



Supply Chain Management of iPad

Submitted By:

MD JUBAET BISWAS JEASUN (15.01.04.078) &

Fellow Member: (15.01.04.061)

Submitted to:

Mr. Mohammad Imrul Jubair

Assistant Professor, AUST

Date of Submission: 09.10.2018

Executive Summary

Supply chain management is an integral part of most businesses and is essential to company success and customer satisfaction. In global market of supply chain management, apple is one of the biggest competitor. In this report, a product of apple, iPad's supply chain management is described.

Team Reflection

We choose our supply chain management project on tech giant Apple co. iPad product to express our skills in innovative thinking about global market. We tried our best to elaborate supply chain management of apple iPad as much as we can.

Table of Contents

Executive Summary -----	1
Team Reflection -----	1
List of Figures -----	2
1. Introduction	
● A Short Description of Supply Chain Management -----	4
● A Short View of Apple Supply Chain Management -----	7
2. Project Details -----	8
3. Performing Portion -----	10
4. Future Action Plan -----	16
5. Conclusion -----	16

List of Figures

Figure-1: Supply chain management process -----	5
Figure-2: Data table Schema -----	10

1. Introduction

A Short Description of Supply Chain Management

SCM involves a series of key activities and processes that must be completed in an efficient like fuel-conserving, cost-reducing etc. and timely manner. Otherwise, product will not be available when needed by consumers like us.

SCM Processes:

Supply chain activities aren't the responsibility of one person or one company. Multiple people need to be actively involved in a number of different processes to make it work.

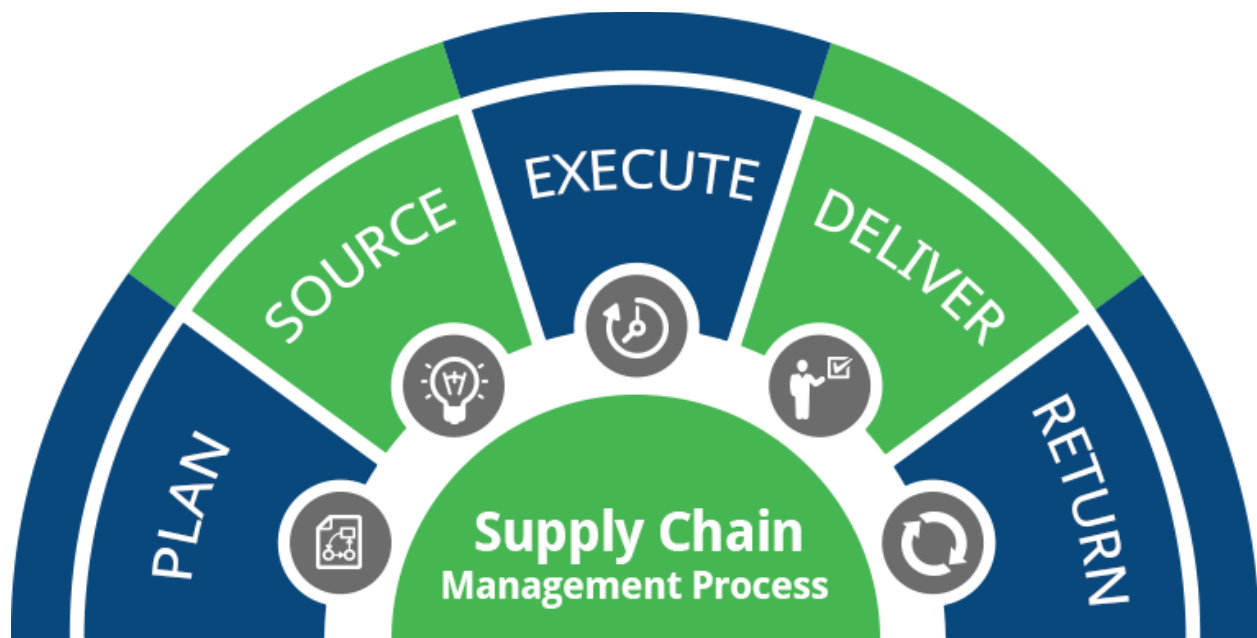


Figure 1: Supply chain management process

- i) Planning – the plan process seeks to create effective long- and short-range supply chain strategies. From the design of the supply chain network to the prediction of customer demand, supply chain leaders need to develop integrated supply chain strategies.
- ii) Procurement – the buy process focuses on the purchase of required raw materials, components, and goods. As a consumer, you're pretty familiar with buying stuff!

iii) Production – the make process involves the manufacture, conversion, or assembly of materials into finished goods or parts for other products. Supply chain managers provide production support and ensure that key materials are available when needed.

iv) Distribution – the move process manages the logistical flow of goods across the supply chain. Transportation companies, third party logistics firms, and others ensure that goods are flowing quickly and safely toward the point of demand.

v) Customer Interface – the demand process revolves around all the issues that are related to planning customer interactions, satisfying their needs, and fulfilling orders perfectly.

A Short View of Apple Supply Chain Management

Apple's Supply Chain:

In Apple's supply chain management (SCM), they earned a great achievable success but many people believe that its supply chain model, extraordinary inventory control and sophisticated software systems are the secret weapons that keep them on top of the global leader board. Apple's Supply Chain has ranked #1 in the world each year from 2010 to 2013 by research firm Gartner. In 2014 Gartner placed Apple in a new masters category for demonstrating sustained leadership in their supply chain and defining the very notion of a "solution" supply chain, blazing new trails with its demand creation capabilities.

2. Project Details

We describe a supply chain of Appleipad in our following database project. In our database we have a abstract level of processes of taking components, manufacturing modules from the components, assembling the modules into different types of Appleipad, testing the Appleipad and fulfilling orders for the Appleipad. In this case flow of information and materials are bi-directional. The relationships between tables resemble a chain. Trigger are for automate the processing of orders, automatically passing completed Appleipad or Appleipad modules forward to be used in the next stage and passing information on what is needed back to trigger creation. Trigger is also used to test newly created Appleipad and to order replacement components when we are running low. We design our database as our database could react to orders given to us by team C and those orders fulfilling automatically without needing our intervention, exchanging information or materials all the way back through to placing orders with Team A. Team C flows two ways in the case of our primary interaction. They place orders into our Orders table, and we fulfill those orders by writing to their inventory table. Team A also flows two ways in the case of our primary interaction. We write orders to their Order table, and they fulfill the order by increasing our inventory of components in our Components table. Thus, for the interactions with

both teams, orders are passed back and physical materials passed forward. We ignored the human elements of supply chain. Because they did not contribute to the conceptual model on what we were working with and which focused on the flow of components, modules and Appleipad. Yes obviously, in real life actual workers would be required to carry out many of the tasks alluded to in our database, but they essentially disappear at the level of abstraction we are working with.

3. Performing Portion

I worked on to formed six procedures, all of trigger, all of database table and creation of data entry and testing.

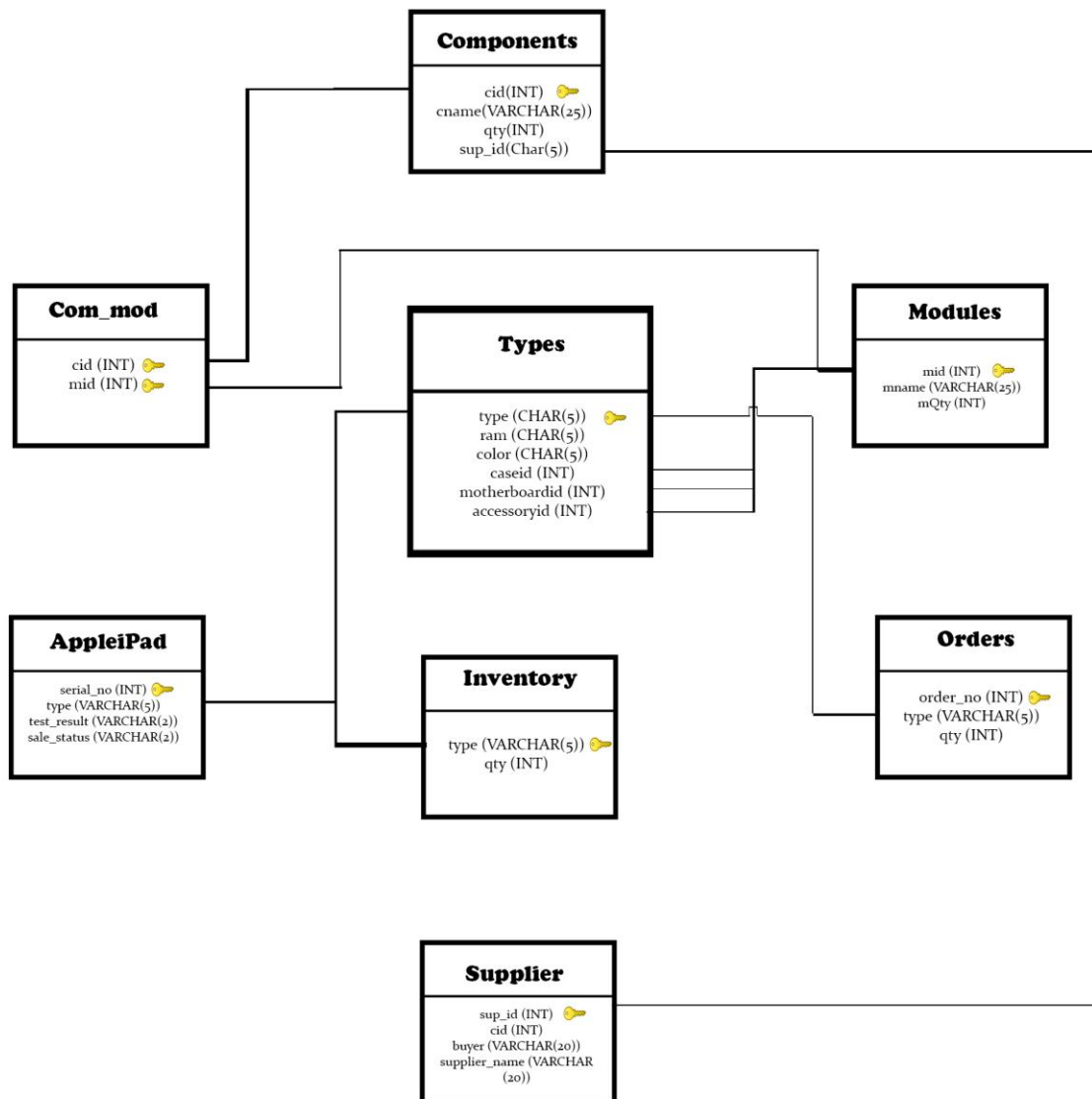


Figure 2: Data table Schema

(a) Table: There are 8 tables that i have been created. Components, supplier, Com_mod, Modules, Types, Appleipad, Inventory, Orders.

(i) The table “Components” records the components we purchase from Team A’ s suppliers and use in creating modules. The table records a unique identifier for each component (cid)--the value of which is the same across Team A and Team B--the name of each component (cname), the amount of each component we have in stock (qty), and the id of the supplier that we order each component from (supp). When our orders to Team A are fulfilled, the qty field will be updated to reflect the number of components added. The table references Team A’ s Supplier table to keep the supplier names consistent. Components also has a relationship with Com_mod, specifying which components are used for which modules.

(ii) The table “Com_mod” connects the components to the modules they are used to create. The entities “components” and “modules” have a many-to-many relationship, so this table bridges that.

(iii) The table “Modules” records information about each module type that is manufactured. It includes a unique id for each type of module (mid), the name of the module (mname), and the number of each type of module we currently have in stock (qty). It is related to the table Com_mod, which records what components go into making each module, and to the table Types, which records what modules are used to create which types of Appleipad.

(iv) The table “Types” records information about the types of Appleipad we assemble. Each type has a unique name (type), a given amount of RAM (ram), a color (color), and is made up of three modules: a case (caseid), an integrated motherboard (motherboardid), and a module holding several other parts and accessories (accessoryid). The modules fields reference the Modules table. The Types table is also related to both the Appleipad table, which records information about the individual Appleipad produced, and to the inventory table, which tracks the number of Appleipad of each type we have.

(v) The table “Appleipad” records information for each individual Appleipad we make. Each Appleipad has a unique identifier (pid), is of a given type (type), and is sold or unsold (sale_status). The table also records whether or not a Appleipad has been tested yet and, if it has been tested, if it passed or failed the test (test_result). Appleipad references the Types table to indicate what types of Appleipad can be and are present.

(vi) The table “Inventory” records numbers of currently-in-stock, ready-to-be-sold Appleipad. The table includes the type of Appleipad (type) and the number of that type of Appleipad that are available for immediate sale (inventQty). Like the Appleipad table, Inventory references the Types table for referential integrity on the types of Appleipad available.

(vii) The table “Orders” records the orders that we receive from Team C. Each order has a unique, identifying number (oid), is for a type of Appleipad (type), gives the number of Appleipad wanted (qty), and

records how many Appleipad still need to be provided to Team C to complete the order (to_be_filled). This is the table Team C will insert into the order Appleipad from us.

(viii) The table Supplier is for, when we need more components from group A, we will insert the needed quantity into their corresponding supplier's tables. In that case (sup_id) will be used as identifier of specific supplier.

(b) Initial set of Triggers:

Below is the initial set of triggers that i have been created, along with each trigger's description.

i) TRIGGER deliveredComponents: This trigger will be called once group A sent us the components that i need.

ii) TRIGGER Orders: This trigger will be called when teamC places an order and insert a new row into our Order Table. First it will print out the notice that Group C has placed an order with its information. Then it will call the proInventory stored procedure and pass the quantity, type and Order Id of the new order into the procedure as the parameters.

c) I have been created six procedure. Those are searchModulesTable, searchComponentsTable, checkModules, checkComponents, assembleModules, assembleComponents.

i) PROCEDURE searchModulesTable: This procedure will be called when we need to produce a new miPad. It will first check if there are enough quantity of the modules which are required to produce the miPad. If so, a assembleModules procedure will be called to assemble the modules. If not, it will call the searchComponentTable to see if there are enough quantity of components which are needed to produce the module. For the searchComponentTable, the extra needed quantity of component, module type, order id, and component id will be passed in as the parameters.

ii) PROCEDURE searchComponentsTable: This procedure will be called when the remaining modules cannot assembly to enough number of miPad to complete the order. If there are enough quantity of components which are required to build the lacking module, the assembleComponents procedures will be called. Otherwise the orderFromGroupA will be called to ask for more components from group A.

iii) PROCEDURE checkModules: When a certain type of miPad is to be made, it will check whether there are sufficient quantity of modules. If so, it will start to build the miPad with assembleModules procedure.

iv) PROCEDURE checkComponents: After group A sends us the components that we need, this procedure will be called. It will first check whether the rest of the components, combined with the new delivered components, are sufficient to build the new modules we want. If so, the new modules will be made.

v) PROCEDURE assembleModules: This procedure is used to assemble modules.

vi) PROCEDURE assembleComponents: This procedure is used to assemble the components into modules.

4. Future Action plan

In future we have a plan to implement this project more elaborate and user friendly to customer. We have some little difficulties in our project and which is not up to the mark in the time of real time user. We will try to remove those user contradiction issues to make this project more users friendly.

5. Conclusion

Database establishing over two network was one of the great challenge towards us at the beginning and we faced a little difficulties too database in the time of database connection over two network but at the end we overcome this problem. Our main goal was at the beginning of project, to fulfilling the main objective of supply chain management and we hope we are successful to implement this project at the day end.