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# Illustrative Company and Product: Ford Motor Company and the Mustang

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THIRD LAB REPORT

SALES FORECASTING

Illustrative Company and Product:  
Ford Motor Company and The Mustang.

submitted by:

John Glenn Hughes, Jr.

May 8, 1964

Marketing 214

2:00 section



# FORD

DIVISION

*Ford Motor Company*

ROTUNDA DRIVE AT SOUTHFIELD ROAD  
P. O. BOX 627  
DEARBORN, MICHIGAN

L. A. IACOCCA  
VICE PRESIDENT AND  
GENERAL MANAGER

May 1, 1964

Mr. John Glenn Hughes, Jr.  
1148 North Tacoma Street  
Allentown, Pennsylvania

Dear Mr. Hughes:

Thank you for the recent letter with your kind comments about myself and our new Mustang.

As you correctly surmised, a great deal of the information you requested is confidential. Enclosed, however, are copies of several speeches -- some of them by myself and some by other division executives -- that will answer most of the questions you posed.

Good luck on your paper, and thank you again for writing.

Sincerely yours,



LAI:JO  
Enclosures

Not only interesting,  
but comprehensive.  
Excellent work!

A



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## Introduction

The purpose of this lab report is to discuss the sales forecasting procedures presented in certain publications, and compare or relate these techniques to those used by a specific company.

The August, 1960 issue of The Journal of Accountancy is the source of initial discussion. In an article entitled "Sales Forecasting", the author, Lewis A. G. Martorano, presents a comprehensive outline of factors which may be used in preparing a sales forecast. The list of factors is quite inclusive, which means that appropriate items may be selected to fit any particular case.

The second section combines material from two sources and is devoted to the automobile industry. The first portion of this section summarizes Peter E. De Janosi's article "Factors Influencing the Demand for Automobiles", which is found in The Journal of Marketing (April, 1959). This article analyzes the family characteristics related to the purchase of a new car. These characteristics are weighed by the sales forecaster when deriving his estimated sales figure. The idea of market surveys is continued in the second portion of this section, where a summary of market surveys used by the Ford Motor Company is presented. The source of this information is a case study found in Kenneth R. Davis' book, Marketing Management.

The third section of the report selects as its illustrative



company and product the Ford Motor Company and its new "baby", the Mustang. The Mustang is first briefly described to give the reader a basic knowledge of the product. The general techniques and factors considered in forecasting sales for the brand new Mustang are then discussed. The sales forecasting information is naturally not detailed, since such material is classified. The reader must keep in mind the complexity and difficulties encountered in dealing with a new product. New product marketing is a rather unscientific activity. It often operates on the basis of executive intuition, or relies on checklist approach in many cases.

The reader should recognize the progression of this report- from the sales forecasting techniques applicable to almost any firm, to those procedures used by forecastors of new automobiles sales, and finally to the sales forecasting procedures used to estimate sales for a particular new automobile - the Mustang.



Summary I - "Sales Forecasting"  
by Lewis A. G. Martorano  
The Journal of Accountancy, August, 1960

Never before has forecasting played such an important role in business activity. Business decisions and plans are predicted on assumptions regarding the future, and management realizes more and more the need to reduce the element of guessing.

In today's business world, even the small businessman finds it necessary to forecast probable business patterns. "The forecasting techniques that he requires, though less sophisticated, are nevertheless the same in principle as those applicable to medium and large companies."<sup>1</sup>

Obviously precise forecasting will probably always be beyond the ability of man. Unforeseen exogenous forces continually disrupt the expected. Uncertainty and world affairs will always remain synonymous. The uncertainty, however, can be reduced by effective techniques of forecasting.

The sales forecast, when compared to a general business forecast, is much narrower in scope. It is usually confined to sales expectations of an individual company or organization. The prime use of a sales forecast is to guide management in planning future sales activities and in evaluating actual sales when they are achieved. "Sales forecasts are used in the following areas: Budgeting, sales and advertising plans, production planning and inventory control, capital expenditures planning, organization planning, and market development".<sup>2</sup>

The author divides the general sources of information for the preparation of sales forecasts into two groups - internal and external. Martorano lists the following as examples of internal sources:

- Accounting and cost department data
- Sales department statistics
- Market surveys made by the company
- Personnel of the organization (From top management down to field salesman)<sup>3</sup>

He further presents examples of external sources:

- Outside economists and services, such as:
  - National Bureau of Economics Research, Inc.
  - Committee for Economic Development
  - U.S. Economics Corporation.
  - Janeway Service
  - Kiplinger Letter
  - F. W. Dodge Corporation
  - Econometric Institute, Inc.

Industry Publications:

- Trade association publication and journals
- Trade association market surveys

Government and private publications; examples of some of the more important publications are:

- Economic Indicators, U.S. Government Printing Office

- Monthly Labor Review, Bureau of Labor Statistics

- Survey of Current Business, Bureau of Foreign & Domestic Commerce

- Federal Reserve Bulletins, U.S. Board of Governors of the F.R. System

- Weekly Desk Sheet of Business Indicators, National Industrial Conference Board, Inc.

- Monthly Retail Trade Reports, Bureau of Census

- Annual Survey of Manufactures, Bureau of Census

- Wall Street Journal

- Business Week

- Nation's Business<sup>4</sup>

The author next presents the three main phases of sales forecasting - consideration of general economic factors, consideration of trend in specific industry, and development of the company's forecast - and he discusses each phase.

With regard to general economic factors, there are two



sources from which management can get an indication of the broad business outlook. These are opinions and projections prepared by outside economists or firms, and opinions and projections prepared by the company itself. The factors usually considered when viewing the broad business outlook are:

- Gross National Product items
- Various production series (Steel, auto, etc.)
- Capital expenditure data
- Prices
- Employment and Wages
- Financial Series
- Leading, Coinciding and Lagging series<sup>5</sup>

Eight leading indicators (which tend to lead fluctuations in the general economic activity by three to nine months) are pointed out by the National Bureau of Economic Research, Inc. These indicators are:

1. New orders, durable goods industries
2. Average hours worked per week in manufacturing
3. Residential building contracts (Floor space)
4. Commercial and industrial building contracts.
5. Business failures
6. New incorporations
7. Spot market price index for basic commodities
8. Industrial common stock price index<sup>6</sup>

Consideration of the trend in the specific industry is the second major phase the forecaster must consider:

- The general economic outlook
- Historical trends
- Projections made by trade associations
- Marketing surveys conducted by trade associations
- Productive capacity of the industry
- Price trends for industry products
- General demand for industry products



Labor relations including status of union agreements as they affect a specific industry.

Correlations with other factors as indicators  
Recurring cycles and stage of cycle.<sup>7</sup>

The company next prepares a projection of its own sales against the backdrop of the general business outlook and industry picture, predicting what share of the market it will get.

The elements of the company's forecasting procedure are quite similar to those considered for the industry forecast. The company, however, goes one step beyond and produces a detailed product sales forecast by models, types and units. Some of the common techniques used by a company are:

1. Establishment of relationships to the industry forecast level based on what share of the market the company expects to get.
2. Use of sales organization estimates
3. Consideration of company sales volumes trends.
4. Use of market surveys
5. Consideration of new product plans
6. Consideration of competitors' activities
7. Consideration of productive capacity
8. Consideration of sales promotion plans<sup>8</sup>

The most important factor influencing the final sales forecast of a company is the judgement of management as to what it feels its company's market potential will be.

Summary II Combination of Two Articles

- a) "Factors Influencing the Demand for New Automobiles"  
by Peter E. De Janosa, The Journal of Marketing, April, 1959
- b) "Case 3-6 Ford Motor Company" by Kenneth R. Davis  
Marketing Management, Ronald Press Co., N.Y., 1961

We see that the preceding article is quite comprehensive and applicable in a general way to sales forecasting in any industry. We now turn our attention to one particular industry - the automobile industry.

The sales forcaster, in predicting the sales volume of a new automobile, must naturally consider the general economic factors, as illustrated in the first section of the report. Likewise, consideration of the trends of the entire automobile industry is essential. Finally, he must prepare a projection of his individual company's sales against the backdrop of the general economy and the automobile industry's picture. A common and important technique used in forecasting detailed product sales is the use of market surveys. Market surveys provide strategic information about the characteristics of prospective buyers of new automobiles.

The following summary illustrates an analysis of eight particular variables influencing the demand for new automobiles. This study shows what family characteristics are related to the purchase of a new car, and it shows the statistical techniques utilized in testing simultaneously the relationship of these factors to new car purchases.

In a market survey, it is not enough to just ask the inter-

viewed person about his new car purchase plans. Other variable factors must be considered - the selection of which is somewhat difficult.

To begin, a person desiring a new car must be able to pay for it, or obtain credit. Personal income is probably the most important measure of this ability to pay, although other measures do exist. For example a family might have a low personal income, but still possess large liquid assets. A family already owning a car might more feasibly buy a new car than a family with no car because by selling or trading this car, the actual financial outlay will be smaller.

Ability to pay for a new car is important, however, a family's willingness to buy is just as important. This willingness is reflected by several factors, one of which might be the family's perception of their own financial situation. This factor includes the subjective feelings of the family, as well as its expectations concerning future needs, expenses, and incomes. The family's attitudes and expectations about the economy as a whole are somewhat related to its feelings of financial security.

Opinions about the automobile market such as fluctuations in car prices and styling, and general appearance of automobiles also influence willingness to buy.

Another influencing factor is satisfaction with the present car owned. It stands to reason that dissatisfaction with appearance or performance of the present car would increase the family's willingness to purchase a new car.



The data used in this analysis were gathered by the Survey Research Center of the University of Michigan. "The Survey is based on a cross-section of spending units. A spending unit is defined as a group of individuals related by blood, marriage, or adoption, sharing a dwelling unit & pooling their incomes."<sup>9</sup>

Eight variables, reflecting the spending units ability as well as willingness to purchase a new automobile, were used.

The variables used were:

1. Disposable income
2. Car ownership status
3. Financial well-being
4. New-car purchase plans
5. Actual and expected earning rates
6. Age of the head of the spending unit
7. Marital status of the spending unit
8. Size of the community.

Disposable income, which excluded tax payments, is a better measure of available income than total personal income. Disposable income and frequency of new-car purchase is positively related, as shown in table 1 (Part A).

Whether the spending unit owns a car or not, and also whether the car owned is fairly new, will affect the net outlay necessary for the purchase of a new car. The spending units were, therefore, divided into three groups, as shown in Table 1 (Part A). This table indicates that individuals in the lower income brackets first tend to enter the used car market, and only later upgrade to the new car market. The table does not, however, support such a tendency for the upper-income brackets.

Table on Following Page

TABLE 1<sup>a</sup>  
 PROPORTION OF SPENDING UNITS THAT BOUGHT A NEW CAR DURING 1952  
 WITHIN DISPOSABLE INCOME

1951 Spending Unit Disposable Income	(A) AND CAR OWNERSHIP STATUS GROUPS				(B) AND ECONOMIC WELL-BEING GROUPS		
	All spending units	Spending Units That:			Financially Better or Worse Off		
		Own a car bought new <sup>b</sup>	Own a car bought used (Recent models) <sup>c</sup>	Own an old used car or do not own a car <sup>d</sup>	Better off	Same	Worse off
Under \$3,000	.02 (332)	.09 ( 43)	.05 (21)	.01 (268)	.05 ( 94)	.01 (112)	.02 (126)
\$3,000-3,999	.06 (159)	.16 ( 43)	.04 (24)	.01 ( 92)	.10 ( 48)	.03 ( 66)	.04 ( 45)
\$4,000-4,999	.09 (134)	.18 ( 51)	.14 (14)	.01 ( 69)	.16 ( 55)	.05 ( 38)	.02 ( 41)
\$5,000-5,999	.14 ( 72)	.14 ( 36)	.12 (16)	.15 ( 20)	.15 ( 27)	.13 ( 23)	.14 ( 22)
\$6,000-7,499	.18 ( 50)	.12 ( 33)	.30 (10)	.28 ( 7)	.17 ( 23)	.18 ( 17)	.20 ( 10)
\$7,500-9,999	.18 ( 50)	.15 ( 40)	.33 ( 6)	.25 ( 4)	.33 ( 15)	.05 ( 20)	.20 ( 15)
\$10,000 and over	.25 ( 64)	.21 ( 58)	.00 ( 1)	.80 ( 5)	.24 ( 25)	.27 ( 22)	.24 ( 17)
All spending units	.08 (861)	.15 (304)	.12 (92)	.03 (465)	.13 (287)	.06 (298)	.06 (276)

<sup>a</sup> The figures in parentheses are the number of cases in the cells.

<sup>b</sup> Includes spending units that own a car originally bought new, irrespective of when this car was bought.

<sup>c</sup> Includes spending units that own a car originally bought used of 1947, 1948, 1949, 1950, 1951, 1952 vintage.

<sup>d</sup> Includes spending units that own a used car of pre-1947 vintage, and spending units that do not own a car at all.

Variables reflecting the family's willingness to buy a car are next discussed. Financial well-being is one such variable shown in Table 1 (Part B). The table indicates that the measure is not at all objective, but relies on the spending units subjective feelings of its own well-being. In the lower-income brackets (below \$5,000) there seems to be a strong relationship between financial well-being and new-car purchases.

The next variable discussed is new-car purchase plans (the intention to buy a new car during the eleven or twelve months following the interview) A very strong relationship exists between planning to buy a new car and new-car purchases, as



shown in Table 2 (Part A).

Actual and expected earning rates, shown in Table 2 (Part B), is another variable analyzed that reflects the willingness to buy a new automobile. Spending units were categorized into three groupings.

TABLE 2\*  
PROPORTION OF SPENDING UNITS THAT BOUGHT A NEW CAR DURING 1952  
WITHIN DISPOSABLE INCOME

1951 Spending Unit Disposable Income	(A) AND NEW CAR PURCHASE INTENTION GROUPS <i>Car Purchase Intentions</i>		(B) AND PRESENT AND EXPECTED EARNING RATES GROUPS <i>Spending units that:</i>		
	<i>Intend to buy a new car<sup>b</sup></i>	<i>Do not intend to buy a new car</i>	<i>Make more and expect to make more money</i>	<i>No change or mixed movements in earning rates<sup>c</sup></i>	<i>Make less and expect to make less money<sup>d</sup></i>
Under \$3,000	.38 ( 8)	.02 (324)	.04 ( 56)	.03 (228)	.00 ( 48)
\$3,000-3,999	.36 (11)	.03 (148)	.04 ( 49)	.04 ( 96)	.21 ( 14)
\$4,000-4,999	.50 (14)	.04 (120)	.08 ( 50)	.10 ( 72)	.08 ( 12)
\$5,000-5,999	.50 ( 6)	.11 ( 66)	.11 ( 18)	.14 ( 44)	.20 ( 10)
\$6,000-7,499	.50 ( 8)	.12 ( 42)	.36 ( 14)	.12 ( 32)	.00 ( 4)
\$7,500-9,999	.67 ( 9)	.07 ( 41)	.17 ( 12)	.16 ( 32)	.33 ( 6)
\$10,000 and over	.50 (14)	.18 ( 50)	.31 ( 13)	.19 ( 43)	.50 ( 8)
All spending units	.49 (70)	.05 (791)	.10 (212)	.07 (547)	.12 (102)

\* The figures in parentheses are the number of cases in the cells.  
<sup>b</sup> Even though a spending unit may intend to buy two new cars, it is included only once.  
<sup>c</sup> Includes spending units that have an unchanged present earning rate and expect the same, as well as units that have different present earnings rates compared to those expected. (See footnote d for exceptions.)  
<sup>d</sup> Includes spending units that make less and expect to make less money, as well as those that (1) make less and expect no change; and (2) make the same, and expect less.

The remaining three variables - age of the head of the spending units, marital status of the spending unit, and size of the community - are illustrated in Table 3 (Part A, B, & C respectively).

"The size of the community gives some indication of the need for transportation; and age and marital status are 'proxy'



variables which stand for the various stages through which economic behavior passes during the course of the existence of a spending unit".<sup>10</sup>

TABLE 3<sup>a</sup>  
PROPORTION OF SPENDING UNITS THAT BOUGHT A NEW CAR DURING 1952  
WITHIN DISPOSABLE INCOME

1951 Spending Unit Disposable Income	(A) AND AGE GROUPS			(B) AND MARITAL STATUS GROUPS		(C) AND SIZE OF COMMUNITY GROUPS		
	Age of head of spending unit			Marital status		Size of community		
	Under 35	35-54	55 and over	Married	Not married	Central metropolitan area <sup>b</sup>	Block cities <sup>c</sup>	Towns, cities, open areas <sup>d</sup>
Under \$3,000	.03 ( 95)	.04 ( 96)	.01 (141)	.03 (173)	.02 (159)	.02 ( 63)	.03 ( 61)	.02 (208)
\$3,000-3,999	.08 ( 49)	.02 ( 78)	.06 ( 32)	.06 (137)	.00 ( 22)	.06 ( 36)	.00 ( 32)	.08 ( 91)
\$4,000-4,999	.11 ( 37)	.11 ( 72)	.00 ( 25)	.08 (120)	.14 ( 14)	.00 ( 30)	.14 ( 22)	.11 ( 82)
\$5,000-5,999	.16 ( 19)	.15 ( 41)	.08 ( 12)	.15 ( 66)	.00 ( 6)	.06 ( 17)	.08 ( 12)	.19 ( 43)
\$6,000-7,499	.45 ( 11)	.10 ( 31)	.00 ( 8)	.17 ( 46)	.25 ( 4)	.30 ( 10)	.20 ( 10)	.13 ( 30)
\$7,500-9,999	.25 ( 8)	.25 ( 28)	.00 ( 14)	.18 ( 45)	.20 ( 5)	.28 ( 7)	.11 ( 9)	.18 ( 34)
\$10,000 and over	.40 ( 5)	.20 ( 35)	.29 ( 24)	.26 ( 61)	.00 ( 3)	.33 ( 12)	.13 ( 15)	.27 ( 37)
All spending units	.11 (224)	.10 (381)	.04 (256)	.10 (648)	.03 (213)	.07 (175)	.07 (161)	.09 (525)

<sup>a</sup> The figures in parentheses are the number of cases in the cells.  
<sup>b</sup> Includes spending units that live in central metropolitan areas.  
<sup>c</sup> Includes spending units that live in cities over 50,000 but not metropolitan areas.  
<sup>d</sup> Includes spending units that live in cities and towns of less than 50,000; non-farm open country areas; and metropolitan suburban areas.

The individual relationships of each of the eight variables to the frequency of new-car purchases has been discussed. It is necessary now to compute the relationship of all eight variables combined to new-car purchases. To test simultaneously the relationship of these factors to new-car purchases by families the following formula was used:

Formula\* is found on following page





"Variables with sampling errors one-half or more the size of their parameters can be considered statistically insignificant."<sup>11</sup> We see that four of the variables fall into this category - disposable income (DI), age of the head of the spending unit (A), marital status (M), and size of the community (C). The other variables have the expected sign, except for actual and expected earning rates, which is negatively related to new-car purchases.

The correlation coefficient (R) found in equation (2) is quite high. Correlation coefficients for every variable with every other variable appear in Table 4.

"The feasibility of a thorough multivariate analysis has been demonstrated, and also some important knowledge has been gained about the role of certain variables in new-car purchase decisions."<sup>12</sup>

In retrospect, we have discussed sales forecasting procedures applicable to any product, and then attention was given more specifically to the automobile industry. Limiting our scope just a little more, we devote our attention now to small cars. Continuing along with the market survey analysis discussed thus far in this section of the report, we turn to a case study found in Marketing Management by Kenneth R. Davis on the Ford Motor Company. The study is in regard to the Falcon.

"Early in 1959 management of the Ford Motor Company was reviewing its decision to add a small car to their line in the 1960 model year. Foreign small cars had been capturing an

increasing share of the U.S. automobile market, and the big three automobile manufactures (Ford, General Motors, and Chrysler) all had faced this same problem."<sup>13</sup> Aware of the threat posed by small foreign cars, the Ford Motor Company had periodically made studies of the U.S. market. A list of these market studies with a list of their nature follows:

- July, 1954: An Assessment of the American Market for a smaller Ford-built car. Personal interviews were held with 2,400 households selected on a national probability basis to determine interest in a smaller car package offering gasoline economy.
- May, 1956 Volkswagen Owner - Attitude Survey. Telephone interviews were conducted with 500 Volkswagen owners in 10 states to determine owners' characteristics and reasons for not buying an Anglia.
- July, 1957 A Reassessment of the American Market for a Ford-built Economy Car. Personal interviews were held with 2,000 households selected on a national probability basis to determine interest in selected economy car packages.
- August, 1957 A Survey of Recent (1957) Buyers of Foreign Economy Cars. Telephone interviews were conducted with 461 foreign-car buyers in 10 principle cities to determine motivation for purchase and type and make of car previously owned.
- August, 1957 Rambler and Scotsman Buyers. Telephone interviews were conducted with 200 Scotsman owners and 250 Rambler owners to determine purchase motivation of these buyers.
- Oct., 1957 Foreign-Car Price and Delivery Time Study. Shopper visits to 93 foreign car dealers in 6 principle cities were made to determine pricing practices and time required for delivery.



- Nov., 1957 A Survey of 1955 Buyers of Foreign Economy Cars. Telephone interviews were conducted with 578 foreign-car buyers in Los Angeles, San Francisco, and New York City, to determine the degree to which 1955 buyers had gotten rid of their car and replaced it with one of the same made.
- Dec., 1957 Small Car Test Drive Study. To determine basic preference for package size at stated price differentials, 336 U.S. car owners and 134 foreign car owners in Los Angeles, New York City, and Chicago road tested 1,600 and 2,200 pound models of foreign economy cars.
- Dec., 1957 Small Car Feature Rating Study. Personal interviews were held with 1,000 car owning households selected on a national probability basis to determine preference difference between 1,700 and 2,200 pound economy cars and the importance of various features that could be incorporated in such packages.
- Jan., 1958 Consumer Preference Between Anglia and Taunus. Interviews were held with 108 potential economy car buyers at the Chicago Auto Show to determine preference between the Anglia and Taunus at a price of \$250.
- Feb., 1958 Cost-Awareness Study. Personal interviews were conducted with 765 car owners in Chicago and Los Angeles in which some respondents road tested foreign economy cars and were educated on the actual cost saving connected with their ownership to see if such knowledge would change their attitude toward buying an economy car.
- March, 1958 Four-, Five-, and Six- Passenger Economy Car Study. Personal interviews were conducted with 900 households selected on a national probability basis to determine comparative preference between a four-, five-, and six- passenger economy car at stated price differentials.
- Dec., 1958 Resurvey of Economy-Car Market.

Jan., 1959    A national sample of 1800 persons  
                 were interviewed, plus a sample of  
                 4-cylinder European car owners.<sup>14</sup>

These market research projects were used to determine the demand for Ford's prospective product. Similarly, once the product is made, the results of these and other market surveys can be used to forecast sales of the product.



## ILLUSTRATIVE COMPANY AND PRODUCT - FORD MOTOR COMPANY AND THE MUSTANG

This section is based primarily on information acquired from Mr. Lee A. Iacocca. This source material is enclosed at the end of the report.

The stage is almost set for discussion of the sales forecasting procedures used by the Ford Motor Company in determining an expected sales figure for its exciting new product--The Mustang. We have narrowed our scope from forecasting sales for any product to preparing a sales forecast for one specific product. Before we even begin to analyze Ford's forecasting procedures, it is necessary to have a basic knowledge of the product itself. Only then can we see why and how Ford expects this new car to appeal and be sold to so many Americans.

The Mustang, low-slung with a long hood and short deck, is actually more than one car. With its host of additional options (including a choice of three V-8 engines up to 271 horsepower), this car ranges from a smart economy car to the level of a "poor man's Thunderbird" or a sports car "that will play tag with a Corvette Stingray."<sup>15</sup> The economy model, selling for \$2,368 f.o.b. Detroit, is sporty without the options. It is equipped with bucket seats, padded dashboard, wall-to-wall carpeting, bright trim, 3-speed manually operated floor shift, and a 101 horsepower, 6-cylinder engine. The fifty optional accessories (see inclusion) offer answers to a wide range of auto buyers' demands, resulting in a car ranging up to \$4,400. This new car, available as a convertible or hardtop, has been called a "universal car." Lee Iacocca denies this claim. "We don't claim the Mustang is a universal car, or that it can be all things to all people. But we do believe the Mustang will be more

things to more people than any other automobile on the road."<sup>16</sup> As we will see, this compact packs a triple appeal to catch the eye of the sports-car addict, the family economy realist, or the luxury-bent executive.

The article in the April 20, 1964 issue of Newsweek says that planners first figured on a first-year volume of 100,000 Mustangs. As optimism rose with regard to the Mustang's selling potential, planned volume rose.....and rose and rose. By mid-1963, Ford planned to produce 240,000 Mustangs at Dearborn. This figure ballooned into 360,000 when it was later decided to tool up a San Jose, California, plant. A projected sales figure of 400,000 Mustangs for its first year is quoted from Time (April 17, 1964). Ford's Falcon holds the modern record for first-year sales, selling 417,174 copies. The "Father of the Mustang," Lee Iacocca, says, "I don't usually admit this, but deep down, that number really gets me. I guess what I really want is to sell 417,175 Mustangs."<sup>17</sup>

What prompted the Ford Motor Company to produce such a product? What procedures were used or what factors were considered in deciding how many Mustangs to produce (which is identical to the sales forecasted figure)?

To begin, the Ford economists recognized countless existing economic factors that were conducive to automobile sales in general. Based on different measures of business activity (i.e. GNP employment and wages, automobile production series), the economy could be termed quite "healthy."

Other general economic factors seem to be quite conducive to automobile sales, such as the increasing population. Ford has placed

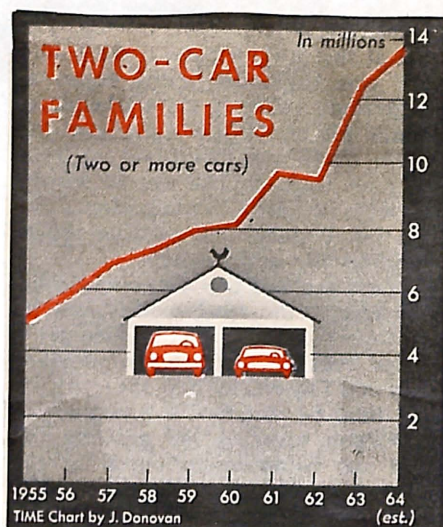


much emphasis on the "postwar babies" idea. These postwar babies are coming of age. In fact, Ford's researchers predicted that between 1960 and 1970 the number of Americans from fifteen to twenty-nine years old will increase by 40 per cent, to 50.5 million people. On the other hand the number from thirty to thirty-nine will actually fall almost 9 per cent, to twenty-three million.<sup>18</sup> "By next year, 40 per cent of the total United States population will be under twenty years of age."<sup>19</sup>

The steady spread of suburbia is another important factor. Also, the tax cut will surely have a favorable affect on expenditures in the economy as a whole, as well as on the car industry. This is another factor considered by Ford.

Another important factor considered by Ford is the fact that there is significant growth in college enrollments. "By 1970, it is estimated that seven million young people will be attending college--almost double the enrollment in 1960. By 1980, there'll probably be nine million college students." The importance lies in high correlation between car purchases and college educated people as compared to a lower correlation with non-college people.<sup>20</sup>

Factors within the automobile industry itself indicate that the time is ripe for a new sports car. One such factor that supports the idea of a potentially enormous market for an inexpensive sports car is the growth in multicar families. In fact, nearly one out of five families in the United States now shops for a second car.<sup>21</sup>



The real significance of multiple-car families is the fact that these people acquire cars at almost twice the rate of one-car families. This accounts for 40 per cent of the new car sales each year. Ford researchers even went as far as to discover and analyze the causes of the multiple car explosion. These causes relate to the general economic factors, such as rising incomes. Ford researchers predict that the segment of our population earning over \$10,000 annually will increase by 156 per cent in the period 1960-1975. They also predict a 27 per cent increase in the 5-to-10 thousand dollars a year bracket, and a 7 per cent decrease in the number of families earning below \$5,000.

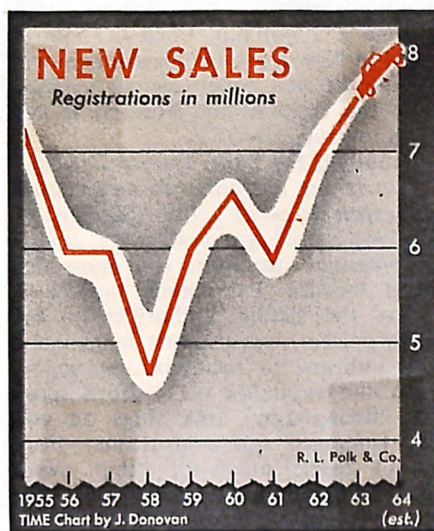
Another reason for the multiple-car explosion is the increased number of women drivers. The number of women drivers has increased by 53 per cent since 1956, as compared to a 6 per cent increase in the number of male drivers.

The need for more than one car in the family stems also from the increase in the number of working women.<sup>22</sup>

Sales trends in the automobile industry have been tremendous in the last two years. The industry has seen two 7,000,000 plus auto



years in a row. Projected sales volumes would indicate at least 8,000,000 car sales in 1964—and that was before the tax cut. Assuming continued health of the United States economy and considering the tax cut, auto sales this year could reach 8,500,000.



Considering auto sales in 1964's first quarter, this figure seems feasible. Sales in the first quarter were the highest in history, rising 7 per cent over last year, and 4 per cent over record 1955.<sup>23</sup>

In deriving the sales forecast for the Mustang against this backdrop of a healthy economy and an increasingly prosperous automobile industry, Ford considers all of the techniques presented in the first summary of "Sales Forecasting" in this report.

The expected share of the market shall first be discussed. The accent, with regard to the Mustang, is on the young and sporty look. It is styled to appeal "primarily to the fast expanding youth and young married market" and also to the "sports minded who can't reach for a T-bird or a Corvette."<sup>24</sup> The design of this car is so flexible, its price is so reasonable, and its options are so numerous that its

potential appeal could conceivably reach toward two-thirds of all United States car buyers. Between 1960 and 1970 Ford expects a 51 per cent gain in the 18-24 age group—a huge pool of first buyers.<sup>25</sup> What effect will Mustang sales have on Ford's present lines? Henry Ford concedes that some Mustang sales will be at the expense of its present lines (especially the Falcon and T-bird), but he insists that the Mustang should account for 3 per cent of all auto sales—"and more than half of that should come out of rival companies' hides."<sup>26</sup>

Much of the optimism that is reflected by the sales forecasts for the Mustang was derived from the enthusiasm the Mustang received from both Ford dealers and the public that got a test market look at the car. This enthusiasm prompted Iacocca to trigger additional production, which will begin in July at Ford's San Jose plant.<sup>27</sup>

Market surveys showed that customers have a preference for sporty cars. "They ordered hardtops, and then asked for convertibles even before they were available. And they are still going for hardtops and convertibles."<sup>28</sup> Through February, 1964, model production of convertibles and hardtops in Ford's other four lines accounted for 39 per cent of total production in those lines—up from 30 per cent for the same period last year. "From the outset, compact car customers have wanted bucket seats, deluxe trim packages, high performance engines, four-on-the-floor stick shifts, and every other option we could devise. Customers wanted the basic economical compacts, to be sure. But they also wanted to be able to dress them up to suit their own individual tastes. The compact car market reflected the flavor of youth—young Americans out to have a good time."<sup>29</sup>

As has been previously pointed out, auto sales in general have increased rapidly. The Ford trend, however, has been down—from



28.53 per cent of the industry's sales in 1961 to 24.87 per cent last year. In the same three years General Motors' "penetration" of the market has risen from 46.53 per cent to 51.04 per cent. We see, then, that the Mustang was a matter of necessity.<sup>30</sup>

Ford's sales trends this year have so far been upward. Its sales volume has increased to 26.2 per cent of the industry's sales—at the expense of General Motors and Rambler.<sup>31</sup>

Through March of this year the '64 Falcons have accounted for the highest production among any of the new compacts and intermediate cars, and the Fairlane ranked number three. "The Comet established its highest March production in history last month and is headed for a new April record."<sup>32</sup>

Ford also considered competition in predicting the Mustang's sales figure. The competition for this type of car is not exceptionally extensive. The Corvair Monza Spyder is the Mustang's chief competitor. The Monza, a car equipped with bucket-seats, floor shift, and tachometer, has been doing quite well, accounting for 76 per cent of all Corvair sales. Other competitive targets are the Dodge Dart 6T, the Plymouth Barracuda, the Tempest Lemans, and the Chevy II Nova.

Ford's productive capacity is not really a limiting factor with regard to the Mustang's expected sales volume. The capacity of the channels of distribution, however, must be considered. The Edsel, which never had more than 1,000 dealers, is still a Ford sore spot. Unlike the Edsel, Ford aims for fast, maximum exposure, right at the start of the Spring and Summer selling season. The Mustang will be available at every one of Ford's dealerships—6,400 of them—around the country.<sup>33</sup> Estimating the average annual Mustang sales per dealership

could lead to a total sales forecast. For example, for a total sales figure of 417,175 hoped for by Iacocca, each dealership must average just a little less than 65.2 Mustang sales the first year.

Sales promotion is playing the most essential role in selling the Mustang. "Because of the breadth of the market Ford is aiming at, its promotional campaign will be as extensive as any it has ever taken. The company is convinced that the price for the basic is so attractive, when matched with the sporty styling, that it is featuring it in national advertising--the first time Ford has advertised price nationally since World War I."<sup>34</sup> The sales promotion plans for the Mustang are quite extensive--requiring \$10 million dollars from Ford's pocket-book. The birth of the Mustang was proclaimed on Thursday, April 16, on a half-hour TV show appearing on all three networks. It is estimated that this program was seen on "TV screens in more than half the homes in the country--an estimated 29 million. Ads in 2,600 newspapers, reaching 75 per cent of the households in this country"<sup>35</sup> also announced the Mustang's birth. Four-color spreads in national magazines are an important part of the Mustang's sales promotion; announcement ads were run in "twenty-four top magazines with a combined circulation of 68 million."<sup>36</sup> Also, special ads appearing in women's pages in newspapers of 100 major cities will feature a Tiffany design award. This is the first time in its 125 year history that Tiffany's has given a design award to a commercial product. Other merchandising calls for tie-in ads with TV contest shows as well as with Holiday Inn's motel chain, Command hair dressing packaging and advertising, and Sea and Ski's high fashion sunglasses--to be called Mustang.<sup>37</sup> Ford also hopes to get "free" promotion with Mustang jokes and Mustang drinks.



Iacocca remarks, "Finally, we plan to fit the Mustang into our program of participation in public performance events. We'll use it in such famous road rallies as the Midnight Sun in Sweden, the Alpine in France, and the Spa-Sofie-Liege between Belgium and Yugoslavia."

Again, it must be stressed-the most important factor in sales forecasting is the judgement of management as to what it feels its company's market potential will be. This has indeed, been the overriding element influencing Ford's estimate of sales for the Mustang. With the optimism that exists in the Ford Motor Company when it comes to the Mustang, if managerial judgement of market potential were the only factor considered, the sales forecast for the Mustang might well exceed one million!

## CONCLUSION

The information concerning the development of a sales forecast for the Mustang has been rather general. Nevertheless, it gives the reader an idea of the complexity of forecasting sales for a new product-or any product. Highly trained men are required to interpret and weigh the many factors and variables involved in sales forecasting. There are no special formulas or criteria available to arrive at a completely objective figure. Even if there were, such a figure would be rendered ineffective because of the uncertainty of our nation's dynamic activity. The need for a forecast still exists-to reduce this uncertainty, and the need for managerial judgement with regard to what it feels its company's market potential will be also exists-to develop a better forecast. The crux of sales forecasting, therefore, lies with managerial judgement. Good judgement evolves from experience built on a solid base of common sense.



## FOOTNOTES

<sup>1</sup>Lewis A. G. Martorano, "Sales Forecasting," The Journal of Accountancy, (August, 1960), p. 60.

<sup>2</sup>Ibid., p. 60.

<sup>3</sup>Ibid., p. 60.

<sup>4</sup>Ibid., p. 61.

<sup>5</sup>Ibid., p. 61.

<sup>6</sup>Ibid., p. 61.

<sup>7</sup>Ibid., p. 62.

<sup>8</sup>Ibid., p. 62.

<sup>9</sup>Peter E. DeJanosi, "Factors Influencing the Demand for New Automobiles," The Journal of Marketing, (April, 1959), p. 413.

<sup>10</sup>Ibid., p. 416.

<sup>11</sup>Ibid., p. 417.

<sup>12</sup>Ibid., p. 418.

<sup>13</sup>Kenneth R. Davis, Case 3-6, Ford Motor Company, Marketing Management, (The Ronald Press Company, New York, 1961), p. 121.

<sup>14</sup>Ibid., p. 123.

<sup>15</sup>"Ford Turns the Mustang Loose," Business Week, (April 18, 1964), p. 152.

<sup>16</sup>Lee A. Iacocca, Ford Motor Company Vice President, and Ford Division General Manager, Mustang National News Conference (New York City), April 13, 1964, p. 3.

<sup>17</sup>"Ford's New One," Time, Vol. 83, No. 16, (April 17, 1964).

<sup>18</sup>Ibid.

<sup>19</sup>Iacocca, p. 5.

<sup>20</sup>Chase Morsey, Jr., General Marketing Manager, Ford Division of Ford Motor Company, Ford Mustang Technical Press Preview, (Dearborn, Mich.), January 21, 1964, p. 2.

<sup>21</sup>Time

22 Morsey, p. 4.

23  
Time.

24 Business Week, p. 152.

25 Business Week,

26 "The Mustang-A New Breed Out of Detroit," Newsweek, (April 20, 1964).

27 Business Week.

28 Iacocca, p. 4.

29 Ibid., p. 4.

30 Newsweek.

31 Time.

32 Iacocca, p. 3.

33 Business Week.

34 Ibid.

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36 Ibid., p. 3.



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