Consumers, Information, and Marketing Efficiency at GM, 1921-1940

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It is common knowledge that by 1940 General Motors served as an outstanding example of an efficient, large-scale enterprise. We know much about GM thanks to Alfred D. Chandler, Jr.'s influential work, along with that of David Hounshell, Richard Tedlow, Daniel Raff, and others [7, 8, 9, 13, 26, 27, 28, 37, 43]. They addressed the role of mass production and industrial research, GM's marketing network, and Alfred P. Sloan, Jr.'s remarkable organizational innovations. Yet they did not examine the firm's ties to consumers, except for Chandler's analysis of the steps GM took to adjust output to fluctuations in demand. Nor was it their intent. Other scholars have studied consumers, notably the content of marketing. But I want to relate consumers to business historians' traditional focus: the firm's efficient operations. I have asked: what did GM managers want to know about consumers? How did this information relate to their drive for efficiency?

I see this as an intellectual problem; namely, how managers thought about efficiency in marketing. I identify two concerns: first, the "optimal" distribution of dealers within individual markets; second, the effect of consumer patterns for car sales. GM managers were in the process of discovering the dimensions of marketing during the 1920s and 1930s; as they focused on problems of efficiency, I argue, they faced questions about consumers [9, pp. 525-6]. What was consumer "purchasing power" and thus the potential to sell cars in any given territory? How did consumer loyalty to a manufacturer affect new car sales? What were buyers' apprehensions about new features? Could they stall sales?

Given these sorts of questions, officials gathered information about and from consumers. This should not surprise us. Alfred Sloan and Donaldson Brown, an architect of organizational changes, collected data in order to control operations [8]. Sloan had shown his interest in consumers with his early visits to dealers [41, p. 282-3]. The firm investigated many topics. GMAC related buyers' incomes to cars' prices [50]. The Art and Colour Section tracked the popularity of colors across regions of the U.S. [1; 24, 6/7/27]. During the 1920s, the Sales Section studied how consumer loyalty, consumers' preferences, and dealers' service affected sales. And after 1932, Henry G. Weaver ran a new unit, the Customer Research Staff, which administered many past studies and started new ones.

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In this paper, I propose that management used information about consumers in its efforts to market automobiles efficiently. Because market research has received little scholarly attention, I first examine Weaver's role at GM, and then examine examples of consumer research. I do not have the evidence to make a rigid case, even if that were my intent, which it is not. Rather, I seek to illustrate how management's perceptions of consumers affected the kind of data they gathered and the actions they took.

Henry G. Weaver and the Study of Market Research

After earning a B.S. degree from Georgia Tech in 1911, Henry Weaver began working in Detroit. In 1918 he took a post at Hyatt Roller Bearing Co., and in 1921, he shifted to GM [44, pp. 69-70; 47, p. 115]. Soon thereafter, he assisted leading officials. At least by 1923, he worked in the Advisory Staff. He served on a committee investigating dealers' service, and as Secretary of the Institutional Advertising Committee. Both committees included Sloan [20; 32]. By 1924, he was the assistant secretary to the General Sales Committee, which was directed by Donaldson Brown and attended by important managers [9, pp. 564-5]. By 1926 he had become the "Assistant to the Director of the Sales Section," the unit in the Advisory Staff that studied general issues about sales, service, and advertising [33, p. 528]. By 1933, he ran the new Customer Research Staff, which claimed a spot parallel to the Sales Section on Sloan's organizational chart [41, pp. 189-90; 44, p. 66; 19].

During these years, GM was not alone in studying consumers. Aside from companies, advertising agencies, publishers, business schools, government agencies, and private consultants investigated consumers [4, p. 7; 12; 2; 5]. For the years 1935-39, N. H. Engle located 600 market research studies; and this figure, he said, underestimated the count because company research was proprietary [15]. There are few accounts of market research, except for Jean Converse's book and the promising work of Harwell Wells and Jonathan Silva [12, 55, 39]. My interest here is to call attention to the uncertainty inherent in market research. This uncertainty makes it easy in hindsight to fault the studies. Yet, I argue, the studies reflected the unpredictable conditions under which firms marketed their goods, including questions about the "buying public."

For Weaver, one uncertainty turned on whether Americans would answer GM surveys [4, pp. 218-221; 12, p. 99; 27; 31]. To convince them to do so, he engaged in public relations. Roland Marchand has detailed this PR work, arguing that as Weaver asked individuals to "participate" in filling out surveys, he cultivated a belief that GM "served" Americans [31]. Weaver no doubt flattered readers, yet it seems unlikely that he twisted questions. When asking a pointed, but open-ended question as to what design was most "radical" or "conservative" he could no more cause readers to say Chrysler than GM [14, 27]. And despite his intent, it is unclear what effect the surveys had on car buyers, who received perhaps a few inquiries.

Weaver developed his work in the 1930s when GM undertook many PR activities [3]. By 1933 he had been investigating consumers for some ten years and dealing with top officials. In 1939, when Public Relations paid part of his budget, his unit came not under Public Relations but under the Distribution division of the Operating Staff [19; 41, pp. 189-90]. At that date, the press placed his budget at $300,000-$500,000, which may have been the largest corporate research operation [19, 44]. In addition, GM managers showed their interest in market studies by using outside firms for special projects, including Houser and Associates in 1932 and the Psychological Corporation in 1938 [3, 31, 11].

Like other firms, GM had a vested interest in using survey research to help inform marketing. Weaver said as much when in 1923 he asked GM editors to read "The Producer Goes Exploring to Find the Consumer" (in the *Saturday Evening Post*) because the article stressed the value for marketing in "having a definite knowledge of the actual consumer" [54]. One 1933 report said a survey had been "propaganda" in that it hoped to foster "interest in new model announcements." But this survey repeated – and its findings were "in close harmony" with – earlier studies. The report added that the findings "should prove valuable in laying the ground work for 1935 products" [6]. In 1936, Sloan tied consumer research to decisions about two major items, the V-8 engine and independent front suspension [42].

In conducting his work, Weaver nevertheless faced doubts. This is not surprising. Managers are routinely criticized, and officials competing for authority are likely to fault their rivals. Weaver himself may have faced rivals, and his personality did not help matters. He was reputed to be a "jittery" chain-smoker who wrote odd "think" pieces [44, p. 70]. His boss, Richard Grant, the Vice President of Sales, called him a "dreamer" [25, p. 4]. Even without these remarks, doubts about survey research should not surprise us. Weaver by definition dealt with uncertain issues.

He labeled this uncertainty "the boundary lines of public acceptance." One report stated that styling could not be reduced to "scientific analysis." Even if customers had "very definite likes and dislikes," they also had "difficulty in expressing them analytically." Similar problems plagued studies about advertising [36, 46]. Finally, Weaver understood that his findings had to be coordinated with engineers' own demands [51, p. 151].

Had these objections ruled out consumer research, Weaver would have had no reason to care about survey techniques, but he did [56, p. 48; 52]. In 1933, he noted that he had studied research techniques for several years, and in published articles he said that he controlled for such factors as the "make of car owned, year model, body style, territorial location" and took large samples from license registration records [51, p. 150]. To cope with the uncertainty of consumer information, Weaver looked for large, not small, differences among groups of buyers. He compared those who owned or did not own GM vehicles, and those who had used or had not used a new feature. In addition, he gathered data about consumers' "buying power," including population size, the number of retail firms, and the value of manufactured goods [49]. Weaver took his work seriously enough that Jean Converse cited his contribution to the field's development in her 1987 book about survey research [12, pp. 91, 99, 106, 444 n. 29, 447-448 n. 71].

Even if Weaver had confidence in his findings, we may not. That he created new techniques in the 1920s does not mean his work would meet today's standards. Moreover, his questions reflected officials' perceptions of marketing, and those perceptions of course changed over time. But to say the studies are inaccurate is to miss the point. Rather, we can ask: how did managers at the time view consumer studies? Grant, in his brief remark, called Weaver a "dreamer," but added he had "good," "honest figures" [25, p. 4]. Sloan also cited the value of consumer research [42, no. 64; 34], but he did not equate the use of surveys with knowing car buyers' actions. He wrote in 1934: "No prospect" can "definitely determine...all the elements" in a car's purchase [41, p. 180]. Some questions were worth investigating, others not [47]. Given these qualifiers, how did managers perceive the studies?

In his autobiography, Sloan cited two types of market research. The first dealt with the distribution of dealers in varied regions, the second with consumers' patterns in buying cars [41, pp. 134, 136-7, 180, 240-1, 284-5]. Below I assess each case. In doing so, I face a constraint: then as now, consumer research is proprietary. It is hard to locate survey studies, and harder still to determine how management employed them. As such, I do not argue that Weaver was always consulted. Rather I illustrate a way of thinking in which managers tied efficiency in marketing to studies of consumers.

Determining the "Appropriate" Number of Dealers

Of the two sets of marketing problems, one concerned dealers. GM's relationship with its dealers was not automatically efficient, for although GM sold cars on a national scale, dealers operated in hundreds of communities. Management first had to consider how many dealers were needed for any one territory; and second how to assess each dealer's performance relative to the potential to sell cars in that territory. Both problems prompted the question: what was a region's "potential?" What was consumers' ability to buy cars?

Henry Ford avoided this question because he relied on competition. He assumed, as Thomas Dicke writes, "that more dealers automatically meant more sales" [13, p. 76]. But competition among dealers had its downside: inventories readily accumulated at weak dealerships. The weak dealers undercut what once had been healthy dealers [43; 13, pp. 75-6; 18]. Because Ford "packed dealers" into markets, both Donaldson Brown and Richard Grant charged him with undercutting his own organization [18; 21, p. 57; 25, p. 3].

When Ford finally modified his competitive approach in 1938, GM had already reduced competition some in favor of bureaucratic control [13, p. 76]. Based on studies of dealer service in 1922, senior managers determined to "educate" their retailers [11]. Instructions for organizing dealerships were backed with regular supervision; and by 1927, Donaldson Brown established an accounting system for each division to assess each phase of a dealer's business (new sales, used sales, parts, service). Since each division's system was uniform and universal, the data facilitated comparisons among dealers throughout the nation [41, p. 287; 45; 9, p. 553].

These policies were no doubt important. They spotted dealers with low profits. But low profits were not a sure sign of mismanagement; a second possibility was that the poor sales or high inventories derived from the local market's own limited buying "potential." This required knowing this "potential." Brown, in a 1957 interview, singled out the importance of the "analysis of market potential" in order to avoid having "too many" dealers in any "given area" [21]. With a knowledge of the market's "potential," Sloan wrote that GM could have the "appropriate number of dealers...in the appropriate location" [41, p. 284; also see 23, 7/29/25].

To estimate the market's "potential," Weaver created a so-called "Purchasing Power Index" for each county in the United States using four types of data: the value of farm goods and manufactured products, the number of retail outlets, population size, and income tax returns. No variable alone could offer a good estimate of consumers' "purchasing power." For example, a county's population offered a rough guide to the market's size. But by itself, Weaver wrote, it gave "too high an estimate for territories where there are a lot of people receiving low incomes, and too low an estimate for territories in which the people receive high incomes" [48, p. 282]. To determine the weights to assign each variable, Weaver compared states since he had obtained estimates for each state's per capita income from the National Bureau of Economic Research. Based on these comparisons, he created a few categories, such as urban or southern areas. He then assigned different weights to the variables and calculated each county's "per capita purchasing power." For Alabama, this index ranged from $156 to $618. For counties with large cities, it varied from $601 to $1,107 [48, pp. 287-8].

In 1925, the Harvard Business School awarded Weaver a prestigious advertising prize. His index was praised as "more reliable and convenient to use than any purchasing-power indices theretofore available" [16]. Still, Weaver recognized its limits. In some cases, a simpler index sufficed. "Income-tax returns over $5,000," he said, gauged "the market for high-priced motor-cars" [48, p. 275]. GM, however, sold to individuals with much lower incomes. Weaver also cautioned that consumers' buying power varied from year to year, while his index could not be adjusted quickly. In this regard, he wrote that "if we can establish...the relative normal purchasing power of each county, such data would provide a basis upon which to interpret current business reports" [48, p. 276].

As Weaver's index gained use, summary notes of a 1926 meeting of the General Sales Committee indicate that officials were extending and refining the analysis of "market potential." Along with measures of income, they included consumers' "cost of living" and regional differences. For Kansas, they were summarized as seeing a "real need for cars and ease of use," whereas New York's "congestion" reduced sales [23, 1/29/26]. Managers also refined the scale of markets, for which efforts to measure markets during the 1920s had extended to smaller areas. For cities, Sloan wrote, managers "were able to place dealers through the territory largely on the basis of neighborhood potential" [41, pp. 284-5].

The analysis of market potential found other uses in addition to the basic problem of determining the "appropriate" number of dealers in a territory. One was sales quotas [56, pp. 92, 165]. As Weaver wrote in 1926, the index could be "used as a foundation upon which to build sales quotas" for autos and other goods, rather than relying on "arbitrary opinion" [48, pp. 275-6]. Having set the quotas, management could compare a dealer's actual and expected sales. What applied to sales also applied to related activities, including advertising. A book about the Harvard prizes praised his index for having "provided a basic method adaptable to use in territorial distribution of advertising..." [16].

In its drive to be efficient by controlling its dealers, GM managers addressed other topics, including dealers' service and the used car problem [11]. For this essay, I have focused on sales – that is, determining the optimal number of dealers for individual markets. GM had rejected Ford's strict reliance on competition among dealers and opted for a measure of bureaucratic control. This decision, in turn, created a demand to measure the market's potential – that is, consumers' ability to buy cars. Weaver and other officials supplied estimates. By using the data, managers predicated their approach to an "efficient" method to market cars on their assumption of what had conditioned consumers' "purchasing power." Further, their way of thinking about efficiency and profitability was tied to the question of control. Information about consumers was used to supervise dealers. Fewer GM dealers operated in a given area than perhaps had existed under a simple, competitive approach; but those dealers, officials reasoned, would be in a healthier position to negotiate with the buying public.

Patterns of Consumer Behavior

As GM managers worked to distribute dealers efficiently, they also studied issues pertaining to the general problem of marketing automobiles. Their questions could never be fully answered. For instance, to use advertising dollars efficiently, the firm presumably wanted to place its advertisements in "choice" magazines; but which ones were they? And more to the point: in what magazines did car buyers read the advertisements? Put in general terms, did consumers follow certain patterns that GM could exploit, thereby boosting the number of sales per dealer? Consumer research served this purpose. Below I offer three examples. The first case concerns the matter of consumer "loyalty"; the second, advertising; the third, the introduction of new features on GM vehicles.

My first example is one Roland Marchand noted in his article. In May 1926, members of the General Sales Committee discussed the results of a survey; it had indicated that fewer Ford owners expected to replace old Fords with new ones, and these buyers could be "prime candidates" for Chevrolet. Based on the survey's results, officials considered sending a booklet about Chevrolet to Ford owners [31]. I want to add two points to Marchand's analysis. First, the study tried to identify patterns of behavior among consumers. Car owners, as Marchand notes, were reported to keep their existing car roughly 2.5 years before buying a new one. This was not as surprising as the next observation: "About 90% of the prople [sic] who turned in their questionnaire" were said to have decided "what car they will buy." The main factor affecting "this prejudice," as the report was summarized, was "present ownership." Such loyalty could not be underestimated. 84% of Buick owners surveyed planned to buy another Buick. Their good will was "so large that every possible step should be taken toward...enhancing it." By contrast, just 34 percent of owners of Essex and Olds said they would buy the same make [23, 5/18/26]. Ford owners' loyalty was also slipping; GM hoped to capitalize on this trend [31]. This brings me to my second point. Management at the highest levels acted on the survey's results. On June 23, the Executive Committee discussed the direct mailing to Ford owners, placing its cost at $75,000; and by the end of August, they had agreed to mail the booklets [22; 24, 8/18/26].

Aside from mailing consumers literature, GM spent large sums for advertising. As such, officials asked: in what media would they reach car buyers of each price class; and thus, how should they allocate advertising dollars among magazines? Answering these questions depended on knowing what consumers read, and GM began asking car buyers as early as 1921 [29]. One report survives from 1928. Owners of new Chevrolets, Buicks, and Cadillacs graded 44 journals, saying whether they read each magazine "thoroughly," and "read the advertisements." GM researchers then created an index based on the cost of running an advertisement in each journal [38, p. 13-16]. For $1 in advertising, for example, *Saturday Evening Post* reached 0.0081 percent of customers in the medium price class. The *Post's* index rating was 9 percent above the group average, or 109 [38, pp. 17-18]. For readers who owned low-price cars, the *Post*'s circulation index was 104; its "reading economy" index came to 268; and its "advertising economy" index topped 500 [38, p. 21].

There is no evidence of whether GM managers used this survey. The accuracy of an index of how carefully Americans read advertisements strikes me as far-fetched at best. What is compelling, I think, is that GM faced the uncertain task of selecting media to run advertisements, and that officials wanted to develop methods to choose among those magazines. Further, Weaver had thought what car buyers read varied by their incomes, and tried to identify reading patterns by buyers' income levels.

A third area of research concerned new features. Researchers asked different questions: How serious were the threats posed by competitors' products, such as Ford's V-8 engine? If a new product raised the cost of production, would enough consumers pay more for the feature? Weaver had asked this question with regard to automatic transmission, or what GM called the "Hydra-Matic Drive." He also asked what sorts of objections by consumers reduced sales. Here I address one item: independent front suspension (IFS), or "knee action" suspension.

At a GM conference in White Sulphur Springs in 1936, Sloan was asked: was IFS suited to the "average purchaser in the Low Price Field?" He based his case on Weaver's findings. "Consumer research statistics demonstrate clearly a definite appreciation on the part of the users of knee action wheels, as measured by the very large percentage of those users who will demand that feature in their next motor car purchase." But he cautioned, "Consumer Research shows that those who have not experienced the advantages of knee action do not rate it very highly...," a problem he credited to "lack of direct experience" and competitors' attacks [42, no. 39].

Having singled out this difference among buyers, the Customer Research Staff wrote "The Story of Knee Action." A "million motorists," the pamphlet said, had been "invited" to assess the innovation – the sort of PR flattery that Marchand has detailed [17]. Still, Weaver had studied consumers' objections in 1934, and used his surveys to prepare the booklet [53]. It posed and answered 24 questions in order to anticipate and cut off complaints from those who had "any doubt" about IFS – a figure, the booklet claimed, that was less than a fifth of motorists [17].

In none of these cases was the question of "efficiency" obvious. For advertising, Weaver tried to determine where GM could get the largest readership for the dollars spent. In the case of Hydra-Matic Drive, he wanted a sense that enough consumers would pay the added price so as to justify its added cost to production. For IFS, he tried to anticipate complaints which might stall car sales. And by spending $75,000 to send booklets to Ford owners in 1926, top executives accepted the study's findings about when people bought new cars and the importance of consumer loyalty. As managers used the surveys to make decisions about efficiency in marketing, they predicated their ideas of efficiency on perceptions of car buyers.

"Efficiency" in Marketing

These cases about GM's consumer research illustrate how managers used information about consumers in thinking about efficiency in marketing. Other firms shared GM's interests. Regarding the allocation of dealers, Lyndon Brown instructed in his textbook that to determine "the efficiency of sales and advertising" it was not enough to track sales; managers needed to know the "penetration ratio," meaning the ratio of an area's actual to its potential sales [4, pp. 411, 412]. This in turn required a measure of the market's potential, such as Weaver's index. In his textbook, Percival White detailed Weaver's index; other indices were also outlined in textbooks, including those by the advertising agency, Batten, Barton, Durstine and Osborn, and the publishers, Curtis and Crowell [56, p. 92-118; 4, pp. 421-38; 5].

As to the other side of Weaver's work – identifying patterns of consumer behavior – many firms engaged in this effort. My co-panelists, Edwin Perkins and

Jonathan Silva, provide two detailed examples in which managers' perceptions of consumers affected their strategies for efficiency and profitability [35, 40]. In his 1927 textbook, the Harvard professor Neil Borden included varied case studies, often from the Harvard Business School's Bureau of Business Research; many illustrated how managers tied decisions about marketing to their interpretations of consumers [2]. GM, then, was not alone in collecting data, and not atypical in trying to allocate dealers and to identify patterns of consumer behavior.

Conclusion

My analysis of market research fits our understanding of General Motors. Looking in particular at the distribution of dealers, I have told a story of efficiency born of bureaucratic control. What is "new" in my account is consumer research. I argue that GM managers employed data about consumers in order to determine the "appropriate" number of dealers in a market and to help assess the dealers' performance. This focus on consumer research leads me to two parting comments – comments not so unexpected, I suspect, but not always explicit in the study of the firm and the consumer.

With respect to consumers, scholars working on the twentieth century typically have focused on the messages corporations directed at consumers. Yet, no matter how much firms wanted to manipulate consumers, they did not automatically achieve this outcome. To say the obvious: firms deal with uncertain futures, and this uncertainty includes consumers. Looking at another consumer product, the modern telephone, I have found that consumers created serious, unexpected problems for Bell Labs in terms of the phone's engineering and aesthetic design [10]. GM developed and marketed cars, and its managers tried to gauge consumers' actions [11]. As such, Weaver owed his job to GM's uncertainties about the "buying public."

With respect to the firm, Sloan demanded efficiency, as he defined it, in marketing as in internal operations. Managers worked to identify different dimensions of marketing in the 1920s and 1930s. Consumer research acted as a technical tool, quantifying information about consumers. Yet, as they conducted this work, GM researchers also investigated social patterns – how often Americans replaced their cars, what magazines they read, how buyers who used or had not used new features felt about them. In this sense, GM's management shaped technical measures in relation to their perceptions of Americans as consumers.

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