

Marketing Operations in the Apparatus Division of General Electric Company

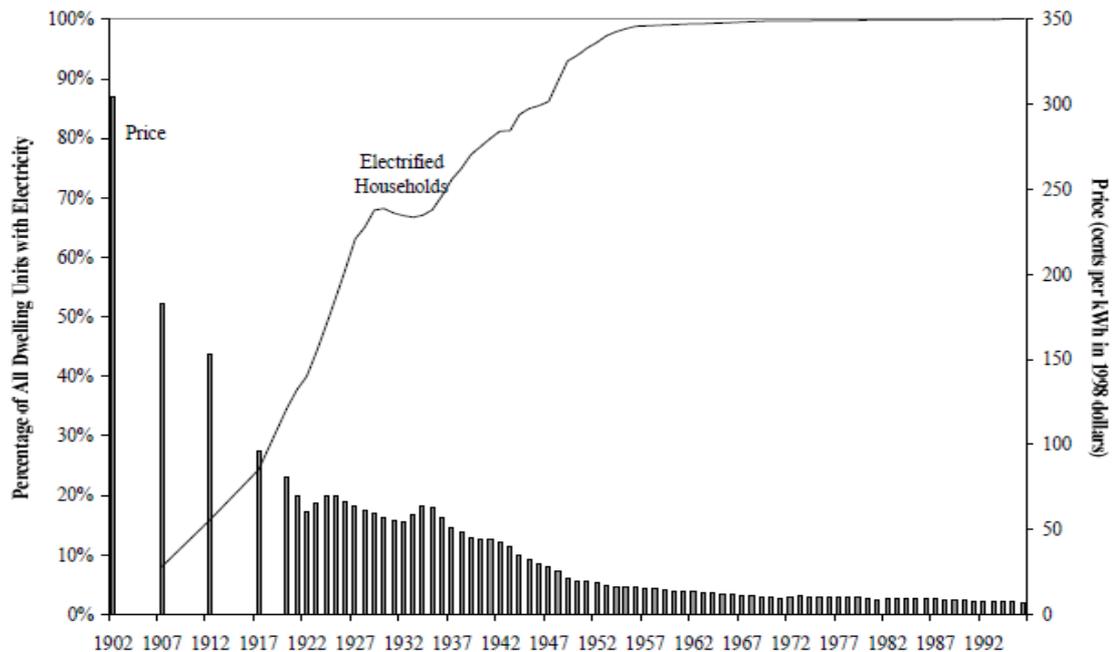
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I Introduction

This paper explores the evolution of the marketing operations of GE in regard to its apparatus division. Electrical products are usually classified into two categories: heavy and light. This paper focuses on the former, that is, the apparatus products. These products are commonly viewed as nonstandard, designed and manufactured to order. However, apparatus products manufactured in advance of sale and in accordance with standard designs had been increasing in volume ever since the 1920s,

The main thrust of this paper is that the introduction of new technological systems (electrical power and lighting), and their adoption by society, was made possible by large-scale marketing activities orchestrated by integrated marketing organizations.

Figure 1: Electrification of US homes



Source: Stephen Moore and Juliana L. Simon, "The Greatest Century That Ever Was: 25 Miraculous Trends of the Past 100 Years", *Policy Analysis*, No. 364 December 15, 1999, p.20.

We can observe the evolution of these marketing operations through four phases that correspond to the evolution of GE's strategies and business environment.

Phase I: Introductory Period (1892-1922). Charles A. Coffin, who understood the importance of marketing better than anyone, presided over GE's management in the early days. Between 1892 and 1920, GE grew rapidly, with sales jumping from 11 million to 276 million, employee numbers going from 10,000 to 82,000, and the number of product lines increasing from 5 to 85. By the time Charles A. Coffin retired in 1922, electrification had reached around 40 per cent of U.S. homes (Figure 1).

Phase II: Development Period (1922-1951). GE's marketing operations were consolidated under the presidency of Gerard Swope between 1922 and 1940. Swope, who started out as a sales engineer at Western Electric Company, became aware of the importance of marketing activities in B2C, which started with manufacturing several kinds of appliances. Electrification of U.S. homes was almost complete by the end of this phase and GE's growth was outstanding: sales went from 276 million to 1,960 million, employee numbers swelled from 82,000 to 183,000 while the number of product lines grew from 85 to 328.

Phase III: Maturing Period (1951-1980). President Ralph J. Cordiner ushered in a new era, introducing the concepts of decentralization and professional management, which radically changed GE's marketing operations. The company continued to grow mainly through diversification while the traditional apparatus industry entered into a maturing period. Between 1950 and 1960, sales reached 4,198 million, employee numbers were around 251,000 while the number of product lines went from 328 to 400. The number of departments increased from 37 to 110 during this same period thanks to Cordiner's decentralization.

Phase IV: Transformation Period (1981-present). The emergence of new technological systems and GE's restructuring pushed through by CEO Jack Welch supposedly resulted in a significant change to its marketing operations.

This paper will focus on Phase I, II, and III.

II Marketing Operations during the Introductory Period

1. Early Days

Before the establishment of GE, two companies that had merged, Edison General Electric and Thomson-Houston, were already marshaling the first marketing forces. Edison General Electric replaced its independent sales agents, who were paid on a commission basis, with salaried employees and divided up the nation into seven markets,

establishing district offices headed by district manager in each of these regions. Thomson-Houston had a local marketing organization similar to that of Edison General. A number of sales managers were based at its Boston headquarters, each in charge of the sales of certain products or product groups.

Once GE took over these marketing operations, it immediately began to reorganize them in a more unified manner. The first vice-president in charge of the Sales Committee controlled the entire sales activities with the support of four or five product sales managers. The district managers of Edison General were replaced with local sales managers, while the sphere of activity of local sales managers was limited to one group of products. These managers reported to the product sales managers at the Schenectady headquarters. At this time, GE's marketing operations were organized along the lines of product groups¹.

2. Micromarketing

In this early period, GE's mission was to introduce and spread new systems with the new technology of electrification. GE's sales strategies consisted of proposing new systems to satisfy customer's individual needs, persuading customers of the advantages of these new systems and guaranteeing the stability of these systems. This type of marketing could not be described as mass-marketing but rather micro-marketing. Sales engineers, application engineers and specialists all took responsibility in a team effort. Downing describes this combination of three kinds of engineers and its primacy as follows²:

“When the market potential warranted, an individual industrial sales engineer was assigned to customers in one industry only, e.g. steel or petroleum, but in all cases the sales engineer sold all apparatus products to his assigned customers, with the backup help of product specialist in individual product and of applications engineers in engineered-systems of products. Ample evidence exists to validate the claim that this large apparatus sales organization was highly competent and commanded great respect in industrial circles, considerable envy among competitors, and great prestige within the company itself.”

Sales engineers kept in close contact with customers in order to understand their needs and to spot opportunities for solving their problems through specialized system solutions. Application engineers studied production plans and requirements that

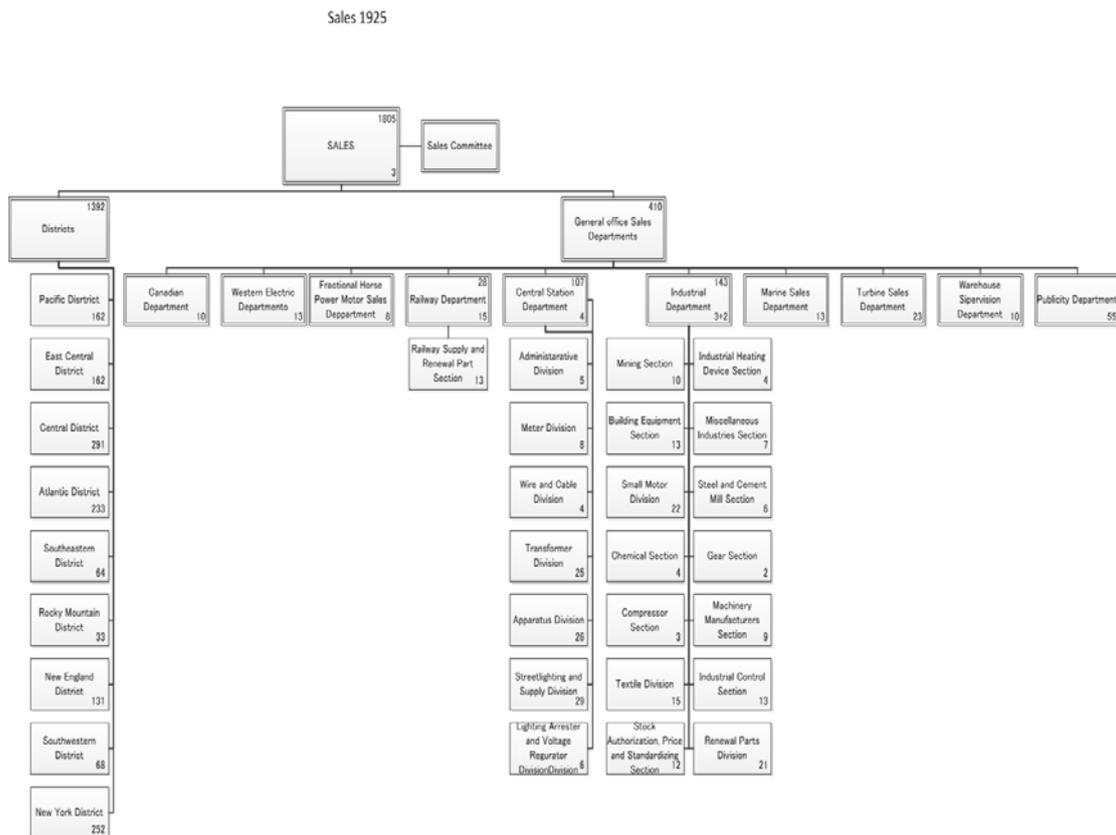
¹ See Passer, Harold C., “Development of Large-Scale Organization: Electrical Manufacturing around 1900”.

² Downing, George D. (1967) “The Changing Structure of a Great Corporation,” p.189.

stemmed from discussions between customers and sales engineers before recommending suitable combinations of apparatus products for optimal performance. Specialists joined in the sales process to provide information on individual products when necessary³.

As such, sales processes became more successful and GE's sales organization became more complex. Figure 2 shows the organization structure of the GE Sales Department in 1925. The main marketing operations were carried out by the General Office Sales Departments, the Commercial Engineering Departments and the 9 Districts. The Commercial Engineering Departments, with its team of application engineers, did not belong to the Sales Department but to the Engineering Department. General Office Sales Departments were mainly structured along the lines of products and industries. Each district had sales engineers, specialists and application engineers.

Figure 2: Organization Structure of the GE Sales Department in 1925



Source: GE Organization Directory 1925.

³ See *Manual of Industrial Engineering Apparatus Sales Divisions; Manual for District Specialists*.

3. Unification

GE's mission to introduce and spread new systems with new technology was also realized through publicity and advertising. Firstly, new energy (electricity) and new lighting technologies had to be widely recognized and accepted. Secondly, the brand name of GE had to be established. Only then could GE's products and systems become the de facto standard. These efforts, which can be described as a long process of unification, had been undertaken by the Publication Department⁴ and the Advertising Department⁵ which merged into the Publicity Department under the Sales Department in 1923. The following is attributed to the GE Publicity Department in 1924⁶,

“In reality, the many aspects of the Company's publicity are so closely bound together by a common purpose that they are, in the largest sense, a complete and unified expression of its service as a whole. With the intent of presenting General Electric publicity as such a unified expression, this book seeks to accomplish three principal objects:

1. To sum up the Company's total service to the public as set forth in the collected publicity of products that carry this service into the lives of millions.
2. To trace, link by link, the unbroken chain of publicity which extends from the great public utility that purchases generating apparatus to the householder who buys a single lamp.
3. To picture to every division of the Company – research, engineering, manufacturing, and commercial—the value of General Electric contact with the purchasing public and to indicate the ways in which this contact, created by publicity, can assist in building a yet greater future for the Company.”

Publicity and advertising activities were geared toward engineers, businessmen and the general public mainly via the periodicals of the time. General Electric Review, which was originally intended as a noncommercial in-house periodical for GE engineers, soon began to attract subscribers outside of the company and from around the world. As a result, the GE Review succeeded in enhancing GE's reputation. Technical and industrial journals, commercial journals, general magazines, and newspapers were used in large numbers⁷. Furthermore, motion pictures and radio broadcasting were both

⁴ This department is traceable to the Statistical Department in 1893.

⁵ This department was established in 1895.

⁶ Publicity Department, *General Electric Publicity 1924*, p.5.

⁷ According to the GE Publicity Department: “The purpose of the Review is three-fold. One function is to increase engineers' goodwill toward the General Electric Company by furnishing educational information which they would probably not obtain otherwise. Another aim is to raise the prestige of the Company by describing its research activities in the realm of pure science and its engineering developments in the field of

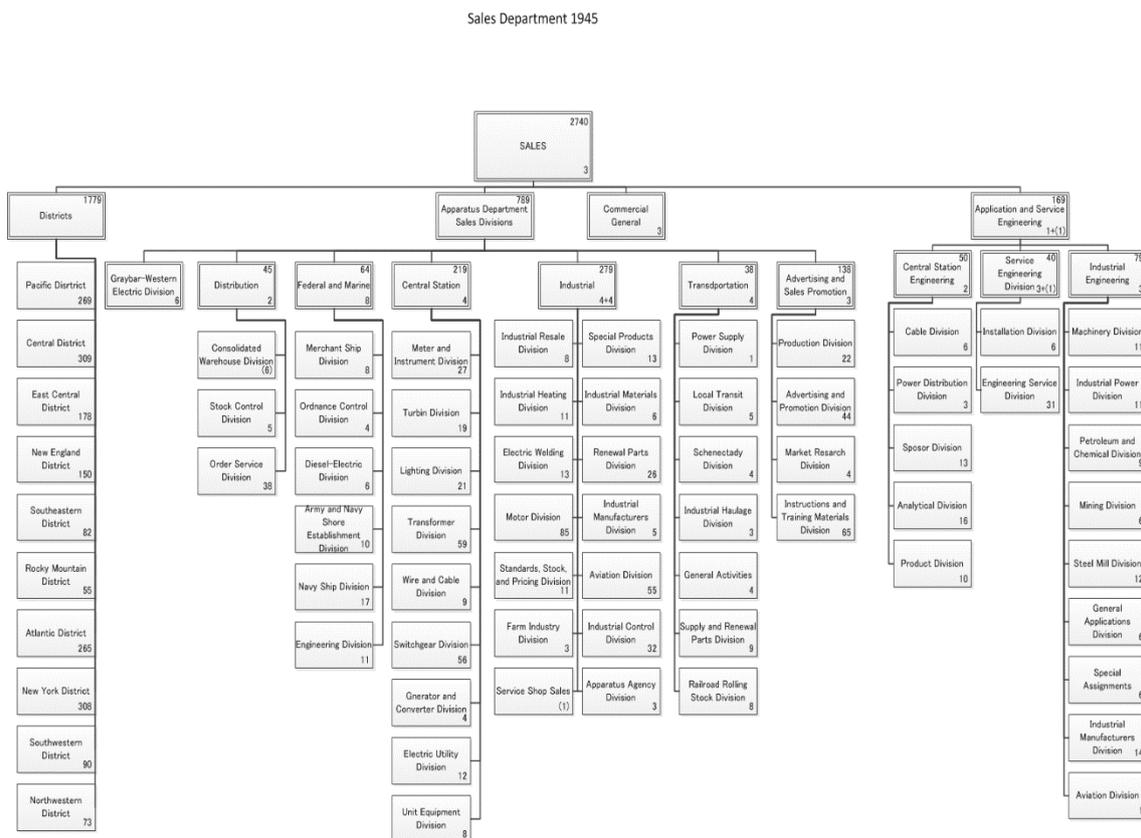
enthusiastically used from the moment these technologies emerged.

III Marketing Operations in the Development Period

1. Micro-marketing and segmentation

GE's marketing activities continued to be operated basically in the same way as the previous period, although the company structures went through several changes. The Sales Department became a sub-department of the newly created Apparatus Department after the Lamp Department and Merchandise Department were added to the GE's organization in 1926 and 1929 respectively. The Commercial Engineering Departments became a part of the Sales Department before 1940 while the Publicity Department was reorganized into Advertising and Sales Promotion Divisions (A&SP)

Figure 3: Organization Structure of the Sales Department in 1945



Source: GE Organization Directory 1945.

actual practice. The third objective is to spread the gospel of GE products by describing the apparatus, its application in industry, and its performance in service” (*General Electric Publicity 1924*, p.95).

under the Apparatus Department Sales Divisions in 1945.

Figure 3 shows the organizational structure of the Sales Department in 1945. Marketing operations were principally carried out by the Apparatus Department Sales Divisions, the Application and Service Engineering Divisions, and the 10 Districts. GE was still pursuing micro-marketing with its team of sales engineers, application engineers and specialists. However, sales of individual products were gradually becoming more important as standardization of products and operations continued to advance and pave the way for future segmentation (in the next period). Individual products were sold to manufactures for original equipment manufacturers (OEM). They were also sold to electrical contractors, municipals, industrial maintenance operations, and retailers through agencies and distributors. In 1941, the Apparatus Agency Sales Section, which became the Apparatus Agency Sales Division in 1945, was created by the Industrial Department for controlling and promoting the activities of the agencies and distributors

2. Unification and promotion

Moves toward unification were continuously pursued by the Publicity Department and its successor, A&SP. In 1920, GE started a campaign called 'Advertising Electricity to a Nation'. GE "put its best efforts, both mental and financial, into the large task of convincing the American public that electricity was of the utmost practical value to families and individuals alike"⁸. By 1930, GE had spent \$3,800,000 on this campaign, in addition to expenditure for normal advertising activities. In 1930, GE "spent approximately \$9,000,000, and its dealers and distributors spent another \$3,000,000 in advertising GE current-using apparatus, appliances, and lamps". This expenditure made it possible to circulate more than five billion advertising "messages". GE said that GE's total advertising expenditure would amount to over 40 million dollars for the ten years leading up to 1932 representing more than 75 per cent of total advertising for all electrical apparatus manufacturers. These campaigns were carried out not only through newspapers and magazines, but also on nationwide radio. Between 1927 and 1931, GE spent two million dollars alone on advertising for the most popular weekly radio programs of this period. In addition, GE spent up to 10 million dollars on industrial advertising in technical journals and industrial sales promotions for the ten years leading up to 1932. As a result, GE established departments for manufacturing and distributing home appliances under the company's own name. One should not forget that between 1922 and 1932 the number of wired residences doubled, amounting to 65 per

⁸ *Advertising Electricity to a Nation*, p.3.

cent of all homes in the U.S., including farmhouses. This figure was even higher for urban areas, 85 per cent.⁹

Following World War II, GE began a new campaign with the slogan, 'More Power to America', a campaign that continued all the way to 1955.

Because sales of individual products were becoming increasingly more important for GE's business, the Publicity Department and its successor, A&SP, began to commit resources to sales promotion for each line of these individual products, including motors, fans, and heaters. The Publicity Department, for example, organized and coordinated an intensive sales promotion of motors in 1936 with the theme "G-E motors pass all tests." It began on March 30th with one of the largest motor specialists' meetings ever held. Advertisements appeared in various industry magazines. The first mailings for the Intensive Sales Campaign on Motors began in June, and consisted of special letters for industrial customers and enclosed copies of the new descriptive sheet "General-purpose Squirrel-cage Induction Motors." Furthermore, they prepared different kinds of bulletins, pamphlets, and letters every month, in addition to sample kits, insulation demonstration kits, motion pictures, and displays. They also organized internal promotions and promotions for resale agents¹⁰.

Through these wide-ranging processes, Sales Department (later the Apparatus Sales Division) established itself as a major force with centralized authority and responsibilities for company marketing operations.

IV Marketing Operations in the Maturing Period

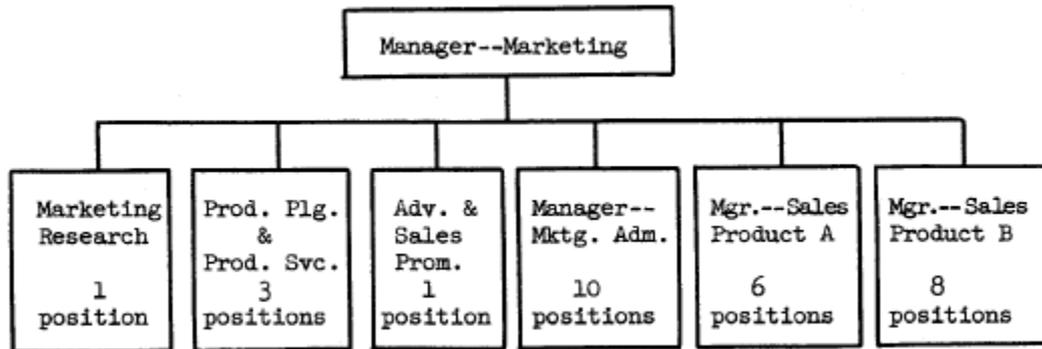
1. Decentralization and Segmentation

Ralph Cordiner, who assumed the presidency in 1951, began to change the company's organizational structure and management principles, mainly on account of rapid growth. GE's businesses had been expanding ever since World War II and these changes required a different managerial approach. Cordiner's solution was decentralization and professional management. Product departments became basic units, each department representing an identifiable business entity. Each unit was not only accountable for performance, results and profits, but also responsible for all of its resources within its own distinct, identifiable market. Each department was managed in accordance with the principles of professional management by a general manager, who had several junior managers underneath him who were responsible for functions such

⁹ *Advertising Electricity to a Nation*, pp.3-5.

¹⁰ See *Intensive Sales plan on GE Motors 1936*.

Figure 4: An Example of the Organization of the Marketing Section



Source: GE Marketing Service Division, *Marketing Organization Guide*, Section III, P.48.

as engineering, manufacturing, finance, employee and communication relations, as well as marketing. Managers in charge of marketing had several components with component manager and, in some case, various positions reporting directly to them, as shown in Figure 4.¹¹

Difficulties in company marketing operations also brought about Cordiner's reorganization, which in turn caused great changes in marketing operations. While segmentation in marketing operations was progressing, so too were other areas: standardization and product diversification; increasing numbers and variety of customers; and intensifying competition, which gradually rendered dysfunctional the huge, centralized marketing organization of the Apparatus Sales Division. The new policy of decentralization stressed transferring authority and responsibilities for all functions, including marketing, to product departments. The existence of an Apparatus Sales Division with centralized authority and responsibilities for company marketing operations contradicted this policy. However, a department focused on system sales was still indispensable. This created conflict between the Apparatus Sales Division and the product departments with regard to planning, budget, personnel and reorganization.

2. Dissolution Process of the Apparatus Sales Division

These struggles resulted in the gradual dissolution of the Apparatus Sales Division right up until the 1960's. In this process (Figure 5), the system sales of three sales approaches were retained in the Industrial Sales Division: industrial user sales approach [system sales], original equipment manufacturers sales approach (OEM), and

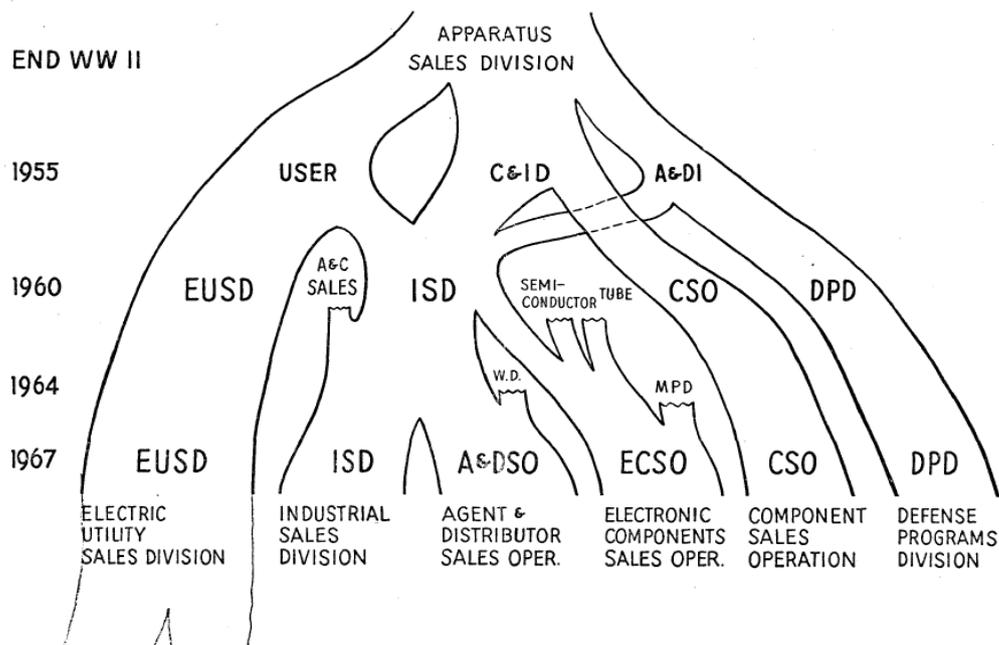
¹¹ See *Professional Management in General Electric*; GE Marketing Service Division, *Marketing Organization Guide*.

agency and distributor sales approach (A&D)¹². The rest were taken over by other parts of the organization. Moreover, some of seven functions¹³ in the marketing operations were discontinued while others were downsized.

“As 1950 began, there were numerous changes in the structure of the Apparatus Department. They were, in some case, an indication of the trends and shifts in emphasis¹⁴.” As Figure 6 shows, the Apparatus Sales Divisions were reorganized on industry orientation into the Industrial Sales Divisions under which the Industrial Divisions were divided into industry sections. The product divisions such as control, motors, welding and industrial heating, which had been among the Industrial Divisions,

Figure 5: Dissolution of the Apparatus Sales Division

HISTORY OF GENERAL ELECTRIC POOLED SELLING



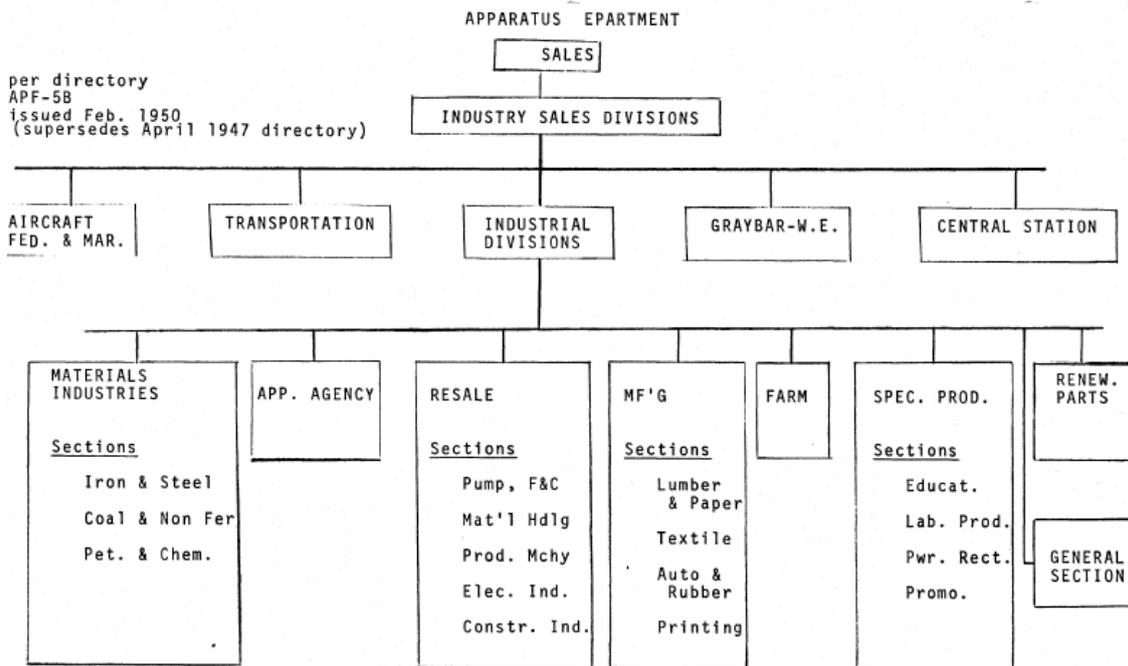
Source: Industrial Sales and Engineering Operation, *GE Sales Effort*.

¹² Another approach: Marine and Defense Facilities Approach was added to these three approaches (The Industrial Sales Operation, *Organization Plan*, p. A-1).

¹³ GE summarized functional work in a marketing operation as marketing research, product planning, advertising and sales promotion, sales, product service, marketing administration, and marketing personnel development (GE Marketing Service Division, *Marketing Organization Guide*, Section V, p. 10).

¹⁴ Industrial Sales and Engineering Operation, *GE Sales Effort*.

Figure 6: Organization Structure of Industrial Sales Divisions in 1950



Source: Industrial Sales and Engineering Operation, *GE Sales Effort*.

were moved to the newly formed product departments.

In 1952, the Apparatus Department was reorganized into the Apparatus Group, and the Sales Department was restructured as the Apparatus Sales Division that possessed Staff Components such as advertising, employee relations, order service, financial, legal and other service and staff functions, in addition to Operating Departments composed of the Industry Engineering & Sales Department and the Field Sales Department. The Industry Engineering & Sales Department combined the Industrial Sales Divisions and the Application Service & Construction Engineering Divisions.

In 1953, Sales and Engineering were split into two departments again. Further, the Apparatus Product Sales Section and the Component Product Sales Section were established within the Sales Department.

In 1955, the Distribution Group was formed with the purpose of providing sales services to a wide range of customers, and the Apparatus Sales Division was shifted from the Apparatus group to this group, but returned to the Apparatus group in 1957, which changed its name to Apparatus & Industrial Group in 1958. Moreover, the User Industrial Sales Department, Component & Intermediate Distribution Sales Department, and Aviation & Defense Industries Sales Department were established

under the Apparatus Sales Division. Each of these departments had sales sections, application engineering sections and field sales forces. The Component & Intermediate Distribution Sales Department combined the Agency & Distributor Sales Section and the Component Product Sales Section, which placed more importance on OEMs, as well as agency and distributor sales.

In 1960, the Apparatus and Industrial Group was reorganized into the Industrial Group and most components of the Apparatus Sales Division had their status changed from department to operation. In 1961, the Apparatus Sales Division was reorganized into the Industrial Sales Operation. The User Industry Sales Operation was restructured as the System Sales & Engineering Operation. The Electric Utility Commercial Sections and Electric Utility Engineering Section were transferred to the Electric Utility Group and renamed as Electric Utility Sales Operation. The components section of the Component & Intermediate Sales Department was renamed as Component Sales Operation and most probably moved to the Component Products Division, another division of the Industrial Group. The Agency & Distributor Sales Development Operation, another part of the Component & Intermediate Sales Department, remained where it was.

These restructuring programs between 1957 and 1963 resulted in the number of sales people at the headquarters for System Sales & Engineering Operation decreasing from 73 to 36 while the number of engineers went from 157 to 113¹⁵.

3. Unification and segmentation

During all of this, GE was still pursuing unification. Soon after the 'More Power to America' campaign ended in 1955, GE started a new nation-wide campaign entitled 'Live Better...Electrically'. "As usual, A&SP landed in the center of the action¹⁶" as the in-house advertising agency for GE, although it was merely one department under one division (Apparatus Sales Division) on the company's organization chart. According to the Schenectady Gazette of 1962, A&SP was the world's largest and oldest industrial advertising "agency", handling most GE advertising with some 400 members (employees)¹⁷.

Nevertheless, each GE product department gradually became more dependent on its own advertising and sales promotion sections, and these departments began to use outside agencies as well, another sign of the tendency toward segmentation in this period.

¹⁵ See Industrial Sales and Engineering Operation, *GE Sales Effort*.

¹⁶ Burnside, James R., *The Selling of General Electric*.

¹⁷ *Schenectady Gazette*, October 3, 1962.

V Conclusion

In the Introductory period, GE's marketing operations did not simply pursue the marketing of individual products; they actively proposed solutions to individual customer needs. In other words, GE was marketing various systems of products called micro-systems. The micro-marketing¹⁸ described in this paper was mainly implemented by teams of sales engineers, application engineers and specialists from the Sales Department. At the same time, GE had to persuade the public of the utility of this new culture of electricity, which was nothing less than a new social system, or macro-system. This function, referred to as unification in this paper, was carried out by the Publicity Department.

In the Development Period, GE's marketing operations were firmly established under Swope's presidency. Although marketing activities were developed in B2B, the organizational capabilities that developed out of it formed the basis for marketing activities in B2C, which started with the manufacturing of several kinds of appliances. In this period, both micro-marketing and unification were still being pursued even as segmentation began to emerge.

In the Maturing Period, GE's marketing activities came to be managed in a segmented manner by each product department under the decentralization instigated by Cordiner. One reason for this was that the focus of marketing moved to individual products once the micro-systems were standardized and the macro-system was widely accepted. In this period, micro-marketing was decreasing in importance, as evidenced by the dissolution process that affected the Apparatus Sales Division, and by the segmentation that gradually pushed aside unification.

The emergence of new technological systems and new markets in Phase IV, the Transforming Period, would pull back marketing operations in order to propose solutions to specific needs or micro-systems as well as propose new kinds of cultures or macro-systems. Micro-marketing and unification would eventually come back into fashion.

¹⁸ We find these terms: 'micro-marketing,' 'segmentation,' and 'unification' along with another term, 'fragmentation' in Richard Tedlow's *New and Improved: The Story of Mass Marketing in America* and "Fourth Phase of Marketing: History of Marketing and the Business World Today". I have been influenced by these writings; however, I differ from Tedlow in my use of these terms. Tedlow used these four terms to divide the history of American mass-marketing (B2C) into four phases. I intend to describe the characteristics of each phase of GE's B2B marketing operations using three terms.

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