

z/Bottom Line

Thank God for the Pioneers

Because of the determination of the Wright brothers, we can experience the miracle of flight that allows you to have breakfast in Dallas and dinner in Paris in the same day. Thanks to the persistence of Benjamin Franklin, our lives were changed in countless ways with his “discovery” and proof of electricity. Thank God for the pioneers!

Much recognition has deservedly been devoted to these pioneers. But with the unparalleled contributions made to the world attributed to the power of computing, we must thank one other important pioneer—I.B. Machines.

What else has transmogrified nearly every facet of life more than the incredible power of the computer? From homeland security to physics and medical research—the list is endless. Although it may have been inevitable, some may argue that as with any “disruptive discovery,” someone has to see something that is not yet there, and that many can’t yet see.

October 12, 1492; July 20, 1969; and April 7, 1964: dates that forever changed the course of history. And Armstrong perhaps would never have walked on the moon had it not been for IBM’s announcement in 1964.

From the time that Remington Rand’s UNIVAC accurately predicted the outcome of the 1952 presidential election with only 5 percent of the votes tallied, the potential of “automated tabulating,” nee computing, was unleashed and became a focal point for many companies.

For example, CTR (the Computing, Tabulating and Recording Company) had transformed itself into International Business Machines, and in 1952, Tom Watson Jr. was named president. That same year, IBM entered the computer age with the 701 Electronic Data Processing Machine. In the next decade, IBM’s earnings grew tenfold, and employees grew from 30,000 to 127,000.

At the same time, IBM was contributing to several important projects that would help shape its role as innovators of technology. The “Semi-Automatic Ground Environment,” or SAGE system, was one of the first early warning systems for nuclear detection. There was also the “Stretch” system, designed to stretch IBM’s capabilities in all directions. While never a commercial success, it contributed several important advances, including solid-state, multiprogramming and the 8-bit byte.

IBM’s Data Systems Division (DSD) in Poughkeepsie, NY had introduced the 701 and the successor 7000 series, and their follow-on 8000 series was well into development. The Endicott, NY-based General Products Division (GPD) had announced the 1610 follow-on to its widely successful 1401/1410 line of computers.

But by the end of the ’60s, growth began to slow dramatically, and IBM was offering a hodge-podge product line of eight different computer systems, with incompatible architectures. Customers wanting to grow often had to throw out their old computer, printers, storage and even software, and start over.

Watson tapped T. Vincent (Vin) Learson to solve the

problem and provide future direction for the company.

Learson, whose style was described as “abrasive interaction,” decided to replace the DSD executive, Fred Brooks, with the engineering manager from GPD, Bob Evans. In short order, Evans decided to kill the 8000 and in its place decreed that IBM should make a “companywide effort to develop a total cohesive product line.” Evans chaired a new task group called Systems Programming, Research, Engineering and Development (SPREAD). Work began in the fall of 1961, and after being sequestered to a remote hotel with orders not to come back until they agreed on an answer, they created the SPREAD report.

The report specified that IBM would develop five processors, with the largest being 200 times more powerful than the smallest. All software would be compatible, from the low-end to the top-end. And the bombshell: the New Product Line, or NPL, would “not be compatible with our existing processors.”

This last point meant that IBM was terminating 100 percent of its existing product line. IBM would then spend \$5 billion in 1964 dollars (\$30 billion today) to develop, launch, and produce the NPL. By all measures, that represents the single largest privately financed commercial project ever undertaken.

The announcement of the S/360 (named for the 360 degrees on a compass, which symbolized it could be used for any job, any size) was planned for a full year and rehearsed for six months. It took years for the enormity of the initial investment to be recouped—IBM actually almost missed making payroll in 1966, but was rescued by another public stock offering.

The pioneers leading to the S/360, including Brooks and Evans, were honored by the late President Ronald Reagan with the National Medal of Technology in recognition of their contributions. Thus began the real age of computing. And IBM continues to blaze new paths with contributions from their genius staff of engineers, including Dr. Karl-Heinz Strassmeyer, an IBM scientist and Distinguished Engineer, currently respected as the “Godfather of Linux for S/390.”

IBM bet the bank and its future on the wisdom of its daring choices. That’s the true spirit of a pioneer. Tom Watson Jr. said: “S/360 was the biggest, riskiest decision I ever made, and I agonized about it for weeks, but deep down I believed there was nothing IBM couldn’t do.”

And that’s z/Bottom Line. **Z**



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