

Presentation to the Product and Market Planning Seminar - World Trade Corp.

Deauville, France

Friday, May 6, 1960

COMPLETION OF A PRODUCT & MARKET PLANNING STUDY

Fellow IBM'ers, On behalf of Market Planning in the San Jose Laboratories, I bring you greetings. It is a real pleasure for me to be here to represent the domestic Market Planning operation and to tell you some of the efforts that have gone on in the past.

On October 5, 1959, I was in an audience of approximately 1200 IBM customers in the LaSalle Hotel in Chicago, Illinois. This was one of 102 locations representing 50,000 people viewing a closed circuit telecast introducing the new IBM 1401 Data Processing System. This method of introduction to this size audience is another first in the history of IBM. I would like to take you back to the months and years preceding this announcement and tell you some of the Market Planning activities that went into this program.

Several years before the announcement of the 1401, studies were made to determine where we needed a new machine in the IBM line. It was established that a new machine was needed to fit between our Advanced Punched Card Units and our minimum Electronic Data Processing Machines.

A great deal of this activity took place here in World Trade: The specifications which were brought together and designated WWAM (World Wide Accounting Machine). This machine embodied many of the functional characteristics, electronic logic and systems configurations that exist in the announced 1401. Although the WWAM program did not lead to announcement, the 1401 was a direct outgrowth of this effort and its success is due to a large degree to the effort put forth on the WWAM program.

Having established the desired marketplace for the new 1401, we set about making the machine a reality. A point uppermost in our considerations was economy. This was stressed repeatedly through all

planning and engineering activity. An example of this can be seen in the 1402 Card Reader Punch. Excluding the covers, the 1402 has approximately 1000 part numbers. Of these, approximately 500 are standard released parts common to many machines. 190 of these parts were a direct outgrowth of the 088 Collator program. 160 of these parts were from the 541 - 200 card per minute punch program. This left us with only 150 new parts for which to tool. The deliberate efforts to capitalize on existing technologies, training, spare parts, etc. are reflected in the price of the announced system.

Our Case Study activity on the 1401 was broken into three segments:

- (1) - - - We were interested in determining the functional capabilities of the system. Since the machine was designed to go beyond our most advanced punched card installations, we deliberately sought the most difficult applications and control panel challenges that we could find.

Among the applications tested was a complicated billing operation involving multiple class and field selection, summary punching of two classes of summary cards, invoice numbering, overflow page identification and multiple heading cards.

Another job involved an extremely complicated commission accounting application. This job was being done on 604's and required 13 total cycles on the 407. A complicated inventory operation, involving de-centralized branch locations, with central inventory control, using an average cost structure, was tested.

Another job was the preparation of statistical data from a trucking firm, involving analyses of numbers of shipments, gross tons handled and total revenue, with comparative figures from the prior year and year-to-date totals maintained. At this time the French Banking Problem was also programmed. This job, as most of you know, involves the maintenance of account balances with computations of interest due.

I would like to emphasize that to thoroughly test the machine and the memory configurations, all computations were programmed on a sub-routine basis. While the specific results varied, in every case the 1401 significantly out-performed the present installations. Card passes were reduced, operator requirements were minimized and many additional controls were incorporated into the procedures.

For the tape system, tests were made performing card-to-tape, tape-to-card, tape-to-printer, tape-to-tape operations. Multiples of these functions were also tested. Once again, the soundness of the 1401 was justified.

In addition to testing the machine functions, these efforts brought Applied Programming aboard early enough to have a voice in machine design.

(2) - - - Having established that functionally the 1401 was an extremely capable machine, that measured up to (and even surpassed our requirements), the second phase of studies were instituted. These were directed at

determining the displaceable cost in determining the true marketplace of the 1401.

Analyses were made of applications; and displaceable cost studies were made at varying size accounts. By successively editing the results obtained, we were able to establish that the 1401 could be marketed in an installation around the 2000 point range and in many cases even below.

At this point, by and large, displaceable costs became marginal.

I might add, our sales to date have verified these case studies and the assumptions drawn from them.

(3) - - - The third round of studies was made immediately preceding the announcement of the 1401 as a final test of the soundness of the market. Several teams were established consisting of a representative from Market Planning and a representative from Product Forecasting. Product Forecasting selected a sampling of accounts felt to fit in the bulk market area of the

1401. These accounts were visited and analyzed and helped to finalize the announcement forecast of the system.

While a great many considerations arose during the development stages, one of particular interest centered around the educational job that lay ahead with the introduction of the machine. Concern was voiced that the 1401 would require a tremendous amount of sales assistance, since the stored program concept was being introduced into a new market arena. In an attempt to answer this as effectively as possible, approximately one year before the announcement of the machine, test classes were held in our Eastern and Midwestern Regional Education Centers. The students were hand-picked from many facets of the IBM organization. Representation was secured from: Customer Engineering, Sales Engineering, Sales Training, Education, Test Centers, Applied Programming, Development Engineering, Human Factors Engineering. These classes were designed to accomplish two purposes:

- (1) To test the difficulty of introducing the stored program concept into this new market arena;
- (2) To evaluate the adequacy of the educational outline and the preliminary operational manual.

Following these classes, personal interviews were held with all of the participants. The machine was taught as it would be following announcement. During the interviews participants were encouraged to criticize everything that had been presented: Machine Design, Teaching Outline, Text Material, etc. These classes proved to be extremely beneficial, since they pointed out many discrepancies in the program. The classes were held long enough before announcement so that these discrepancies could be corrected as part of the development effort.

Following this class, a third class was held. Participants of this class were machine people from many IBM installations. These people were selected to be as nearly representative of our customers'



machine room people as possible. Once again, the machine was taught as though it were announced. This class incorporated the corrections pointed out in the earlier classes held.

By way of measuring the effectiveness of the course, the EDPM aptitude exam was administered to all participants prior to the class. At the conclusion, a 1401 examination was given. Once again, the participants were individually interviewed. It was significantly noted that with but a single exception there was a direct correlation between the success in the 1401 course and the grade received in the EDPM aptitude exam. As a result of these classes, when the machine was announced, a pre-tested training program was ready to be instituted immediately.

During the final stages of the development effort considerable activity was undertaken to assist in the preparation of the announcement package. Many of the Case Studies were incorporated into application and systems bulletins for release to the field. We worked closely with

our sales promotion people in the preparation of promotional pieces, film strips, advertising posters and press releases. A class was held with IBM's outside advertising agency, teaching them the 1401 and pointing out the features we felt should be incorporated in the advertising campaign to follow.

The culmination of the 1401 program was the preparation for the closed circuit television introduction to the public. Machines had to be made ready, applications had to be programmed and tested and scripts had to be edited.

The machine has been accepted with tremendous enthusiasm in both the Domestic and World Trade markets. Sales are surpassing our estimates and the IBM Corporation can truly be proud of the impact the 1401 is making on the Data Processing world.

Perhaps the most significant point to come from the 1401 program is the degree of cooperation that existed between all participants.

Without the World Trade contributions via the WWAM Program, the domestic effort would have taken many many more months. Without constant interchange of ideas between engineering and planning, many troublesom areas would not have been resolved. The announcement spirit in preparing the 1401 package was extremely contagious. The 1401 program is truly an outstanding illustration of the power and performance capabilities of dynamic IBM'ers and the IBM Corporation.