

Industrial Engineering Facilities Planning: ABC Company

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ABSTRACT

The facilities planning's objective is to organize the facilities location to achieve the best flow of information in the company. Due to the increase in the demand of the products and services, ABC is required to expand their facilities to achieve the new requirements of the company.

SINOPSIS

Los objetivos de planificación de las facilidades es la organización del nuevo local para lograr un mejor flujo de información a través de la compañía. Debido al aumento en la demanda de sus productos y servicios, se requiere la expansión de las facilidades de ABC para lograr los nuevos requisitos de la compañía.

I- INTRODUCTION

The project consists of the development of the new layout for the new ABC facilities. Due to the increases in the demand of their products and services, ABC is required to expand their facilities. The company increases its staff in the area of engineering, sales and technician services. ABC does not have a training center area in the actual facility, but they want a training center area in their new facilities.

In this report, the development of a new layout that tackles with all the new requirements of the company was achieved.

II- COMPANY BACKGROUND

Alcatel is a global company with its headquarters in Paris, France. It is a leading international supplier of telecommunication equipment, systems and services.

Alcatel builds next generation networks, delivering integrated end-to-end voice and data communication solutions to new and already established carriers as well as to enterprises and consumers worldwide. With 120,000 employees and sales of EURO 21.3 billion (\$25.0 billion), Alcatel operates in more than 130 countries. Its global

solutions range from networking for full service network operators, high-speed internet and optics for voice, data and multimedia communications, to systems and products for enterprises and consumers. A world leader in cables, Alcatel also provides a wide range of telecommunication components, as well as turnkey energy systems.

Alcatel's largest market is the U.S: the world's most competitive and technologically advanced telecommunication market. After the acquisition of DSC Communications, Packet Engines and Assured Access, the U.S. is Alcatel's largest single market. On early April, Alcatel completed its tender offer for Xylan Corporation. The combined Alcatel / Xylan strengths in voice and data networking for enterprises constitutes a very powerful force in the world corporate markets, and strengthens Alcatel's leading offering for converged voice/data carrier networks.

III- OBJECTIVE OF THE STUDY

The company wants to expand its operations in Puerto Rico. They have an office located in Guaynabo, Puerto Rico. The new office will be located at 165 Street Km. 0.6, Buchanan Office Center in Guaynabo, Puerto Rico. Hence, they need to develop a layout of their new office to improve the flow of information within the company.

IV- PROBLEM DESCRIPTION

The company wants to expand its operations in Puerto Rico. The new staff requirements are seven engineers, four technician services, two salesman, one sales manager, one services manager, one sales operation manager, one receptionist and a general manager. Each of them require their own individual office.

Another requirements of the company are: a training center area, a showroom, a library, a conference room, a storage area and a kitchen.

V- PROCESS DESCRIPTION

The process flow of a sale at ABC is the following:

- 1- The customer calls the company and the receptionist transfers the customer to the salesman's office. If the customer needs some kind of engineering design, the salesman sends the customer to the Sales Engineering Support Department.
- 2- Once the customer knows which is the product that he wants, the order goes to the sales manager.
- 3- The sales manager sends the order to the sales operation manager to know the price, the delivery date, the payment conditions and the guarantee.
- 4- The sales operation manager sends the order to the services manager. The services manager coordinates with his staff the installation of the

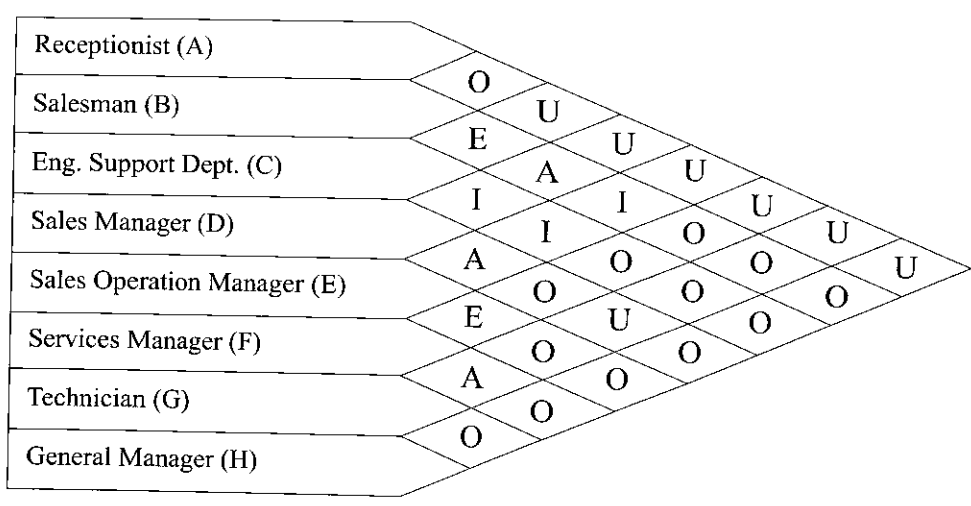
equipment; maintenance and he certifies the project.

- 5- The sales operation manager collects the project.

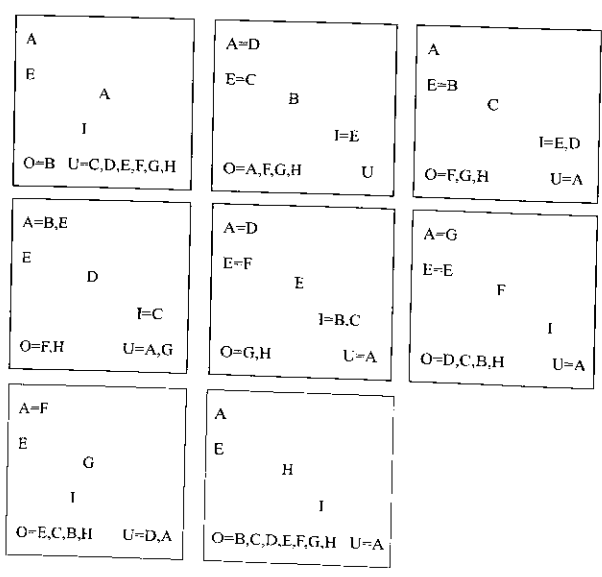
VI- STAFF FOR ACTUAL EXPANDED FACILITY

The staff consists on the following:

- 1- receptionist
- 2- general manager
- 3- two salesmen
- 4- sales manager
- 5- services manager
- 6- sales operation manager



(a)



(b)

Figure 1: Relationship chart

- 7- seven engineers
- 8- four technicians

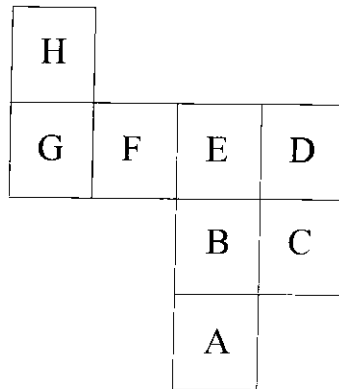
Office proposal for future employees:

- 1- engineers
- 2- two technicians

VII- METHODOLOGY

The relationship chart shown in Figure 1 was developed based on a survey with Juan Rivera, the sales operation manager [1].

VIII- FINAL BLOCK



H	F	B	C	C	C
G	E	D	B	C	C
G	G	G	A	C	C

Figure 2: Final block

A- FIRST LAYOUT ALTERNATIVE

The first layout alternative is shown in the following page in Figure 3. The problems of the first layout alternative are:

- 1- The library is too far from the training center area.
- 2- The kitchen has no ventilation: it is located in the center of the facility.

- 3- The conference room could be nearer the reception area.
- 4- The training center and showroom is far from the conference room: the customers may want to see some of the products that they will buy after visiting the conference room.
- 5- The closet area and the utility area are too big.
- 6- Space is wasted in the passage.

B- SECOND LAYOUT ALTERNATIVE

The second layout alternative is shown in Figure 4. The problems of the second layout alternative are:

- 1- The kitchen has no ventilation: it is located in the center of the facility.
- 2- The salesman offices are far from the conference room.
- 3- The closet area could be larger if the passage area is used.

C- FINAL LAYOUT ALTERNATIVE

The third and final layout alternative is shown in Figure 5. Why this layout should be implemented?

- 1- The layout follows the flow of the process.
- 2- The reception area is next to the conference room.
- 3- The conference room is next to the training center and showroom.
- 4- The training center and showroom are next to the library.
- 5- The kitchen has ventilation and is separated from the greater part of the offices.
- 6- The utility area is smaller.
- 7- The layout contemplates future expansions.

IX- CONCLUSION

The final layout is recommended because it follows the flow of the information in the company. According with the analysis, this layout maximized the utilization of the space and minimized the distance between the departments. Also, it provides additional space for future expansions and accomplishes the requirements of a training room and showroom, a kitchen, a library, and a conference room.

X- REFERENCES

- [1] J.A. Tompkins, J.A. White, Y.A. Bozer, E.H. Frazelle, J.M.A. Tanchoco and J. Trevino, 1996. Facilities Planning. 2nd edition. John Wiley & Sons, Inc. pp. 286 - 309.

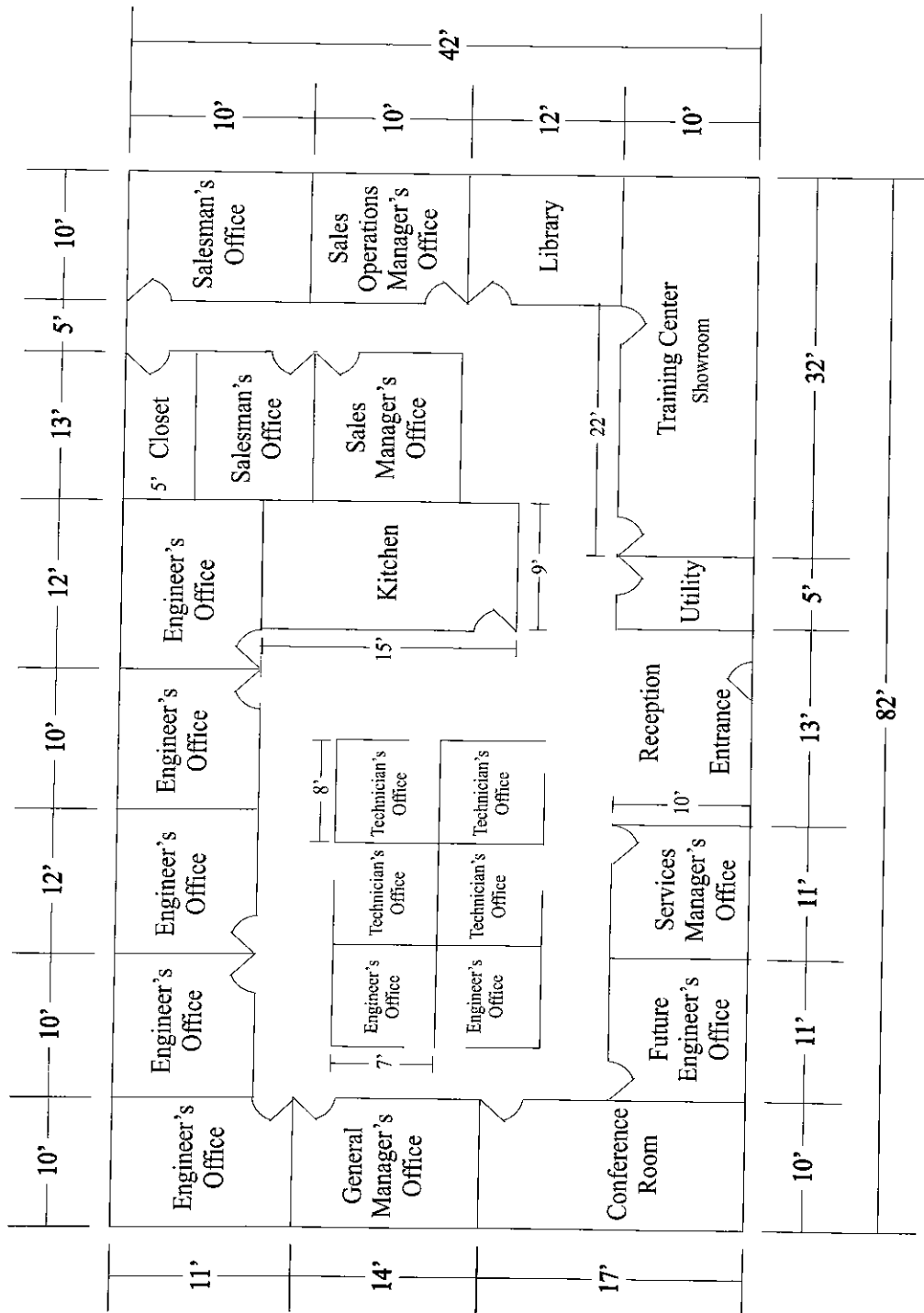


Figure 4: Second Layout Alternative

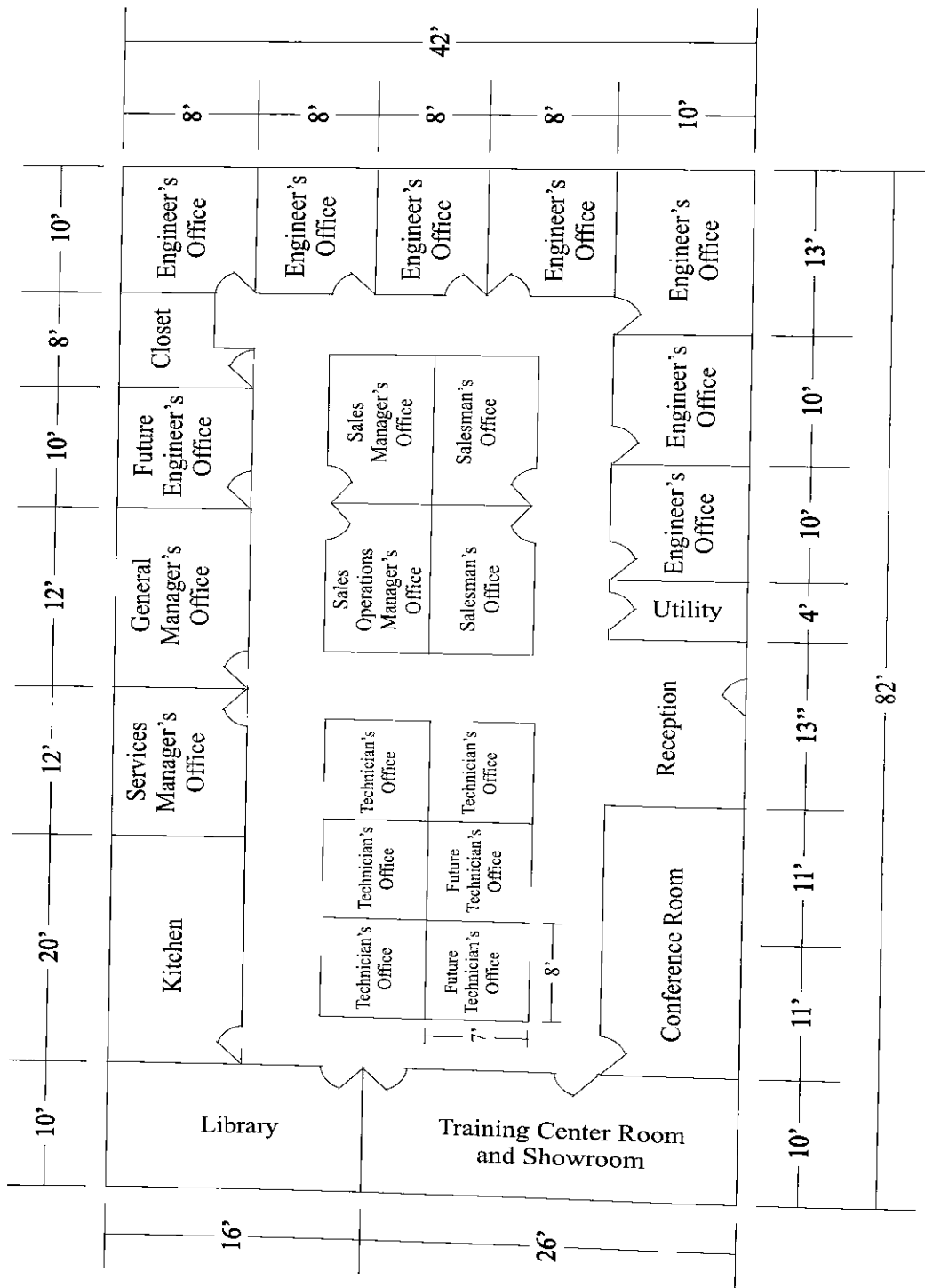


Figure 5: Final Layout