

Integration and Diversification as Business Strategies--An Historical Analysis

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First let me repeat the title, Integration and Diversification as Business Strategies--An Historical Analysis. Then, after a couple of definitions, I want to suggest the nature and the possible value of such an analysis. As for definition, by strategy I mean here a company's basic business objectives and policies. A senior executive defines basic strategy when he asks, "What exactly is our business or what should it be?" The definition of integration, that is vertical integration, and diversification, that is product diversification, should become clear as these strategies are described. One other word which will be used often both this morning and in this afternoon's session is structure. Structure for me means the organizational framework through which a company carries on its business.

An historical analysis must, almost by definition, focus on change. So the essential question for this paper is: Why did business firms change their basic strategies when, and in the way, they did? The following very tentative answers to this question are based on experience of over fifty of America's largest industrial companies, as seen from available printed materials. Let me emphasize that I am considering here only industrial companies, not transportation, finance, utility, or even marketing firms. I need hardly point out that each company has its own individual and unique story, yet common patterns of development and change can be discerned.

The experience of these large companies suggests that American industrials have practiced, since their beginnings in the years after the Civil War, four types of business strategies. First came vertical integration. Integration was followed by three sorts of diversification--the policy of the full-line which was sometimes extended to that of the multi-line, and finally the policy of continuing product turnover. The initial strategy came when

¹Editor's Note: This paper was presented at the 1959 meeting of the Business History Conference at the University of Illinois. I discovered a copy of the paper in the files that Donald L. Kemmerer transferred to the Business History Conference. Since the proceedings of the Conference were not then published, and since I felt that readers of this journal would be interested in the evolution of Professor Chandler's thinking leading up to publication of *Strategy and Structure*, I requested and received his permission to publish this paper now. Chandler retired in June 1989 as Straus Professor of Business History, Harvard University.

executives asked whether their company should only manufacture or whether it should market its products and control its supplies as well. The second came when they began to wonder if they should sell more than a single line of products. Are we, a Dayton, Ohio, manager might have asked, in the tire or in the rubber business? The third resulted from an extension of that question. Are we in the rubber or are we in the chemical business? The final strategy came when these same managers agreed to develop new products continuously and systematically in the company's research laboratories.

An historical analysis of the beginning and growth of these strategies of integration and diversification may have some value for both the business and the economic historian. A company's year-to-year tactics as well as its day-to-day routine activities, the study of which is the particular province of the business historian, clearly reflect that firm's basic strategy and the evolution of that strategy. So also does the company's management structure, for changes in external strategy usually have resulted in adjustment of internal organization. Finally, strategic shifts are rarely made lightly. They seem to be formulated to meet new problems, challenges, or opportunities caused by fundamental changes in the nation's economy and technology. So a study of strategic changes can be one way of linking more explicitly the development of business forms and practices to the changing nature of the whole economy.

The formation and initial structure of the great modern industrial corporation, for example, seems to have come as a direct result of the strategy of vertical integration. That strategy in turn appears to have been a response to the needs and challenges of the new national and increasingly urban market created by the completion of the railroad network. In the 1870s nearly all American industrial firms only manufactured. Except for what they could buy or sell in their immediate locality, they purchased their raw materials and marketed their finished goods through commission agents. By 1903, the year when a slight business recession ended the great merger movement of the turn of the century, many American industries had become dominated by a few large firms. These great new enterprises now did their own marketing and distribution and purchased their own supplies. Where their supplies came from out of the ground rather than from the farmer or another manufacturer, they often obtained control of their raw materials. By 1900 most American industries had become, to use the words of the economist and sociologist, oligopolical in their inter-firm relations and bureaucratic in their intra-firm organization.

The strategy of vertical integration which gave rise to these new business ways and forms came first in the consumer goods business, particularly in the oldest American industries, those that processed agricultural products. The strategy developed in two ways. The makers of relatively new products, especially those particularly fitted for the urban market, began by building distributing organizations. They then expanded their manufacturing facilities and built purchasing departments. The manufacturers of the more staple, less differentiated goods, tended to unite first in horizontal combinations and then to create their marketing and purchasing organizations. Companies producing fresh meat, cigarettes, high-

grade flour, bananas, sewing machines, typewriters, farm machinery, and industrial rubber products provide good illustrations of the first way. Others manufacturing sugar, salt, leather, whiskey, glucose, starch, biscuits, kerosene, fertilizers, rubber boots, and shoes, exemplify the second. The story of Gustavus F. Swift and his brother Edwin gives one of the clearest pictures of the first way--that is, of integration via the creation of the distributing organization. Swift, though coming to Chicago well after Armour, Nelson, Morris, and other packers, was the first to appreciate the potentials of the growing Eastern urban market for fresh Western meat. He saw the value of the refrigerator car and, even more important, the need for creating his own distributing and marketing units. Refrigerated warehouses and outlets based on these warehouses were just as important for the large-scale sale of Western meat in the Eastern markets as the use of the more publicized refrigerator car. So during the 1880s the Swifts concentrated on building a national branch house organization. The branch house growth in turn increased the demands on Swift's processing or disassembling plants. Between 1888 and 1892, Gustavus Swift set up meat-packing establishments in Kansas City, Omaha, and St. Louis and after the depression of the 1890s in St. Joseph, St. Paul, and Fort Worth. At the same time he built a large purchasing unit and bought into many stockyards. Armour, Morris, Cudahy and others quickly followed Swift's strategy of vertical integration. Those packers who failed to imitate Swift were destined to remain small local companies.

In these same years, James B. Duke in cigarettes, Andrew J. Preston in bananas, Cyrus McCormick in harvesters, William Clark in sewing machines were building similar large marketing and then purchasing organizations. The perishable nature of Preston's and Swift's products, the need of McCormick and Clark for effective servicing and financing, Duke's requirements for aggressive advertising and rapid delivery all made them dissatisfied with marketing through commission agents. Nor were such agents able to buy in the uniform quality or in the great quantity that these entrepreneurs had come to require. Unless they had their own integrated organization, they felt they could not effectively exploit the new national market.

Executives in large industrials created initially by horizontal combination soon came to have these same needs. The motives for the original combinations were many. One of the most clear was the threat of over-production. In the 1870s and 1880s, many small manufacturing companies had enlarged their plants to take advantage of the new market. Simultaneously, they found themselves competing for the first time with many other companies. The initial response of such manufacturers was to combine to control price and production. Such combinations, however, proved quite unsatisfactory.

The effect of exploitation of the national market required, the managers of the combinations soon realized, consolidation and integration. So they concentrated manufacturing in a few large plants in order to achieve the economies in scale. They created branch offices, warehouses, and other distributing facilities in all parts of the country. Purchasing, too, became quickly departmentalized. The new central office in many of these

integrated firms, whatever their origin, now took on a wholly new task of coordinating the flow of processing the product from the original producer of the raw material to the ultimate consumer of the finished goods.

There were negative as well as positive reasons for the adoption of the strategy of integration by many horizontal combinations. The annual report of the National Biscuit Company for the year 1901 describes the different reasons most succinctly:

This company is four years old and it may be of interest to shortly review its history When the Company started, it was an aggregation of plants. It is now an organized business. When we look back over the four years, we find that a radical change has been wrought in our methods of business. In the past, the managers of large merchandizing corporations have found it necessary, for their success, to control or limit competition. So when this Company started, it was thought that we must control competition, and that to do this we must either fight competition or buy it. The first meant a ruinous war of prices and a great loss of profits; the second, a constantly increasing capitalization. Experience soon proved to us, that instead of bringing success, either of these courses if persevered in, must bring disaster. This led us to reflect whether it is necessary to control competition We soon satisfied ourselves that within the Company itself we must look for success.

We turned our attention and bent our energies on improving the internal management of our business, to getting the full benefit from purchasing raw materials in large quantities, to economizing in the expenses of manufacturing, to systematizing and rendering more effective our selling department; and before all things to improve the quality of our goods and the conditions in which they reached the customer. It became the settled policy of the Company to buy out no competitors

In the selling part of its business, the Biscuit Company now changed its policy from selling in bulk to wholesalers to marketing small packages to retailers. It developed its various Uneeda Biscuit brands. "The next point," the annual report continued, "was to reach the customer. Thinking what the customer wanted, we had to advise the customer of its existence. We did this by extensive advertising." This large centralized organization with its functional departments--purchasing, manufacturing, sales and finance--now competed in the modern manner, more by advertising, packaging, and product differentiation than by price.

In the years immediately after the depression of the 1890s, the producer goods firms followed the strategy of the consumer goods industries. The delay may have been because the railroad remained such a dominant market for many producers' goods until after the 1880s. Only

when the city began to take the largest share of these companies' output did vertical integration appear.

Here strategy differs slightly from integration in the consumer goods' companies. Since they sold to a much smaller number of customers, the producers' goods companies did not require as large a sales organization. Nor was there the same need for close coordination of product flow as in the firms manufacturing high-volume, low-priced goods. On the other hand, producers' goods companies, particularly in the metals and semi-finished industries, were more concerned with the sources of supply. For these firms, unlike those in the agricultural processing industries, had only a limited supply and that was extracted from the ground. Here the threatening possibility of an outsider obtaining complete control over one's basic raw materials did indeed exist. Such a threat led to what might be called defensive integration.

A dramatic case of such defensive integration came in the steel industry. When Henry C. Frick obtained a large share of the Mesabi Range for Carnegie Steel Company and when other ore mines began to become concentrated in a few hands, nearly all steel companies immediately took steps to assure control over their raw materials. At the same time many of these companies reorganized and expanded their manufacturing works and built up their marketing organizations.

Purely defensive integration, however, did not always lead to a centralized organization with large functional departments. In the case of the Carnegie Company and later United States Steel, no managerial devices were set up to integrate the producing with the manufacturing units. The latter negotiated with the former for ore and coke supplies, much as they did with the outside firms. Such negotiations were, in fact, the cause for the famous break between Carnegie and Frick. In such cases of purely defensive integration, central headquarters remained small. No offices were formed to coordinate product flow, or to standardize purchasing, manufacturing, and marketing, or to develop systematically new markets, new sources of supply, or new technological methods. In other words, no means were established to exploit economies and advantages of size and integration.

Where the strategy of integration was more than defensive, and where it had led to the creation of a large centralized, functionally departmentalized corporation, vertical integration soon encouraged a new strategy--that of having a full-line of products. The full-line policy came primarily as a means to permit the new structure to operate at its most effective capacity.

The extent to which large integrated industrials developed new products to make the fullest use of their purchasing, manufacturing, marketing, financial, and administrative departments depended largely on the nature of their products. The metal companies--steel, copper, lead, and zinc--continued to produce only a very limited line of ingots, basic structural shapes, and other semi-finished products. The companies using these materials to make relatively simple finished structures as bridges, tubes, wire, cans, stamped, enamelled, or brass items, also stuck to a single line.

So, too, did the firms processing farm products into leather, sugar, flour, bananas, and whiskey.

Of the companies processing agricultural products the meat packers developed the largest line. Their activities therefore provide a good illustration of the full-line policy. To make the most of their overall organization, Armour and Swift soon had a wide variety of lamb, pork, veal, and also of processed, canned, and pickled meat products. Next, to utilize more fully their manufacturing organization, the packers began to make glue, gelatin, leather, fertilizer, and other products from parts of the steer, hog, or sheep which could not be processed into food. To exploit more fully their marketing and distributing facilities, they moved into handling eggs, poultry, and dairy products. Where the manufactured products could not be sold through the existing marketing organization, separate departments were set up. So, by 1900 the meat packers had fertilizer, leather, and smaller by-products departments which were managed quite separately from the food business. For nearly half a century after 1900, however, the meat packers, other processors of agricultural products, and makers and shapers of metals developed relatively few new products.

Since 1900 the greatest product development and diversification has come in industries where technology and science have been most applicable. Here a full-line policy often led to a multi-line one and in some cases to a strategy of systematic product turnover. Here let me suggest a difference between a full-line and a multi-line. By the first I am thinking of companies like the meat packers that had their major products and their by-products. The executives of such companies concentrated on the primary products and their structures were built to further the efficient production and distribution of the main line. By-products received relatively little attention and their development and exploitation were sacrificed to the needs of the major line. A multi-line company has, on the other hand, several major lines, often in quite different industries and each is given the same amount of attention. In a chemical company, for example, textile fibers, film, paints, plastics, and heavy chemicals are considered of equal importance and none is the by-product of the other.

From 1900 to the 1930s the full-line strategy evolved into a multi-line strategy in the industries where the new generators of power--electricity and the internal combustion engine--had the greatest impact. In the past twenty-five years the systematic application of science to industry through institutionalized research and development has been even more of a stimulant to product diversification. In these industries where science and technology are most applicable, the pattern was the same as in the older ones. Vertical integration came first and was followed by a full-line policy.

Here vertical integration, whether motivated by reasons of defense or to cut costs and improve efficiency, itself led to product diversification. The electrical power machinery and automotive firms required a much larger variety of supplies and materials than did the manufacturers of metals or food products. As the lack of one part could delay if not actually stop production, these engine making firms felt a pressing need to have an assured source of such materials. Thus General Electric purchased or developed organizations to make fuses, switches, and small electrical units.

William C. Durant, the founder of General Motors, anticipating an enormous demand for a moderate-priced car, concentrated his efforts on obtaining companies manufacturing spark plugs, roller bearings, radiators, electric systems, horns, and other parts and accessories. In neither of these cases did the manufacturing departments expect to take all the output of the parts and accessories firms. Soon both companies by selling such supplies to outsiders had greatly enlarged their product line.

The full-line policy which followed vertical integration in these engine making companies, led to still more diversification. General Electric and Westinghouse had created by World War I a complete line of electrical generators, transformers, engines, locomotives, and other power and power-making equipment. General Motors, with its diesel and airplane engine developments, had by the 1930s pretty well exploited the potentials of the internal combustion engine, as well as developing by far the most diversified line of cars in the automobile industry. Henry Ford, however, stayed with a single product, and while Ford's decision to concentrate on one model brought him brilliant success until the 1920s, it led to near disaster after 1925.

A full-line policy at Allis-Chalmers, International Harvester, and other power machinery and implement companies quickly became multi-line. As a manufacturer of power machinery, Allis-Chalmers moved from making just steam-driven equipment to that using electricity and then to others powered with the internal combustion engine. The latter brought the company into the construction equipment and tractor business. Tractors in turn took it into the farm implement industry. International Harvester, in applying the internal combustion engine to its full-line, moved the other way, from farm implements into trucks and construction machinery. In this way the engine making firms developed major lines in several different industries. By the 1930s they had gone about as far as they could in carrying out a multi-line strategy based on the new sources of power--electricity and the internal combustion engine. In the 1920s some, like General Electric, Westinghouse, and General Motors had decided to diversify beyond power machinery and to build a line of consumer appliances. The reason given at General Electric for the move was that it would increase the overall demand for electric power and therefore the machinery that General Electric made to produce such power. Secondly, it should keep the company's organization working at a more steady pace. By the 1930s the electrical companies and General Motors had fairly well rounded out their appliance line.

Since the 1930s the new non-military products developed by the older electrical companies and by the newer ones like Sylvania and Raytheon, have come from the research laboratories. Applied physics has enlarged their offerings in electronics, radio, television, control systems, computers, and scientific instruments. Applied chemistry has expanded their output in plastics, silicones, tungsten, and other materials.

The outpourings of the research laboratories have led the electrical companies to effect a strategy of product turnover. The top policy makers agreed that the laboratories should develop a steady flow of new products, many of which might make older ones obsolete, and others which might not

fit into the existing operating units. For these products were not expected to be within a single industry, but to cover a wide range of uses and markets.

Those engine making companies which did not go beyond power machinery have developed only a relatively few new non-military items in recent years. Their strategy has remained one of the multi-line, but not one of planned product turnover.

Such a strategy of product turnover initially was adopted by the chemical industry where the potentials for new product development through applied science were enormous. Even here the strategic story parallels that of other industries. Diversification followed integration. As in the electrical and power machinery companies, integration itself encouraged an enlarged line, for the manufacturing departments could not take all the output of the units supplying the more basic chemicals. Here the policy of the full-line quickly became one of the multi-line. By the 1930s duPont, Union Carbide, and other leading chemical firms already had worked out the strategy of planned product turnover. So successful was this policy that the chemical industry had innovated far more effectively in alloys and new metals than most steel and copper companies, in petro-chemicals before most oil firms, in synthetic rubber as much as most rubber companies, in detergents more than in most soap firms, and in fertilizers more than all the other older fertilizer companies.

Although petroleum and rubber manufacturing is based on chemical processes, the tire and oil companies were slow to move beyond a strategy of a single line. This was primarily because the mass-produced automobile created an enormous demand for a very few products. Take the rubber industry as an illustration. Goodyear and Firestone were tire companies from the beginning and they concentrated almost wholly on that single product until the 1930s. United States Rubber and Goodrich, on the other hand, were large, integrated firms before the coming of the automobile and so always produced more than just a tire. They remained rubber rather than tire companies. Unlike the other two, they pioneered in the uses of rubber chemistry and developed lines of plastics, chemicals, and latex products.

World War II was the turning point for both the tire and gasoline companies. The synthetic rubber program brought both into the chemical business. After the War, the market for chemicals greatly increased, so nearly all the leading oil and tire companies moved into a variety of products based on applied chemistry.

The strategy of planned product turnover has, then, come in industries where science, particularly chemistry and physics, can be most easily applied to new product development. It grew from a multi-line policy which had its beginnings in a full-line one. The latter was, in turn, motivated by the needs of the organization created to carry out the strategy of vertical integration. The automobile and implement companies, while developing a multi-product line still do not have a strategy of product turnover. They do make many more products than the leading firms in the metals and metal working industries, or in those processing agricultural products. In very recent years, however, Armour, Procter and Gamble,

Schenley, and other companies processing farm products have begun to take advantage of the opportunities of industrial chemistry and so have instituted a multi-line in place of a full-line strategy.

What then do changes in strategy suggest about America's industrial past? First, they reveal certain major underlying innovating forces in the industrial economy--innovating in Schumpeter's sense of encouraging the creation of new products, processes, markets, supplies, and forms of organization. These forces were, successively, the creation of the national and increasingly urban market, the coming of new sources of power, and the application of science to industry. Secondly, they indicate how these broad population and technological developments have altered the nature of entrepreneur decisions and the organizational structure of the large corporation in which these decisions were carried out. Before the growth of the national market, the industrial entrepreneur was concerned primarily with manufacturing for an impersonal market over which he had little control. In carrying out the strategy of vertical integration, he began to become intimately involved in all the functions of industry. Besides manufacturing he had to understand the needs and ways of the purchasing and production of raw materials, of the distribution and marketing of finished products, and of finance and organization. These executives also had to work out the ways and means for carrying on a new economic function of coordinating product flow. With the development of the strategies of diversification, the entrepreneurs' horizons became multi-industrial as well as multi-functional. In time his decisions became primarily to determine what businesses his firm should enter, which it should leave, and which it should maintain. His stage was no longer a national industry, it was the national economy.

Finally, the changes in strategy had a direct impact upon the structure of the industrial corporation. Diversification proved a powerful force for decentralization. But let us stop here and leave the changes in structure for the afternoon paper [presented by Mr. S. L. Kopald, Executive Vice-President, Humko].