get mobile numbers for free. This knowledge is given to all branch managers but most of the branches do not established phone operator machines on their branches. So that communication bills are very high. Also IP phone usage is very low. IP phones can be used on communication among branches and communication between branches and IT support office. In order to use IP phones leased line bandwidth must be increased to support voice data transfer.

Current Operation Management Decisions

Goods and Service Design:

Goods are IT devices used in branches. Services are reparation of IT devices, changing parts and training of IT devices users. After analysis, as addition, it is decided that user manuals must be designed by KLM for all equipments.

Quality Management:

All the branches should use IT equipment in most effective way.

Process and Capacity Design:

Processes are making purchase decisions, selecting vendor and stocking IT equipment. Deciding help center openings and their staff and stock capacity.

Location Selection:

Technical support centers located in big cities and they serve several cities around the big city. They mostly don't make equipment storage. They just store convenience staff like cables, Ram, hard disk ect. PC storage performed by İstanbul and Ankara center.

Layout design:

Current layout is consisting of purchase of IT equipment, delivering and maintenance. Layout will be redesign and purchase of equipments will be made part by part and some staff will be hired to assembly equipment. For example, HP provides PC with all parts and in ready to use but price is high and hardware capabilities of some products are limited. Also variability among PCs are not possible. In new design main boards, processors and RAM will be purchased independently.

Human Resource Management:

Selecting best personnel is very critical in IT sector. Help desk support personnel should be communicative people to gather information. Also technical people are selected with their

technical knowledge. More educated and qualified staff will be hired and investment on HR will increase since processes will be redesigned.

Supply Chain management:

Suppliers are well known ready PC or IT staff providers like HP or Acer in old system. They provide warranty for 1-2 years and when a part is damaged in the PC they are required to provide this part for 1 year after purchase. Instead they request the old PC for a low price and discount this price when KLM orders new PC.

In new supply chain structure, computer parts are purchased independently. Also supply chain processes will be pull order from branches and rarely a new introduce of IT equipment to the system.

Inventory Management:

Inventories mainly stored in Istanbul and Ankara. Other technical support centers do not keep inventory. Suppliers are not required to keep inventory for supplying in future. Also inventory recording software is limited and not sufficient.

In new inventory management, a comprehensive software used for inventory tracking and inventories will be kept in all technical support offices.

Scheduling:

IT sector is changing dynamically. In order to provide a healthy supply chain process for IT staff management in ABC Bank, staff scheduling, inventory purchase and reparation processes are well scheduled in addition to training of KLM staff.

Maintenance:

All processes will be analyzed continuously and possible improvements will be evaluated. If any problem occurs in one of the processes or in branches, this problem will be tracked by expert analysts.

Insights from Current System

Current system mainly consists of making buying decision for IT equipment, buying optimum It equipment by considering price and guarantee affairs, distributing equipment, collecting old equipment, technical support, reparation of equipment and changing hardware of equipment.
KLM centers in Istanbul and Ankara make purchase decisions for hardware. Branches and local technical offices can buy printer cartridges, cables and other small and low price units. There can not be customization on PCs. Printers in branches are different and they do not use the same cartridges. So all branches make independent purchase of papers and cartridges and cost increases. Cost of papers and cartridges of printers and cartridges of photocopier become dramatically lower if KLM center makes the purchase in huge quantities and distribute them to branches. Paper and cartridges can be directly bought from India and China by making negotiations since 1.500 branches use huge amount of printing staff. Also local sellers of those staff also bring material from india and China. But in order to import printing staff in huge quantities, firstly all branches must use printers and photocopier machines which use the same standard of cartridges and papers.

First of all an ERP project implementation is required to keep all the records of materials. Brand, model, all capabilities and properties of current equipments and their usage branches must be recorded to a system as a MIS for using the system as a DSS later. Reports can be generated from the system by giving inputs such as bring the number of PCs which uses processors lower than Pentium 1,5 Giga hertz or having RAM more than 1 giga byte ect. So that current picture can be get and health decisions can be made. After that retailer integration to the system can be provided. Every hardware seller can login to the system of KLM and enter their product detail and price. It can be a local vendor which serves to a few city like Eskişehir and Ankara or a retailer who serve all the country like hepsiburada. The supplier provide their available I equipments by integrating their system to KLM. So that when a branch manager wants to give an order he can check all the available items from signed vendors.

New Location Design

Objective of supply chain of KLM is to maximize overall value created by the Supply Chain of IT equipment. It can be reached by delivering valuable product, such as PCs and cameras, to branches, increasing product usage by technical support, decreasing branches' cost of ordering, decreasing cost of convenience products like paper and cartridges.

In old design, KLM centers in Istanbul and Ankara make purchase decision of PCs and expensive equipments. PCs are delivered to branches and local technical offices in 16 centers provide technical support. Local officers store some equipment like power supply, cables and hard disks. When a PC is broken, broken part is sent to Istanbul or Ankara and new part is waited.

In new model, Technical offices can make purchase decisions for certain products. Price and Model constraints will be determined by central office in Istanbul and technical offices can purchase equipment if it fits with criteria. A new purchase of a 250 GB hard disk must be lower than $100 for example. Negotiations with local distributors like hepsiburada, bimeks and teknosa is established by center in Istanbul and branches choose appropriate one for their desire. Because of high competition in the market, those vendors provide best price for technological products and all of them have their distribution network for all over the country. So that transportation costs are lowered and waiting time of branches are limited. A purchase desire is entered to the system by entering product details and price then central office will approve it from the system and central office make the payment.

Also user profiles will be developed by central office. According to profiles of PC users, they use certain software, their hardware requirements would change. Also some type of users might need special hardware like laptop with face recognition locking for branch managers or 500 GB external hard disk for local technical personnel. When hardware requests come from branches, the request will be evaluated according to demander's user profile.

Application of new design is possible by firstly categorizing items by three. First type of items which can be requested and stored y branches, second type of items contains items can be ordered and stored by technical offices and third type of items only ordered and stored by central offices.

First types of items are papers, cartridge and cassettes used by security cameras. Since all printers will be standardized and printers would use the same cartridges, central office in Istanbul purchase the cartridges, papers, screw and cables in huge quantities at lowest affordable price by giving purchase guarantee. The staff won't be spoiling or fashion and technology change cases are very rare.

Second type of equipments are internal parts of PC like hard disk, RAM, CPU and other small equipments like security cameras, scanner and multi functional phones. Those equipments can be stored in 16 technical offices. Technical offices work as assembly channels for providing those staff. Those equipment requests can be entered by branches. If local office would approve it request will forwarded to central office to provide payment. If request fits with the predefined criteria the item purchase request will be approved and local office will change the part of the PC and store the old one. Every transaction will be recorded to ERP package.

It won't be feasible to buy second type of items in huge quantities and distribute it. Because the IT equipment life cycle is very short and new items are introducing regularly. Also the need of each personnel is not the same since they use different software. A branch employee, for example, is using ordinary computer to use banking software and internet browsing. He does not need extensive graphic card or high memory. But a marketing employee can need high hardware configuration for managing media and making design for customer attention. So order processes do not begin at the end no longer and pull view can also be applied. End user can enter a purchase request which will be approved by regional center first and then center in Istanbul. Or a certain need can be recognized by central office and a huge purchase can be made (pull view). It can be gathered from the ERP system that most of the staff requesting flash memory to carry data. So a flash memory purchase with huge quantities to distribute flash memories to all the employees can be made and price can be lowered by making a big purchase.

Third types of equipments constitute the basics of PCs and IT staff of branches. They are chosen by central office and distributed to branches according to needs and stock status. Main board, RAM, memory, central processor unit, case, printer, security cameras and other external parts of a PC can be counted on this category. They are purchased and stored by central offices. Because a main board determines the type of hard disk, RAM and other staff will be integrated to the computer. All the main board of branches should support the same type of equipments so that external staff can be bought and integration problems will not exist. One part of a computer can be plugged out and it can be plugged in another computer. Also printer in different branches should use the same type of paper for printing deposit account details and the same type of cartridges should be used in all branches to buy the cartridges in huge quantities to decrease cost of cartridges. If a certain requirements are set and new purchase of these equipments is need to make, central office will consider it and make purchase decision. Windows Vista installment, for example, can be demanded by certain type of employees and Vista requires DDR2 type of Ram and Dual processors. This requires purchase of new main board which supports those properties. So if Vista installment is accepted by central office, new main board purchases are made and new computers are sent to demander employees and their old computer can be sent to other branches which uses computer with lower capabilities.

Conclucion

Purchase and distribution supply chain of ABC Bank can be improved firstly by implementing an ERP package which capable of recording current material. The ERP system is also integrated with IT staff providers like amazon and every employee can browse hardware staff to make a purchase request. Delivery cost become considerable lower by using retailer's distribution network. Purchase request of personnel evaluated according to personnel profile and hardware type. Hardware and IT staff categorized by three and first type of staff can be ordered by branch employee, second type of staff can be ordered by regional technical offices and third type of staff can be purchased by central office. So that consistency among IT product and product variability for different type of users are established at the same time. In this way daily product like paper and cartridges can be bought in huge quantities and cost lowered. Finally IP phone usage will decrease communication cost among branches and technical offices considerably and technical support become easier.