

A STUDY OF IN-HOUSE ARCHITECTURAL DESIGN
CAPABILITIES OF INDUSTRIAL CORPORATIONS

by

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INTRODUCTION

As a part of today's highly competitive world, many business concerns seem to grow increasingly larger and more complex. In keeping with this trend, the practice of architecture is certainly no exception, and the practice of architecture within the confines of the large industrial corporation is an even more interesting development.

The American Institute of Architects observing the establishment of such "in-house" architectural design departments within major industrial corporations saw an opportunity to organize the specific talents of designers associated with these firms. Within the Institute's Commission on Design and International Relations, a new committee was formed in 1973. An outgrowth of the old "Committee on Industry and Commerce", the new "Architects in Industry Committee", became a reality.

The "Architects in Industry Committee", was formed with the purpose of bringing together architects with common areas of interest and common problems. Several meetings a year are held, along with special seminars for members dealing with unique aspects of the "in-house" type of practice.

The standing committees of the American Institute of Architects Commission on Design and International Relations are as follows:

Committee on Architecture for Arts and Recreation

Architects for Education Committee

Architects for Health Committee

Historic Resources Committee

Architects in Industry Committee

Architects in Government Service Committee

Task Force on Correctional Architecture

Capitol Architect Advisory Committee

Task Force on Health Facilities Laboratory

Aerospace and Hostile Environment Architecture

AHA/AIA Joint Commission ¹

The variety of specialized committees within the Commission is quite apparent from this list. By comparing the various groups one can more easily grasp the organizational environment from which the "Architects in Industry Committee", operates.

¹ The American Institute of Architects, Structure and Services, (Washington, D.C., 1972).

The basic objectives of this study are:

- 1) To describe "Architects in Industry Committee" Programs
- 2) To compare three specific studies of architecture within the corporate setting
- 3) To show distinctions between Industrial Corporate and Traditional Private forms of architectural practice
- 4) To generate some predictions about the future of architecture within the corporate setting

Three major corporations with distinctly different types of architectural practice have been used for this study. They are: Hallmark Cards, Inc., Southwestern Bell Telephone Co., and American Multi-Cinema, Inc., all with offices in Kansas City, Missouri. Various aspects of the practices and procedures of each will be inserted throughout the discussion.

CURRENT PROGRAMS OF THE "ARCHITECTS IN INDUSTRY COMMITTEE"

At the Fall 1975 meeting of the "Architects in Industry Committee", several items of importance were acted upon. A part of the agenda was a rather involved determination of the professional liability incurred by architects serving in practice within the industrial corporation.

The problem of liability for errors and omissions is a growing one in nearly every area of the country, and practitioners everywhere are faced with problems similar to those encountered by medical doctors and their malpractice insurance. Available legal opinions have indicated that architects in industry have the same exposure to liability as the private architect, and the use of the stamp or seal only increases this exposure as it provides additional evidence of professional responsibility.²

A representative from the Victor O. Schinnerer Co., specialists in professional liability research, pointed out to the group present at the

² Robert Packard and a representative of The Office of Professional Liability Research, address before the Architects in Industry Seminar, October 7, 8, 1975.

conference that the exposure of corporate architects is somewhat limited, because presumably personal assets of individual designers are significantly less than that of the corporations, and consequently most persons would sue the party with the most money.

Another situation brought to the attention of the group was in regard to liability exposure incurred by the inspection of buildings owned or leased by the respective corporation. Even though the building may have been in existence for some time, if code infractions are noted by the architect and brought to the attention of management and subsequently ignored by the owner, there is still no release of liability individually as a professional.

At current rates, one of every four design firms has a claim filed against it in regard to errors and omissions each year, and about seventy percent result from design mistakes or errors.³ With this knowledge, it is very important to note that many corporate architectural projects require the hiring of private design firms, and that each of these design firms should be fully covered for the specific project with liability insurance. The

³ Victor O. Schinnerer Co., Presentation to Architects in Industry Seminar, October 7, 8 1975.

cost of such insurance can, and should, be passed along to the owner as a necessary precaution.

Assuming a different type of coverage might be deemed a good idea for a corporation employed architect, and if sufficient numbers requested it, a new type of liability policy might be established. Until then the best precaution is for the architects within the corporation to contact their respective legal departments and obtain a written statement of the action to be taken by the company if such a suit were to be brought against them as a corporate employee.

Another concern of the committee is the ever increasing number of graduates from the architectural schools. In 1975 there were approximately six thousand graduates from these institutions. In the same year the estimated number of registered architects in the United States totaled about fifty thousand. Comparing these figures, the placement situation seems somewhat bleak at best. There are approximately thirty five thousand students now enrolled in architectural schools around the country. Obviously, alternative career opportunities will need to be explored soon, and hopefully will satisfy the placement needs of these graduates.

In response to this concern, the "Architects in Industry Committee", has developed a subcommittee on research and education. The subcommittee has established five goals:

- 1) Assist in the education of architects in careers in industry
- 2) Educate business students in conjunction with architectural activities within a corporation so they can obtain the best possible use of their staff architects
- 3) To develop continuing education seminars with leadership furnished by people that are specialized in the various facets of architecture in industry
- 4) Provide continuing education programs for awareness in business management, regarding the advantages of architects in industry
- 5) Develop awareness in the construction industry of architects within corporations that develop projects for those same corporations⁴

A program currently under development by the American Institute of Architects, would grant a Masters of Business Administration degree upon

⁴ Robert Kirk, address before the Architects in Industry Committee Meeting, October 5, 6 1975.

completion of a three year combination program in which the practitioner would spend one week each year at a specified university and one day a month at a local college, with special correspondence courses covering the additional related work. The subcommittee recommends that architectural students opt for a greater number of business related courses, and/or give careful consideration to obtaining an MBA degree.⁵

One program currently under study is now in operation at Washington University in St. Louis. It offers a combination Masters of Business Administration/Master of Architecture plan. Graduates of the program have apparently been quite successful in presenting a dual image to potential employers of both "architect" and "manager".

Several other areas of importance which are receiving attention are membership, documents used by corporate architectural departments, communications, and management awareness.

⁵ Research and Education Subcommittee Meeting, Minutes of Meeting, October 5, 6 1975.

The membership subcommittee in trying to establish local chapter "Architects in Industry" groups have not been extremely successful. To date only New York City, Detroit, and Chicago have developed structured "Industry" groups. Efforts are continuing though to organize local chapters around the country.

The documents subcommittee is collecting various contract documents used by corporate departments to compile for review by the American Institute of Architects Document Study Group. It is very important that the various altered documents avoid legal loopholes, errors and/or omissions. Legal review of the documents is a very helpful service of the Institute.

The communications subcommittee plans two newsletters per year to be sent to the more than four hundred known architects serving in capacities within industrial corporations.

Finally, the management and awareness subcommittee is preparing to issue a new memorandum to the top management of the country's one thousand largest corporations. It will be accompanied by a cover letter from the President of the Institute and will attempt to bring about awareness on the part of management of the possible effects on the corporate budget and improvements to environmental and aesthetic conditions.

From this description of various programs within the "Architects in Industry Committee", one can begin to see the unique qualities and situations involved in this type of practice. Certainly the fact that the committee is aware of some of these problems and the knowledge of action on their part to bring about new solutions is an encouraging development.

In the next section the relationship between the corporation (owner) and the architect (design department) will be explored.

DESIGN SERVICES ORGANIZATION AND MANAGEMENT

The architectural design services department of a major corporation can be a truly unique entity, for while it acts as architect, many times it also acts as client too.

To show the similarities and differences of the three firms involved in this study, Hallmark Cards, Inc., Southwestern Bell Telephone Co., and American Multi-Cinema, Inc., information about all three will be integrated into the discussion. To indicate the positioning of the design services department of each, brief organizational breakdowns will be included.

In the Hallmark Cards organization, the Department of Architecture and Planning is a part of the Building Management Division. The Building Management Division is directly under the supervision of the Executive Vice-President of Services. Other departments within the Building Management Division are Construction and Engineering, Building Maintenance (repair), Building Services (janitorial), Real Estate, Fleet Operations, Telecommunications, and Security Operations. The Division is responsible for management of all properties and buildings within the corporate control.

Southwestern Bell Telephone Co. has a somewhat longer chain of command. The Architectural Department is part of the Chief Engineer's jurisdiction. The Chief Engineer is responsible to the Vice-President and General Manager of the Kansas City Area, who is in turn responsible to the Vice-President of Operations for Missouri. The Vice-President of Operations for Missouri is responsible to the Corporate Vice-President of Operations.

The Architectural Department is the only department under the supervision of the Chief Engineer directly involved with construction and management of corporate space. Various Planning engineers cooperate in the need analysis for new expansion. Other departments under the supervision of the Chief Engineer relate to various equipment engineering elements of the company operations.

The American Multi-Cinema organization is a less complex one by comparison. The Associate Director of Architecture is directly responsible to the Vice-President of Development.

In these three very different situations, the possibility of control exerted by management officials higher up in the organization becomes apparent. In the case of Southwestern Bell, the fact that the Kansas City Office is in just one of eight corporate geographic areas, each with an architectural department, makes it somewhat more complex.

Responsibilities of the respective managers of the departments are also different in several respects. The corporate responsibilities of the Manager of Architecture and Planning for Hallmark include long range planning on a five year basis updated yearly, budgeting departmental expenses, and assigning jobs to the designers. The Southwestern Bell Head Architectural Engineer reviews and verifies acceptability of design work submitted by outside design firms, matches building contractors to job requirements, and assists the Real Estate Department in feasibility studies of possible building sites.

Objectives and goals of the architectural design services department are essential to progress of the corporate building and property management function. The Hallmark department develops a statement of objectives which lists goals, key programs, resource requirements, and long term recommendations each year. The basic objectives of the Architecture and Planning Department for 1976 are as follows:

- 1) To provide architectural services for accomplishment of corporate construction projects as per the Master Facilities Plan
- 2) To eliminate the need for outside architectural services on all projects insofar as possible

- 3) To continue corporate facilities master planning in conjunction with corporate goals
- 4) To intensify the training of staff to broaden their job knowledge and awareness of current trends, new materials, etc.⁶

The Southwestern Bell objectives are stated in a much broader context. The department has a goal to provide adequate development to maintain quality of service without extravagance.

The American Multi-Cinema has a very similar philosophy, one which proposes to portray a correct public image, appropriate to the individual locale, with quality but not extravagance.

The Hallmark departmental philosophy is probably the most interesting, proposing to provide the best possible environment with the resources available. Due to the highly visually oriented nature of the manufacturing function of Hallmark, the design department also seems to carry out the slogan which has long been associated with the corporation.

⁶ Hallmark Cards, Inc., Department of Architecture and Planning, Functional Plan for 1976.

THE DESIGN SERVICES STAFF

By examination of the departmental staff and back-up personnel one might discover some of the experience and capabilities present. Both Southwestern Bell and Hallmark will be studied.

In the case of Southwestern Bell, the Architectural Engineer, (Head Architect) supervises a staff of four project architects. For purposes of this study no names will be given. The staff consists of architects with the following background:

No.	School Attended	Previous Experience
1)	Washington University	Housing & Urban Development
2)	Trade School	17 Years With Southwestern Bell
3)	Kansas State University	Falstaff Brewing Co. (in-house) Bank Contracting Firm General Contractor
4)	Oklahoma University	General Architectural Firm 3 Years

Except in extreme circumstances, Southwestern Bell only hires graduates of accredited architectural schools and generally those with some working experience. The new associates spend from six months to two years in the corporation general architectural office at headquarters in St. Louis before being placed in one of the area offices as project architects.

Hallmark has a similar staff of designers with these credentials:

- | | | |
|----|-------------------------|--|
| 1) | Kansas University | General Architectural Firm
7 Years |
| 2) | Kansas State University | General Architectural Firm |
| 3) | Nebraska University | Burlington Northern Railroad
(in-house) |
| 4) | Kansas State University | General Architectural Firm
2 Years |
| 5) | Kansas State University | General Architectural Firm
2 Years |
| 6) | Kansas State University | Direct from school |

The Hallmark operation has grown significantly in the last decade. In the early sixties when the department was formed only one architect was needed. With rapid expansion of the corporation the need has expanded to the present level of seven designers. However, the growth trend seems to be leveling off somewhat now.

Certainly the responsibilities of the designers in each of these corporations would be much greater were it not for the assistance of back-up and related personnel.

At American Multi-Cinema for example, the Construction and Engineering Department is very involved in the project as it progresses from inception

to final completion. The Real Estate and Marketing Departments also play a significant role in the feasibility studies for future expansions.

Southwestern Bell also uses many other resource people in the design process. Building and Equipment Engineers, the Corporate Planning Group, Real Estate Department, and many others are instrumental in providing the proper information and data for the successful planning and completion of needed facilities.

Hallmark probably has the most comprehensive set of resource people within a single division of the three firms studied. Mechanical, Acoustical, Electrical, and some Structural Engineering are done in-house by the Department of Construction and Engineering. Also included in this group are Construction Managers who represent the owner on the various job sites, thus freeing the designers for development of other projects.

Each of the departments also has secretarial and clerical help to manage the abundance of correspondence that takes place relative to the variety of projects underway.

PERSONNEL DEVELOPMENT

Very highly developed personnel continuing education programs characterize both the Hallmark and Southwestern Bell personnel development package.

An elaborate system of college tuition payment is available. Up to two hundred dollars per semester is allowable for job related coursework from Southwestern Bell.

Hallmark on the other hand, pays one hundred percent of tuition and fees if the coursework is specifically and directly related to job performance, with fifty percent paid if of indirect benefit. Hallmark also provides scholarships through the Hallmark Foundation Scholarship Fund and sponsors educational loans as well.

Orientation of the new employee to the corporation is also quite an important factor in allowing him to function more effectively. Both Hallmark and Southwestern Bell have corporate orientations. Hallmark has a three day corporate and a one day departmental program. Due to the nature of the corporation, American Multi-Cinema has a much less formalized procedure.

Once the designer is in service, additional training is often recommended. Southwestern Bell provides several special schools for their architectural designers. Among these are:

Basic Building Engineering School	Three Weeks
Building Engineering Electrical Design School	Three Weeks
Building Engineering Mechanical Design School	Three Weeks
Space Planning and Equiping Buildings School	Three Weeks
Space Planning of Administrative Buildings	Three Weeks
Engineering Money Management School	One Week
Real Estate Management School	One Week ⁷

These schools are conducted by Bell Labs in Illinois and also in Texas.

Internal education through interaction with others in the department and related areas is also encouraged by regular conferences and departmental meetings. A regularly scheduled meeting is held weekly at Southwestern Bell to review all projects in progress and to inform each designer of unique and critical elements of each. Hallmark has a very similar session once a month. Project designers meet together much more frequently on an informal basis to discuss projects in progress, and every

⁷ Personal Interview, December 23, 1975, Mr. Thor Rygaard
Architectural Engineer, Southwestern Bell Telephone Co.

project is checked by two other designers and the department head before the documents leave the office. This procedure is also a potential learning experience. It exposes concepts and techniques to each designer regardless of whether he had a role in the development of the project.

Another beneficial element that keeps designers current with changing materials and technologies is visitation by various sales and manufacturers representatives. The Southwestern Bell office encourages visits by these representatives for exactly that reason. Each designer is in control of the number and specific representatives that may call on him.

Hallmark on the other hand, seemed somewhat reluctant to receive visitors of this nature. Generally the Manager of Architecture and Planning meets with them and if the presentation is of a suitable nature, other designers are invited to participate. One project designer indicated that much more could be gained by developing business contacts with these representatives on a personal basis.⁸

⁸ Personal Interview, November 24, 1975, Mr. Don Eastwood
Project Architect, Hallmark Cards, Inc.

Probably one of the most notable professional developmental tools , membership in professional and civic groups , is given great consideration by Southwestern Bell in dealing with project designers . One qualification placed on such membership before expenses can be assumed by the company is that the designer must be an active participant and not just a passive member .

A variety of professional magazines and journals are also made available to the designer on a regular basis . Subscriptions by the department can be a very useful aid to the development of professional skills and attitudes in their design personnel .

Each of the firms indicated encouragement that each designer who had not already done so , should complete Architectural Registration requirements . This is actually somewhat self-defeating in that once the designer is registered he is much more likely to leave the corporation and break out on his own .

Another consideration in dealing with personnel development is the concept of evaluation , compensation , and benefits . Once again , Southwestern Bell and Hallmark have similar programs . The Hallmark job evaluation and salary administration is a complex one and is

patterned after a program developed by Hay Associates, an international consulting firm recognized as a leader in the field of compensation services.⁹ The end results, duties, and accountabilities determine the relative value of each position rather than the job-holder's individual performance. Each job position is then set into the salary structure on the basis of knowledge and skills required, problem solving capability, and responsibility and/or accountability. A given salary range is pre-determined for the position (job). Upon salary review of the employee by the supervisor of the department, adjustments are made within the given salary range. Salaries are compared regularly with other similar positions in other industries throughout the country by Hay Associates, and Hallmark salaries are adjusted to remain competitive.

Southwestern Bell salary ranges for new associates in the Architecture Department are currently in the twelve thousand dollars per year range, and project architects with experience have a salary range near twenty thousand dollars per year. Southwestern Bell also uses comparative nationwide salary information to adjust compensation scales.

⁹ Hallmark Cards, Inc., "Treasury Job Evaluation and Salary Administration Program", 1975.

Benefits are becoming an increasingly important part of the corporate compensation package. American Multi-Cinema offers several benefits of interest. A company car with service furnished and an adequate expense account are examples. Southwestern Bell allows one line plus one extension telephone for the employee's residence, along with various insurance and retirement provisions. Hallmark offers an assortment of benefits. Life, Travel and Accident, and Medical policies as well as retirement, savings thrift plan of five percent of pay (company contributes an additional twenty percent of employees percentage), profit sharing, and assistance in estate planning are elements of the overall program.¹⁰

Finally, in regard to staffing and personnel development, "Affirmative Action" and "Equal Opportunity" employment practices are followed by Southwestern Bell and Hallmark. The size of these corporations necessitate hiring through a corporate personnel department that is well informed on current developments in personnel legislation and federal wage standards. The design department usually initiates recommendations to the personnel department of potential employees of interest.

¹⁰ Hallmark Cards, Inc., "Career Rewards Package", 1975.

THE DESIGN SERVICES OFFICE PHYSICAL FACILITIES

A necessary element in the operation of any architectural practice is physical space in which projects may be efficiently developed. In the architectural practice within an industrial corporation, the competition for working space is a greater factor than in the traditional private practice. Functional requirements include design space, services and storage space, filing and printing areas, conference capabilities, and secretarial services spaces. Both Southwestern Bell and Hallmark have enclosed space offices for the department administrator, and open plan (office landscape system) spaces for designers. Southwestern Bell has a very adequate conference area as well as filing and storage spaces. Hallmark conversely, is relatively cramped for space for filing and storage, and shares a modest conference room with all the other departments within the division. The Building Management Division also has a secretarial pool for all departments, and the various department heads share a common executive secretary.

PROJECT PROCEDURES AND DEVELOPMENT

In developing this section, standard American Institute of Architects project phase divisions will be used as a basis for several comparisons. These phases: project program, schematic design, design development, contract documents, and contract administration will each be examined and scrutinized for compliance by the individual firms.

Essential to any project is the necessity of a definite program which outlines conditions precedent to construction and objectives and requirements to be met by the proposed development. Generally speaking, it is the owners responsibility to furnish all the necessary background information, and a building committee or equivalent gathers the required data to present to the architect.¹¹ The architect then takes the information, analyzes it and organizes the project program.

Because of familiarity with most projects and requirements, none of the three firms in this study have formalized programming procedures. Both

¹¹ The American Institute of Architects, "Architect's Handbook of Professional Practice", Chapter 11, p.6.

Southwestern Bell and American Multi-Cinema combine elements of the project program phase and the schematic design phase. Southwestern Bell project architects develop a preliminary study plan to submit with written descriptions of building requirements in such a combination. American Multi-Cinema does essentially the same thing with both schematic and written material included. These preliminaries are very important in the case of Southwestern Bell and American Multi-Cinema due to the exacting nature of the equipment and operations involved in their facilities. The scope of the architectural function in each of these two corporations differs considerably from the Hallmark operation. Both Southwestern Bell and American Multi-Cinema utilize the services of private architectural firms for design work. These architectural departments act mostly in a major managerial role rather than an actual design oriented one. In effect, the department acts as owner - a professionally trained client. This is one of the major implications of the practice of architecture in industry--professionals in control of the corporate building program.

As indicated above, the Hallmark department mission is somewhat different from the other two firms. Every possible effort is made to eliminate outside firms from the design effort. Each project architect is given complete control of a project and develops programming suitable to

his own needs. This material is generally of an informal nature since he is only communicating the information to himself.

A brief description of the type of preliminary studies both Southwestern Bell and American Multi-Cinema develop might be helpful.

American Multi-Cinema owns and operates movie theaters around the country, with two hundred forty four now in operation and over one hundred new theater openings scheduled for 1975-1976. When expansion is desirable, the Real Estate specialists will proceed to locate available properties for study. Upon the presentation of plans of existing space or site plans by the Real Estate specialists, the Associate Director of Architecture prepares a preliminary design concept and program. A basic analysis of the potential market is made regarding existing theater locations and population studies. Population estimates indicate that about one hundred thousand people are necessary to support a four-plex theater and about one hundred fifty thousand are needed for a six-plex. Assuming the proposal is then judged a suitable expansion, the project passes to the next phase. Before the design development phase begins however, an appropriate design firm must be contracted.

Southwestern Bell uses a similar system of pre-project planning. The Corporate Planning Group, in keeping with the overall corporate expansion

plan, projects a needed job. A definite date of necessary completion is established in order to meet equipment installation and operation deadlines. The staff architect sets up a project job schedule to correspond with these crucial dates. Building requirement data is collected from appropriate sources and a study plan is established with additional written information included as necessary. After these preliminary plans are approved by management, a cost estimate and budget appropriation both are developed and submitted for approval. Upon approval of these items, the project is ready for the next phase, the engagement of an architectural firm to develop the design.

In the Hallmark process, the project architect develops preliminary designs and cost estimates are projected. These are reviewed by the proper management officials and the project is ready for design development.

The staff project architect works very closely with the contracted design firm in the case of both Southwestern Bell and American Multi-Cinema throughout the design phase. The Hallmark designer proceeds to prepare plans working in close cooperation with the intended user(s). Outline Specifications and additional cost data are also compiled. The Construction and Engineering Departments are also brought into the picture as mechanical, electrical, and acoustical engineering considerations are developed with the plans.

After various approvals and meetings with the users, the design departments of the three firms begin the construction documents phase. Final sets of working drawings and specifications are made and upon approval the bidding process to obtain contractors is initiated. This also is an area where the design services departments of various corporations differ somewhat from traditional firms. All three departments use bidding by invitation only, and in many instances direct selection of contractors.

Probably the area with the greatest number of differentiating factors that distinguish the corporate design department from the traditional firm is the contract administration phase. It is in this phase that provisions of the contract must be checked on the job to verify compliance with the contract documents. Each of the three departments has a slightly different system of job supervision.

In the American Multi-Cinema procedure, the Construction and Engineering Department furnishes Construction Managers who act as representatives on the job sites. They are responsible for frequent visits and coordination with the contractor and the Associate Director of Architecture. The Construction Manager is sometimes permanently assigned to a project of large scope. A representative of the contracted design firm will also be invited to visit at appropriate points in the project, and for the final inspection.

Southwestern Bell delegates contract administration duties to the architectural firm retained. In addition, Southwestern Bell provides independent Construction Observers (hired separately) to represent the owner on the job site. This observer then acts to coordinate the contractor, architectural design firm, and the staff project architect. The project architect accompanies the design firm representative and the observer on the final inspection.

Hallmark uses Construction Managers from their Construction and Engineering Department in much the same manner as American Multi-Cinema. The project architect and engineers will make inspections at appropriate points throughout the progress of the construction. The Construction Manager will be on the site to observe and may also be assigned permanently depending on the size of the project. The final inspection is conducted by the project architect and engineer(s).

In the traditional firm the inspection function is normally handled by a principal in the firm or is delegated to a project representative. If the observer/inspector/supervisor is not the regular architect of record, then a clear and concise written description should be developed outlining the limits of authority involved.¹² American Institute of Architects

¹²The American Institute of Architects, "Architect's Handbook of

Document B352, "Duties, Responsibilities, and Limitations of Authority of full time Project Representatives", or an adaptation thereof, could be added to the Owner-Contractor Agreement to define these qualifications.

Since copies of contract documents from the various firms were not available for this study, exact provisions for the delegation of these responsibilities were indeterminate, but common understanding or informal verbal agreement among the parties involved seemed to be common in many of these areas. This type of arrangement seems to be somewhat dangerous in terms of legal implications.

MISCELLANEOUS FACTORS OF INTEREST

There are a number of factors bearing upon the operation of the three firms in this study which might be worthy of additional exploration.

American Multi-Cinema, in the process of rapid expansion, discovered the potential market involved with shopping center installation of theaters. A major percentage of the recent openings have been of this type. A rather interesting situation occurs in some major enclosed regional mall type shopping centers when the developing architect retains the rights to complete all design within the project or the rights to approval of all design work. American Multi-Cinema has found that increasing numbers of developers of these large projects have been adopting this type of design arrangement, and consequently has made some expansion lease agreements for space under these conditions. General satisfaction has been indicated where such an arrangement has been made thus far.

A peculiarity of the Southwestern Bell organization is the insistence that all professionals in the engineering breakdown be referred to as "engineers" regardless of educational background or professional registration. For purposes of this study to avoid confusion designers have been referred to as

"architects". Southwestern Bell designated them as "Project Engineers", although most are registered architects.

A few very minor projects are handled by Southwestern Bell, in terms of in-house design work (minor wall partitions moved, etc.), but the project load prohibits most inside jobs. On the average, each project architect handles between forty and fifty projects yearly, which is quite a large number even to coordinate.

The Bell System also provides each office with standard practice procedure manuals and various guidebooks. Among these is the "Job Record Sheet", which includes project scheduling, equipment shipping date, and date of initial operation. Another document known as "Joint Practice Estimate Routine", and a "Job Accounting Guidebook", are standardized for each Southwestern Bell Architectural office. Standard American Institute of Architects documents, some slightly modified, are used, and specifications are Construction Specifications Institute Format.

Hallmark also uses the Construction Specifications Institute Format for specifications. Contract documents follow American Institute of Architects forms with only minor exceptions.

A very interesting service is performed by the Hallmark department in addition to regular corporate responsibilities. Design services are rendered to subsidiaries of the Hallmark Corporation such as: Select Products, Inc., Crown Center Corporation, Ambassador and Springbok.¹³ The Halls Stores and Swansons are considered a retail division of Hallmark, and design work is also completed for them. Design of the Children's Birthday House at the Swope Park Zoo, and design of the new American Royal offices which were just recently completed as a corporate gift to the city, have also been developed by the department. A recent recommendation has been made to charge services to these subsidiaries against their budget, rather than just absorbing them into the corporate planning and design budget.

Hallmark was the only firm of the three studied that has a regular post-completion evaluation system developed. It features a somewhat typical questionnaire and comment sheet. An example of both a typical survey and a composite return sheet can be found in the appendix section of this study.

¹³ Personal Interview, November 24, 1975, Mr. Roger Thom
Manager of Architecture and Planning, Hallmark Cards, Inc.

CONCLUSIONS, IMPLICATIONS AND PROJECTIONS

The most notable factor each of the three firms cited as being essential to the existence of the in-house design department is the professional management of corporate resources and properties. Acting as a professional client, the American Multi-Cinema and Southwestern Bell departments both feel that by having design professionals deal with design firms, much more effective communication is possible without educating non-design oriented executives in the process. Valuable time can be saved by having personnel with expertise in the various procedures assume responsibility for these decisions.

Hallmark Cards, with over one half million square feet of office space in Kansas City alone, requires designers who are familiar with the corporate operation on a continuous basis. Product developments are changing so rapidly that constant action by the Building Management Division is necessary to keep space requirements of administrative, processing, and manufacturing and distribution functions in close coordination. Major advantages of the in-house department include the ability to respond very quickly to immediate problems and the adjustability of priorities on a daily basis if necessary. The best interest of the corporation as well as a sense of cost consciousness also generally prevail. The one major

disadvantage cited was a tendency to lack objectivity resulting in potentially stereotyped design within the corporate spaces. Coordination of the corporate image without total dominance and boredom is the intention.

In terms of advantage and disadvantage to individuals within the department, most of the designers cited valuable experience in nearly every aspect of professional practice and not just drafting board drudgery as the most positive characteristic. Job stability and consistency of work load were also mentioned as factors which were felt to be more controlled than in the traditional private firm, resulting in a more relaxed employment situation with little fear of being released.

The major disadvantage of employment in a corporate design department seems to be the lack of opportunity to move up to a higher position without leaving architectural professional involvement behind. Regular advancement also seems to be somewhat slower within the corporate environment than with a private firm.

The department heads of all three departments commenting on the skills and capabilities needed to effectively function within the corporation architectural service stressed the need for communicative and managerial

skills. One even ranked the skills he felt necessary to compete in practice as: communicative first, managerial second, and architectural design skills third.¹⁴ A need for the development of coursework in business implications of architectural practice and/or the strengthening of current programs was also an often expressed opinion. Politics also are growing in affect on design. American Multi-Cinema developed one project that was screened by twelve different public agencies and boards before approval was given for construction.

In view of the concerns of the "Architects in Industry Committee", and amplified by the comments of the various designers interviewed in this study, there is growing momentum to establish new directions within the educational systems relative to architecture and industry. With enrollment leaping to new highs, and the available placements with private firms uncertain, new programs designed to broaden the scope of the design professions may be in the not too distant future.

With the factors of inflation, scarcity of resources both in materials and energy, and the lack of suitable expansion sites, revitalization of

¹⁴ Personal Interview, November 25, 1975, Mr. John Renner
Associate Director of Architecture, American Multi-Cinema, Inc.

existing corporate properties also could very well be on the upswing.

The actual role of the architect in general is being questioned. More and more team approach firms seem to be appearing, and the use of infinite numbers of specialists and consultants indicate that the architect is becoming more and more a coordinator rather than an all-skilled designer.

Yet the architectural schools continue to educate each and every student to be a "designer" architect. There are certain commonalities which all those involved in the design professions need to be exposed to, but it is presumptuous and unrealistic to think that every graduate will eventually be totally immersed in designing. A student with aspirations of a new direction of educational preparation for a career somewhere in the design professions deserves to be presented with a variety of possibilities of a non-traditional nature.

The practitioners involved in the "Architects in Industry Committee" seem to be aware of the situation and are concerned. One can truly be encouraged by their foresight and efforts in shaping a better future for architecture in the corporate setting.

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APPENDIX A

Hallmark Cards, Inc.
Building Management Division
Procedure for Design and Construction

Purpose

This procedure is intended to outline the philosophy in the processing of design/construction projects through Building Management. It is impossible to prepare a procedure which would give precise guidance for each and every type of situation that arises. The success of the procedure outlined below will be dependent upon the professional interpretation and implementation by those people who play an active role in the design/construction activity in this division.

It is not intended that this procedure be rigid and inflexible. To the contrary, its intent is to provide a smooth and logical flow path of work through Building Management. However, the guidelines contained herein are fundamental in defining the concept of operations and should be followed in context. Recommendations for improvement are welcome at any time.

General Guidelines

1. This procedure acknowledges that two fundamental functions have to take place in handling a construction project. They are:
 - a. Design
 - b. Construction

2. Design is broken down into two areas, architectural and engineering. The responsibilities of the design group generally encompass conceptual, detail design, and design changes. A collateral function of the design group is that of design interpretation. For purposes of identifying design responsibility, the principal architect for Hallmark is the Manager of Architecture and Planning; the principal mechanical engineer for Hallmark is the Manager for Engineering and Heating and Air Conditioning. Final interpretations of questions concerning design will be made by the appropriate design manager. It will be incumbent upon the designer to keep the construction manager informed of all design changes which would affect existing construction contracts. The use of Proposal Requests and Field Orders will help to satisfy this requirement.

3. The construction phase of the work will be assigned to the appropriate construction manager. The responsibilities here are those of

construction management, construction contract administration, and coordination. It is incumbent upon the construction manager to refer design problems to the appropriate designer.

4. Construction contractors will normally receive work direction from the construction manager. Exceptions are the issuance of a Field Order prepared by the designer. In this instance, a copy of the Field Order should be delivered to the construction manager at the earliest opportunity. In the event that the designer feels that a portion of the job should be stopped, he should so notify the appropriate contractor verbally and follow up in writing, with a copy to the construction manager.

5. The designer may, from time to time, engage the services of an outside architect or engineer. The services of these hired consultants are primarily for the preparation of designs and working drawings.

6. Design/Construction jobs normally break down into these groups:
- a. A very large number of minor jobs \$500 or less
 - b. A number of jobs above \$500, mostly going into the area above \$2500, but not incorporated in the Master Plan
 - c. Those jobs incorporated in the Master Facilities Plan

Detailed Procedure

- | | | |
|-----|---|---|
| 1. | Screen incoming work orders and distribute to appropriate designer | C & E Admin. |
| 2. | Review for feasibility and if acceptable prepare preliminary design and/or outline specification for estimating. Initiate request for estimate to C&E Administrative | Arch./Engr. |
| 3. | Prepare preliminary cost estimate | Estimator |
| 4. | Prepare appropriate request | Arch./Engr. |
| 5. | Review design, cost and appropriation request. Decide contracting method. Designate lead design department. Approve and forward appropriation request. Assign job priority. | Bldg. Dir.;Mgr. C&E
Arch.; Engr.; Estimator
Const. Mgr. |
| 6. | Prepare plans and specifications working closely with customer | Arch./Engr. |
| 7. | Review and approve plans and specifications. Hold design review meetings at appropriate points (30%, 60%, 90%); include customer, Bldg. Dir., Mgr. C&E, Const. Mgr. | Arch./Engr. |
| 8. | Upon completion and approval of plans and specifications prepare invitations to bid and deliver entire procurement package to Mgr. C&E. | Arch./Engr. |
| 9. | Prepare bidders list and upon approval send out invitations to bid. | Mgr. C&E |
| 10. | Hold bid opening; review bids and select appropriate bidders | Bldg. Dir.;Mgr. C&E
Arch.; Engr.; Const.Mgr. |

11. Prepare supplemental appropriation if required Arch./Engr.
12. Prepare contracts and process for signatures as follows: (original & 2 copies) Mgr. C&E
 - a. Mgr. C&E - initial
 - b. Legal Department - initial
 - c. Contractor - sign and return all copies
 - d. Building Director - sign all copies
 - e. Send one signed copy to:
 1. Contractor
 2. Legal
 3. File (Building Management Contracts)

Inspection

Job inspection will be made by Architect and Engineer as required to assure that the work being done is in accordance with plans and specifications.

The Construction Manager will make job inspections to follow the progress of the work with respect to plans, specifications, schedule, construction efficiency and to coordinate the construction work with all building occupants as required. Final inspection will be made by the Architect/Engineer.

APPENDIX B

HALLMARK CARDS, INC.
DEPARTMENT OF ARCHITECTURE & PLANNING

PERCENTAGE OF JOB TIME SPENT ON VARIOUS PROJECT TYPES

1974	1975 (First 2/3 Only)	PROJECT TYPE
2.4	4.3	PRODUCTION
.6	.4	MANUFACTURING
2.2	5.3	WAREHOUSES
23.0	17.0	RETAIL
9.6	14.1	SUBSIDIARY
57.1	54.8	OFFICES
5.1	4.1	MISCELLANEOUS

APPENDIX C

HALLMARK CARDS, INC.
ACTION OFFICE USER OPINION SURVEY

Male _____ Female _____ Age _____ Floor _____

1) What is your Job (Artist, Planner, Clerk, Manager, Etc.)?

2) How long have you been in your Action Office Facility?

3) What do you like most about Action Office?

4) What do you like least?

5) Please rate each of the following (VG=Very Good, G=Good, F=Fair, P=Poor) by circling the abbreviation. An explanation of a Fair or Poor opinion would be helpful.

A) Lighting (Quantity & Quality) VG G F P

Comment: _____

B) Work Surfaces (Quantity) VG G F P

Comment: _____

C) Amount of Storage Facilities VG G F P

Comment: _____

D) Type of Storage Facilities VG G F P

Comment: _____

E) Amount of space to do your job VG G F P

Comment: _____

F) Proper enclosure of space for your needs VG G F P

Comment: _____

G) Acoustical privacy VG G F P

Comment: _____

H) Equipment to do your job VG G F P

Comment: _____

I) Seating Comfort VG G F P

Comment: _____

J) Action Office as compared to your former facilities VG G F P

Comment: _____

K) Overall opinion of Action Office VG G F P

6) Additional comments that would assist the designers in the future;

APPENDIX D

RESULTS OF ACTION OFFICE SURVEY
HALLMARK CARDS, INC. COUNTER DESIGN FLOOR 7B

This survey was given to 62 artists having used the AO11 system an average of 4 months. What they liked most about the system was its clean, attractive appearance. The following percentages reflect their response to various questions.

CATEGORY	Very Good	Good	Fair	Poor
A- Lighting (Quantity & Quality)	20%	57%	18%	5%
B- Work Surfaces (Quantity)	7	33	33	28
C- Amount of Storage Facilities	5	13	38	44
D- Type of Storage Facilities	7	48	26	18
E- Amount of Space to do your job	11	24	40	24
F- Proper Enclosure of Space for your needs	9	25	40	26
G- Acoustical Privacy	11	50	13	26
H- Equipment to do your job	30	38	23	10
I- Seating Comfort	33	56	7	5
J- Action Office as compared to your former facilities	37	44	16	4
K- Overall Opinion of Action Office	13	63	18	6

COMPOSITE OF COMMENTS:

- Items C and D received fair and poor ratings as a direct result of insufficient file space and flat storage areas.
- Items E and F are closely related. A majority of the artists felt that the hexagonal shaped booths were unsatisfactory for their use, the shape restricts the placement of the drawing board and limits access to files and drawers.
- Item G's poor rating reflects the undesirable placement of some artists adjacent to noisy areas.
- Additional equipment the artists felt they needed are as follows:
 - 1) Flat work surface for cutting
 - 2) Flat storage area for larger pieces of artwork
 - 3) Extra shelf for small items
 - 4) Extra chair

A STUDY OF IN-HOUSE ARCHITECTURAL DESIGN
CAPABILITIES OF INDUSTRIAL CORPORATIONS

by

STEVEN JOSEPH STOCK

B. Int. Arch., Kansas State University, 1974

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the
requirements for the degree

MASTER OF ARCHITECTURE

Department of Architecture
College of Architecture & Design

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1976

With the growth of the vast industrial capabilities of our nation within the last several decades, the needs of industrial corporations for physical facilities have also changed rapidly. The extensive outlays of capital and equity in large numbers of properties for administrative, manufacturing, and distribution functions led to the development of special management for these corporate resources.

This study attempted to document several aspects of the practice of architecture within the industrial corporation. Also included was a report on the programs in progress of the "Architects in Industry Committee", of the American Institute of Architects.

The major thrust of the report was aimed at studies of three architectural design services departments in operation within corporations. The firms studied were: Southwestern Bell Telephone Co., Hallmark Cards, Inc., and American Multi-Cinema, Inc., all with offices located in Kansas City, Missouri.

Using the American Institute of Architects project phase divisions as a standard, each of the three firms was compared as to project procedures. Distinctions between the industrial corporation design departmental operation and that of traditional architectural firms were also distinguished.

Development of comparisons of the three firms also were made regarding the organization and management of the design department, the design services staff, personnel development, design office physical facilities, and other miscellaneous factors.

A key feature of the report was the inclusion of information gathered by personal interview. The viewpoints of several practitioners on the current status of architecture within the corporate setting were presented.

Conclusions, implications, and projections about the future of this type of practice were noted. Comments relative to the skills and abilities necessary to function effectively within the corporation completed the study.