

***Integrative Case Study: Custom Chip Inc.***

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## ***Introduction***

This paper examines the basis for interdepartmental conflict and dependence as seen in the case study for Custom Chip, Inc. (Daft, 2001, p. 543) and presents management recommendations. Additionally, this paper identifies a biblical principle that the recommendation illustrates and examines how the gifts and Meyers-Briggs type of the participating group members contributed to the end result.

## ***Departmental Conflict***

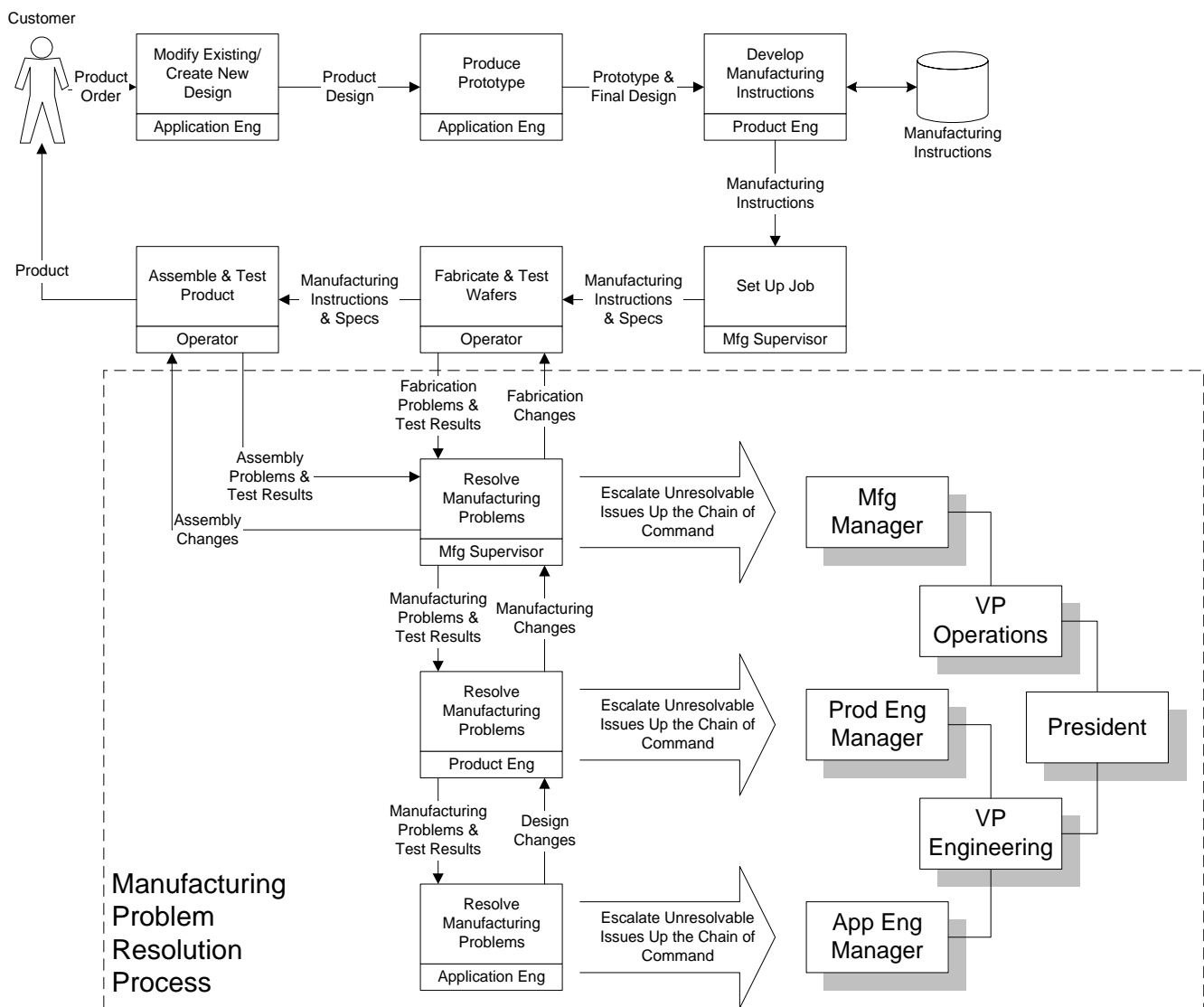
There are two primary reasons for the conflicts that exist in Custom Chip. First, there is goal incompatibility (Daft, 2001, p.443) between departments. Application Engineering's goal of satisfying customer needs through innovative designs result in practical difficulties for design and manufacture. Product Engineering's goal of maintaining adequate yields result in a need for simple consistent designs and tightly controlled manufacturing processes. Manufacturing's goals of productivity and schedule compliance result in process and quality problems. Second, there is sequential task interdependence (Daft, 2001, p.446) as each department depends on the others for product designs and problem resolution. The next section describes this interdependence.

## ***Workflow Interdependence***

Workflow between the Applications Engineering, Product Engineering, and Manufacturing departments has deficient horizontal information linkages (Daft, 2001, p. 89). Exhibit 1 shows normal workflow progression through product ordering, application engineering, product engineering, and manufacturing. Production problems are frequent and routine due to the nature of manufacturing custom complex semiconductor products.

Exhibit 1 also shows how the current problem resolution process incrementally moves from department to department and escalates up the organizational chain of command when the parties are unable to resolve differences. This workflow and its inherent communication barriers inhibits timely problem resolution, adds significant time and cost to the manufacturing process, and frustrates staff trying to improve the overall operation.

**Exhibit 1 – Overview of Information Flow for Manufacturing Operation**



## ***Management Recommendations***

To meet customer needs while reducing costs amidst a major downturn in the semiconductor market, Custom Chip senior management needs to make fundamental changes. Recommendation to management consists of a twofold strategy. First, create a shared mission and vision as well as establish overarching goals for the manufacturing operation. Organizations having a sense of shared objectives are likely to have a more unified workforce (Daft, 2001, p. 467). When different departments have overarching and complementary goals that define success, they are more likely to work cooperatively and share information (Daft, 2001, p. 467). Second, change the organizational design by restructuring workgroups on the manufacturing floor. The next section describes organizational design recommendation in greater detail.

Once these basic recommendations are put in place, Custom Chip can consider making technology investments such as installing a computer aided design system to provide centralized access to information for all product team members allowing collaboration to take place from prototype design to manufacturing instructions. This provides additional opportunities to increase efficiencies of the pre-production and production processes.

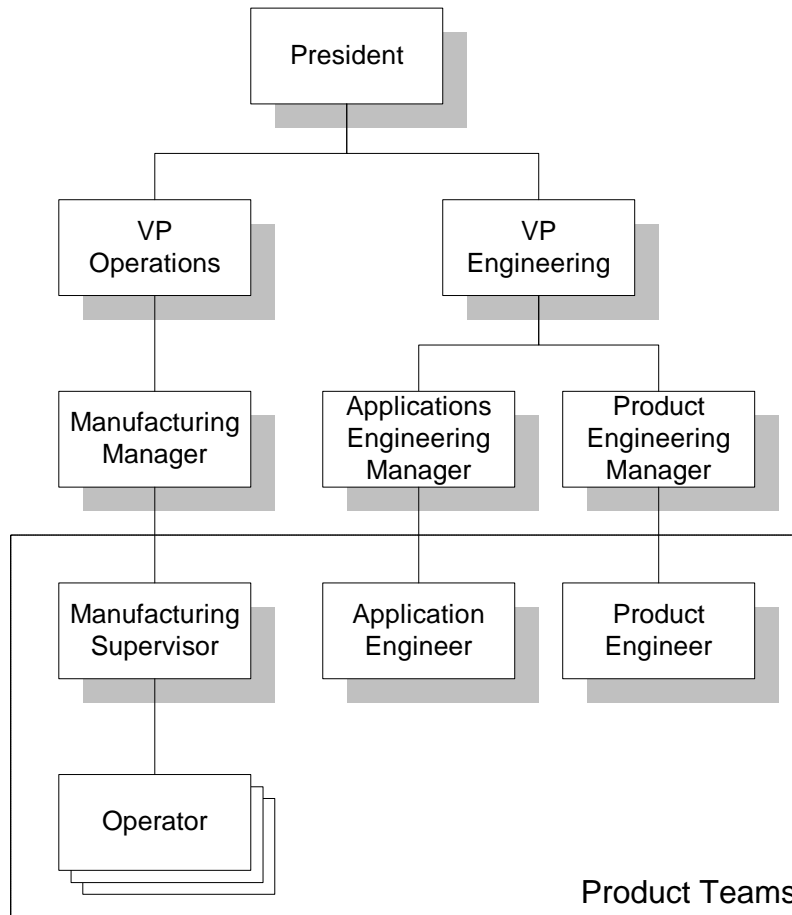
## ***Organizational Recommendations***

Custom Chip uses a hierarchy of authority organizational structure in a departmental functional grouping (Daft, 2001, pp. 95-96). This type of mechanistic organizational structure has strengths in economies of scale, knowledge and skill development, focus on functional goal achievement, and optimizing operations (Daft, 2001, p. 97) and may have been appropriate and effective in Custom Chip's emergent growth years.

Characteristics of Custom Chip's manufacturing operation include small runs of custom configured products, technical complexities of design and manufacturing, highly skilled workers, difficulties in developing and maintaining accurate documentation, and a high level of timely communication and coordination necessary to solve design and manufacturing problems. These operational characteristics as well as the interdepartmental conflict and workflow problems point toward the need for a more organic organizational structure (Daft, 2001, pp. 202-203). A more organic structure reduces formal hierarchy of authority, enables effective horizontal communications between workgroups, rapid problem solving, and adaptation on the manufacturing floor (Daft, 2001, p. 144). It also facilitates knowledge sharing, continuous learning, and shared accountability for overall success of the organization (Daft, 2001, p. 374). This change is the basis for expecting dramatic improvements in operational efficiencies through increasing production yields that lower costs, faster problem resolution that shortens production cycle times and improves schedule performance as well as enabling effective teamwork that increases job satisfaction for all staff.

Accordingly, the recommendation is to form permanent cross-functional task forces for the manufacturing operations at the main plant. These task forces or product teams should be oriented around product families, customer production runs, team composition and size, or some combination thereof. Exhibit 2 shows how the organization of these teams spans applications engineering, product engineering, and manufacturing operations. This team structure provides the horizontal linkage mechanism that is missing and so vitally needed.

**Exhibit 2 – Product Oriented Task Force Structure**



***Biblical Analysis of the Implemented Changes***

The management and organizational recommendations involve creating a shared mission, creating common overarching departmental goals, centralizing the communication system, and creating cross-functional teams. The most basic Biblical example of cross-functional team operation is the five-fold ministry leadership in the New Testament church (Ephesians 4:11-12), which has five leadership departments to accomplish its mission of evangelizing the world (Matthew 28:19-20). These five departments are: apostles who initiate new production and growth, prophets who manage the big picture, evangelists who sell the product, and pastors and teachers who equip the work force.

Together the leadership teams in the church take care of these departmental functions in order to accomplish their common goal. To compliment these cross-functional leadership teams, work groups in the body of Christ have the Holy Spirit (Romans 8:8, 1 John 2:20), who provides the ultimate centralized communication from all groups to the Christ the leader (Ephesians 1:22), and provides horizontal communication between the various groups at all levels in the form of confirmations (Romans 8:16, 1 John 1:22). The final change of restructuring the work groups is best illustrated by the story of Abraham and Lot (Genesis 13:1-9). Since the resources in one area were not enough for the herds of both men, they chose to separate the work groups so the herds could graze with out competing for the same grass.

### ***Teamwork: Individual Dynamics within the Team***

Joseph has the motivational gifts of leadership and perceiving (DellaVecchio & Winston, undated) and the personality preference of INFJ (Meyers & Briggs, 1998). Joseph initiated the original formation and task divisions for the group. He was clearly the leader and facilitator, who gave overall feedback on the big picture for the case study. He was operating from his gifting and influenced the team to be more hierarchical in its workflow (Kormanski, 1999, p. 7) by initiating the structure, steps, and monitoring the group process. In the monitoring, Joseph did some encouraging of the group from a task perspective, emphasizing the communication and task timetable. Joseph's specific task was the case study's organizational and workflow analysis. Joseph also exhibited some of his personality preferences in developing a clear vision about how to best serve the common good of the task (Meyers & Briggs, 1998).

Ed has the gifts of teaching and perceiving (DellaVecchio & Winston, undated) and a personality preference of ENTP (Meyers & Briggs, 1998). Ed's specific task was to write an analysis of the group's personality, gift, and teamwork dynamics and do the Biblical analysis of the recommended changes. Ed proposed that we write each section independently, but then leave some room for each person to individualize the group paper. Ed's part was also dependent upon the products of the rest of the group and he had to wait to write his part, which exhibited his gift and preference of teaching and perceiving by being adaptable in the waiting and perceptive in deciphering the e-mail communication and presenting conceptual possibilities for the task.

Dwayne has the gifts of encouragement and mercy (DellaVecchio & Winston, undated) and the personality preference of ENFP (Meyers & Briggs, 1998). Dwayne's specific task was the case study's conflict and management analysis. For the work group dynamics, Dwayne exhibited the feeling side of the group process. This was expressed in his personal expressions over a number of issues, emphasizing a more relational orientation. However, he conceded to the task orientation due to time elements. These concerns were about lowering the grades of the other two people, getting the task done to the expectations of the group, accomplishing his tasks, and feeling disconnected with the e-mail communication.

### ***Team Operation: Group Process***

The group did not come together until one week before the deadline. As a result, we did not do much strategic team building. A proposal was made to divide the task up equally by point value. This initial task division was accepted and time forced us to get started

without further analysis, which forced each person to take responsibility for the team's product, align our interests accordingly (Kormanski, 1999, p. 9-10), and gave the team an interdependent nature (Daft, 2001, p. 219). The team was built as we "shared affinity for the common task" (Kormanski, 1999, p. 10). We worked on a real task with real stakes (Avery, 2000, p. 7), which helped us focus on the task. Because of the deadline, we were more task focused than relationally or behaviorally focused (Kormanski, 1999, p. 8), and we were more hierarchical in our workflow structure (Kormanski, 1999, p. 7). We gave feedback on the individual parts each had written, which helped to give ownership to each member (Kormanski, 1999, p. 9).

### ***Conclusion***

The Custom Chip case study provides an interesting look at realistic organizational situations dealing with interdepartmental issues. This case study is useful in understanding how organizational structure can directly contribute to operational problems and the kinds of changes that leaders can make to mitigate such problems. Additionally, the analysis of group dynamics and member participation demonstrates the importance of understanding individual gifts and how they contribute to a team and its operation. These are the kinds of issues that practical leadership must recognize and address.

## **References**

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