

## **CAREER EPISODE 3**

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Creation of Capacity Planning Procedure and Process Flow for Production Planning and Control Department of Integrated Microelectronics Incorporated, Laguna City, Philippines

### **INTRODUCTION**

(CE 3.1)

During my first work right after graduating from the University, I occupied a supervisory role as a Capacity Planner for Integrated Microelectronics Incorporated (IMI), Laguna City, Philippines. This lasted for 19 months from August 2012 to February 2014. This career episode detailed the activities that occurred for 3 months from July 2014 until September 2014, months later after I left the role of Capacity Planner and was transferred to a new role within the department. The work procedure was completed as a requirement requested by the management team of IMI.

### **BACKGROUND**

(CE 3.2)

IMI is one of the leading global providers of electronics manufacturing services and power semiconductor assembly and test services. The management team found out thru the Human Resources Department that there are a number of employees claiming that their respective roles do not have clear job descriptions because of undated work procedures. In the Production Planning and Control (PPC) Department, the position of Capacity Planner was vacated for a number of years before I came in at IMI. With the management team's goal of having updated work procedures for everyone, they asked for my consent and I then agreed to create by myself the whole work procedure and process flow for Capacity Planner of PPC.

(CE 3.3)

The organization chart (see Figure 1) shows the whole PPC Department when I was still a Capacity Planner. The whole department is divided into four major teams: (1) Demand Management Team; (2) PPC Common projects; (3) PPC HID projects; (4) PPC Automotive projects. These teams have supervisors and staff reporting to them. However, as a Capacity Planner, I am a stand-alone member and not part of the four major teams and also reporting directly to the PPC Manager.

(CE 3.4)

I, as a capacity planner coordinated with various manufacturing support groups. I assessed availability of production requirements by seeking support from different teams: timely delivery and distribution of raw materials by the warehouse team; regular communication with production team for manpower availability; and support from process and product engineers for machines, jigs, fixtures, and work instructions needed for manufacturing runs.

## Laguna 1 Planning Group (DMT/PPC/CAPPLAN) - Proposed

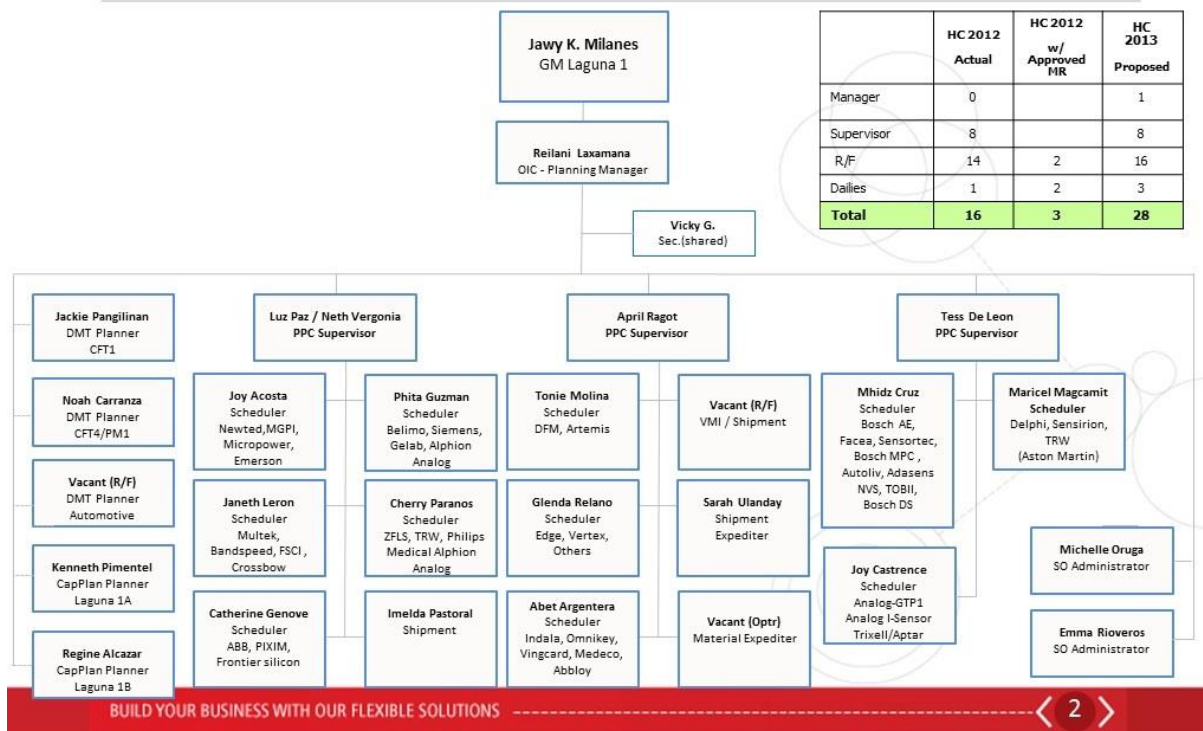


Figure 1. PPC Organization Chart

(CE 3.5)

With the ultimate goal of creating a detailed work procedure, the strategy I used is to divide the work procedure by frequency of tasks and reports generated and they were as follows: (1) Created Monthly Forecast Reports; (2) Conducted Daily Reports and Updated Daily Traceability System; (3) Summarized Monthly Actual Reports; (4) Other relevant information. I created a number of flowcharts and diagrams for the work procedure using Microsoft Visio. However, I presented the whole work procedure using Microsoft Powerpoint.

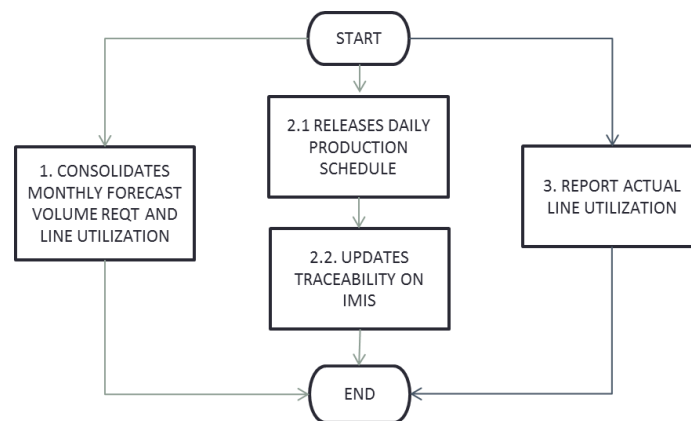
### PERSONAL ENGINEERING ACTIVITY

(CE 3.6)

As the work procedure assigned to me was to be done months after I left the role, I first thought that I may encounter problems on doing it while still learning the new role offered to me as a Production Planner Team Leader. Being in the new role with seven people reporting to me was indeed challenging. I managed to discuss with my team and my manager that in order for me to finish the work procedure, I need everyone's cooperation so I can fulfill my daily work load on the new role and have time to do the work procedure. I planned it well by doing a Gantt chart for me to follow so I can check my progress on the activities that I must complete.

(CE 3.7)

I started data gathering as I had checked my archived e-mails for all the major reports that I had sent. I checked my files on the computer for raw data that I had used in creating the reports that I had sent out. I listed down the frequencies of these e-mails then I grouped the major functions of a Capacity Planner into: (1) Consolidates monthly forecast for both volume requirement and manufacturing line utilization; (2) Releases daily production schedule; (3) Updates daily traceability thru Integrated Microelectronics Incorporated System (IMIS); (4) Reports actual line utilization. For better understanding, I had created a flowchart to illustrate this overview (see Figure 2). This guided me on creating the entire work procedure as I needed to discuss in detail all of the tasks covered for each major function.



**Figure 2.** Capacity Planner Process Overview.

(CE 3.8)

I designed the work procedure to have a balance of flowcharts, texts and images thus I created a format to follow: diagram, appendices and images. I created an activity diagram containing four columns: (1) Responsibility column contained the person or team who are accounted for in performing the process; (2) Activity column depicted a step by step process flow; (3) Operation Description column discussed in details the process for each activity; (4) Interfaced Documents column indicated all documents that moved along the process. In the appendices, I attached hyperlinks for the documents tackled. Meanwhile, I took screenshots for major parts of the reports so as to emphasize results.

(CE 3.9)

When I was still a Capacity Planner, I standardised the task of having consolidated monthly forecast for both volume requirement and manufacturing line utilization by sending it on a monthly basis. I imposed deadlines on finishing the two reports and did improvements on the report templates for both forecast volume requirement and forecast manufacturing line utilization. I described the detailed tasks in the work procedure after I created a flowchart with processes of: (1) compiling product volume (either firm volume with sales order or forecast volume); (2) input product volume on Back-End Processes Volume Requirement Template; (3) releasing this report to management, production and engineering team; (4) input sum of data from previous report to Forecast Line

Utilization Template; (5) releasing this report to management, production and engineering team. I also attached sample files of input data and output report on appendices and as well as sample screenshots for e-mails containing analysis formulated by Capacity Planner while presenting the output reports to the people concerned.

(CE 3.10)

I also regulated the task of releasing daily production schedule by distributing it twice daily and also did improvements on the daily production schedule template. I described the detailed tasks in the work procedure after I created a flowchart with processes of: (1) gathering of production run schedule requests; (2) analyzing and plotting production run schedule requests; (3) checking of major production requirements; (4) updating production schedule with IMIS details; (5) finalizing production run schedule; (5) releasing production schedule to PPC, production, engineering and warehouse teams. I also developed a monitoring report that I created for special cases of production runs which will always be initiated by the Capacity Planner. I also provided sample files of input data and output report on appendices. On the next major process of updating the traceability system at IMIS, the main object of reference to conduct this process is the production schedule created by the Capacity Planner. I elaborated the detailed tasks under this major process by attaching the whole work instruction on how to use IMIS. I was involved in creating the IMIS work instructions. As this is a new system, I decided to include in the work procedure screenshots of system errors encountered and possible solutions to these system errors.

(CE 3.11)

I even standardised the task of reporting actual manufacturing line utilization and also did improvements on the report template. I described the detailed tasks in the work procedure after I created a flowchart with processes of: (1) acquiring data from Overall Equipment Effectiveness (OEE) report from engineering team; (2) analyzing data; (3) input data to actual manufacturing line utilization report template; (4) releasing this report to management, production and engineering team. I again provided sample files of input data and output report on appendices and also sample e-mails containing analysis formulated by Capacity Planner while sharing the output reports to the team concerned.

(CE 3.12)

With the four major functions of a Capacity Planner well presented on the work procedure, I know that there are some minor tasks and information that come alongside. I then expounded these things such as: (1) escalation procedure; (2) flexibility rule; (3) definition of terms; (4) Capacity Planner Key Performance Indicator. Having documented the whole Capacity Planner Work Procedure and Process Flow, I then created a presentation using Microsoft PowerPoint as I presented it to the management team.

**SUMMARY:**

(CE 3.13)

The work procedure had some minor revisions so as to include a few notes from the management but it was completed on-time. Then management team recognized me for what I had done saying they were truly satisfied and that goals and expectations of both sides were met. I also believed when they had said that it is the first detailed work procedure for PPC department and it will be my legacy to the company as it will surely be the benchmark for all other work procedures to be created in the future.

(CE 3.14)

My significant contributions in creating process flowcharts, standardizing process frequencies, improving project reports, added by my strategic innovations and time management skills all factored in for the success of the creation of Capacity Planner Work Procedure and Process Flow for Production Planning and Control department of Integrated Microelectronics Incorporated.