



Oral History of Walter Bauer

Interviewed by:
Luanne Johnson

Recorded: June 16, 1995
Via Telephone

CHM Reference number: X4599.2008

© 2008 Computer History Museum

Table of Contents

PERSONAL BACKGROUND AND THE FOUNDING OF INFORMATICS	3
DEVELOPING A BUSINESS PLAN FOR INFORMATICS	4
ATTRIBUTES OF ENTREPRENEURS.....	5
IBM'S LACK OF INTEREST IN SOFTWARE	8
CHANGES IN THE COMPETITIVE ENVIRONMENT IN THE 1970S.....	9
INABILITY OF MAINFRAME SOFTWARE COMPANIES TO TRANSITION TO PC SOFTWARE.....	10

WALTER BAUER

Conducted by Luanne Johnson

Abstract: In this interview, Walter F. Bauer, a founder of Informatics, describes his personal background and the experiences that led him to found one of the first software companies. He discusses the qualities needed for entrepreneurs to be successful and the lack of interest and support from the financial community in the early years of the software industry. He describes the changing competitive environment for software companies from the early 1960s into the 1970s and difficulties that software companies had in shifting from the mainframe to the personal computer marketplace.

Personal Background and the Founding of Informatics

Walter Bauer: Hello.

Luanne Johnson: Hi, it's Luanne.

Bauer: How are you, Luanne?

Johnson: I'm fine, thanks. I want to let you know I'm taping the conversation.

Bauer: All right. I hope that I can be contributory and responsive. I don't think about a lot of these things much anymore.

Johnson: I know. I'm just getting back into all of this myself. One of the things that I think I mentioned is that I'm shifting the focus from the earlier interviews I did and emphasizing the entrepreneurs who responded to this new technology and the business opportunities that it provided. One of the factors in that is the personalities of the individual people and what kind of people they are so I'd like to get more of your background that I didn't cover in our previous interview. Where did you grow up?

Bauer: I grew up in Michigan. I went to the University of Michigan and my work there got interrupted when I went into the Army Air Force and, after a couple years of cadet school, became a Second Lieutenant Weather Officer. Then I went back to the University of Michigan and finished my degree work in mathematics. Then I got two more degrees in mathematics, a master's degree, and a Ph.D in applied mathematics.

Johnson: What about your family? Were there business people in your family?

Bauer: My father died when I was quite young, but he was also an entrepreneur. He wanted to go in business for himself and he did so. He was an engineering college graduate and then decided after a couple of years of working in a large organization that he wanted to start his own business. So there might be something in the genes. Two out of the three of my kids have very strong entrepreneurial instincts or inclinations. I don't know how much to make of that, but those are the facts and there may be something to it.

Developing a Business Plan for Informatics

Johnson: One of the things that really struck me reading through the material I have about the early days of Informatics was the fact that when you came up with the idea and you went to Werner Frank and Richard Hill, you had apparently put together a fairly sophisticated business plan.

Bauer: Yes.

Johnson: Now, they don't teach that in mathematics as far as I know, so somewhere you learned how to think through a business plan and put it together.

Bauer: Yes, I was proud of that but it was not a complete a business plan. What was missing was any kind of sophisticated financial analysis because it wasn't terribly necessary at the time. But that kind of thing, planning and visualizing something and putting it down on paper, comes naturally to me. I love to write and I thought I had a good idea. I thought I had a philosophy and I thought it was important to set forth that philosophy. For the first week or so, I hardly did anything. I think I made some calls -- in-person and by telephone -- to people, but I wanted to make sure that I knew where we were going and what we wanted to do and what I wanted us to do.

It seemed instinctively to be the right thing to do. I was a manager of a large organization at Ramo-Wooldridge. I had about 400 people and I had a 704 and an ERA 1103A -- well, it was Univac at that time. And then I left that group and went to the information systems department at Ramo-Wooldridge where I was more in charge of getting business and in charge of getting government contracts instead of just servicing the other areas of Ramo-Wooldridge, which is

what I was doing with those two computers. At any rate, I don't think anybody ever taught me that. I can't remember even any examples. Maybe I'd heard somewhere that somebody ought to write something about what they intended to do, but painting that kind of a picture of what I wanted to do seemed to be instinctively the right thing to do. You're right, I did not have any kind of MBA training or anything of that sort.

Johnson: Well, I think it's significant because it's unusual. So many people start companies without really thinking that through. They see an immediate opportunity for a contract that they can do right now. And, of course, I know personally of a number of those people that didn't succeed.

Bauer: That might be something unusual with me, I don't know. The other thing that I'm proud of is that not many entrepreneurs from scratch like that and then continue successfully running the company as the company grows. I was 23 years as a founder CEO and I think that was the record. I don't know of anyone else who started a company at that time and lasted longer than 23 years. It probably isn't today but I believe it was a record at that time.

In 1985 when I left Informatics, I was the longest tenured founder CEO in the business at that time at 23 years and I was proud of that. And we were also the fourth largest independent software company at the time.

Attributes of Entrepreneurs

I think most entrepreneurs just simply don't have the ability to run a larger organization. Some of the attributes which people seem to have that enable them to start a company don't serve them very well in growing the company. I think one of the problems is kind of a limited focus or a limited view of life or of business situations. As inventors, maybe they're too focused on a certain technology. I don't feel that I was a strong technologist at all. I knew the technology very well, but I was never a green eyeshade programmer. I was a systems person who understood computers pretty darned well, but long before I started Informatics, even as a manager of a technical operation at Ramo-Wooldridge, I was more interested in the organization and building the people than I was in technology of computers. Although I didn't feel that I had to take a back seat to too many people during that time. At that time back in the 1950s, not too many people knew much about computers

Johnson: There's a new book out called Built to Last [by Jim Collins and Jerry I. Porras] in which the authors look at companies that have had a sustained success over a long period of time. One of the characteristics they found is that the management of those companies has been as focused on building the company as they have on their products and their markets. They're focused on building an organization that will keep running regardless of changes in the market environment. It's a question of putting together the right people and building the

organizational structure as much as a question of what product they're creating. So, it's interesting that you saw it the same way, as an organizational issue.

Bauer: When I couldn't sleep last night for about an hour, I started thinking about this telephone conversation and I came up with an interesting thought on this question of management requirements or management skills versus entrepreneurial requirements or skills. If you've got a piece of paper in front of you and you draw an XY axis and if you put on the Y axis going upwards management skills, and on the X axis put entrepreneurial skills increasing to the right and then just write down on the bottom of the page, some of the attributes like inventiveness, energy, vision – being a visionary. Drive, ambition. Drive's a little bit different than ambition. Drive means I'm trying to go for a certain specific goal. Ambition means I want to be somebody. Another one would be technical knowledge.

Inventiveness would be low on the management scale, but fairly high on the entrepreneurial scale. A little bit further to the right, still fairly low on the management scale, you could put technical abilities which are a bit different than inventiveness because a person could understand technical things but not be an inventor. Knowledge of the industry would be fairly high on the entrepreneurial scale, but it would be a little high up the Y-scale, which is the management scale. Vision rates high in both the management and the entrepreneurial scale. Ambition would be very high on the management scale but it might not be so high on the entrepreneurial scale. Risk-taking is another attribute. So is self-confidence.

Then you might draw a quadrant and the people who are in the left upper quadrant are probably going to be good managers but they're not the kind who would ever start a company. The people who are on the lower right are going to be the best entrepreneurs and they probably will form successful companies, but I don't know how long they're going to last. The people who in the upper right-hand quadrant are probably going to do both. They probably have enough of all the attributes to not only start a company, but continue it. And the people in the lower left probably aren't going to be very successful. They might start a company, but it will fizzle out.

Johnson: You'll recall that I started interviewing software pioneers initially because of the question of the impact of IBM unbundling and as I got into it, I came to the conclusion that while that had an impact, it wasn't nearly as significant as it's believed to be. What I am learning is that IBM had an impact in other important ways. The majority of people who started software companies in the 1960s and 1970s had spent time at IBM. At least three of them told me that the experience of working at IBM gave them the self-confidence to believe in their own skills so that they could go off and start their own companies. Because IBM thought so highly of itself as an organization, it imbued people with the confidence that they must have a lot of ability since they worked for IBM. They attributed the experience and the self-confidence that they got from IBM as being an important factor in their ability to go out and start a company.

Bauer: I don't know which period you're talking about, but a lot of the early people weren't from IBM. Fletcher Jones and Bill Hoover [of CSC], for instance, weren't IBM.

Johnson: From about 1965 forward, people who started companies after that time came from IBM. And what's even more interesting is that they didn't have backgrounds in engineering or technology or science or math as you and Fletcher Jones were. Wasn't he an engineer?

Bauer: I think he was probably a mathematician, too, and he got into computers.

Johnson: Right, and then the people that started CEIR and CUC came out of engineering or applied sciences or math. But starting in about 1965, what you have is people who were coming out of the sales or customer support side of IBM, so it's a different orientation.

Bauer: Are you talking about entrepreneurial people that started companies?

Johnson: Yes.

Bauer: I hadn't really thought too much about it. It seems like all the people that come to mind that I knew were not IBMers in the 1960s.

Johnson: Joe Piscopo [of Pansophic] was not, but Tom Nies [of Cincom] was. John Cullinane [of Cullinet] was out of IBM. Lee Keet [of Turnkey Systems] was out of IBM.

Bauer: Tom O'Rourke [of Tymshare] wasn't. John Imlay [of MSA] was not. He was out of Honeywell. Sam Wyly [of University Computing Company] was out of Honeywell, too, I think. I'm wondering if the people who joined IBM weren't more security conscious than people who didn't go to a large organization and therefore might not be as entrepreneurial.

Johnson: Well, of the thousands of people that went to work for IBM there's maybe a couple of hundred that went off and formed software companies. But as recently as 1992 at an ITAA [Information Technology Association of America] conference, Howard Anderson of The Yankee Group, who was a plenary session speaker asked how many people in that group of software companies executives had started their careers at IBM and about two-thirds of the people put up their hands.

So I think that's a very powerful impact on the software industry that probably had more significance the unbundling did. But there really does seem to be a definite cutoff in that the people like yourself that were there before 1965 came out of an engineering or applied sciences or math background.

Bauer: You know, nobody left IBM in the 1960s. They were growing so well and doing so well in IBM and the idea of a software company was kind of a crazy thing in those early days.

There's two or three other things that should be added to the list of attributes for managers or entrepreneurs. One of them mental toughness and another one is something that I call management sense, the ability to see things that are happening and see an organization as a total system. Another one is leadership. Communication skills is another one. I would add being a good listener and ethics, sincerity and morality as other attributes.

I've considered writing a book on management aimed at the first time CEO but there really isn't much demand for that kind of book unless it's written in a very flashy style. My style is more professorial and instructive but there's not much interest in publishing a book like that.

Johnson: Have you seen John Imlay's book?

Bauer: No, I haven't.

Johnson: It came out last fall and the name of it is Jungle Rules. It's focused on people development and how to identify and utilize the best people. It's aimed toward people who are trying to understand what's involved in managing a business, particularly in a fast moving field like high technology.

Bauer: Well, just getting it published and having somebody publish it is a big step.

IBM's Lack of Interest in Software

Johnson: When I talk about the environment that people were in in the early days of the software industry, I think of IBM as dominating that environment. At this point, people have already forgotten how dominant IBM was in the late 1960s and even more so in the early 1970s. But you were out there before that period and it appears that IBM hadn't yet emerged in quite the same dominant sense in the early 1960s as it did in the late 1960s. Can you comment on that?

Bauer: Well, that's true. There was still a big element of non-IBM manufacturers such as Philco and Univac and others that were pretty darn active, but we could all see that IBM was going to be a real dominating player across the board. I think all through the 1960s, IBM was there. It was just a matter of time. One of the biggest surprises of my career, I think as I look back at it, is the fact that IBM did not do as well in software as a) they should have and, b) everybody expected them too. They were really a hodge-podge and they didn't really seem as a corporate institution to understand it and to be oriented towards software.

Johnson: I think they've just figured that out this year when they decided to buy Lotus.

Bauer: Fifteen years too late. Maybe 30 years. I can remember meeting with the number two man in IBM. I've forgotten his name now. This was maybe in the early 1980s or late 1970s; he was the vice chairman of the board when I talked to him. He said, "It's like we were like building a subway and we had pieces of subway all over the place with a plan to have one part of the subway reinforced, another plan for a different part, and each one of them was a separate thing." And it really caused IBM, I think, a lot of trouble through the years.

Johnson: Well, maybe in that sense IBM was a strong factor in the creation of the industry in a negative way because since they weren't there, it provided opportunities for other people to be out there and create what they weren't creating. I don't know what would have happened if they had decided that they wanted to focus primarily on software.

Bauer: Yes, I can remember that it was my thought in the early 1970s that IBM would have to come out. They would be foolish not to come out very, very strongly in the operating system area and in the file management area. And so we didn't go into that. A lot of people, by the way, think that Mark IV was kind of an operating system. They get confused as to what it was. It sat on top of an operating system. We oriented all of our business toward IBM's strength in that area and it turned out they weren't really very strong, especially in the area of database systems, and which provided an opportunity for a lot of software companies.

Johnson: Cincom had TOTAL and Software AG had ADABAS and Cullinane had IDMS.

Bauer: I was really surprised and it affected the Informatics strategy because I had bet on IBM coming out strong in these areas. The software that was close to the computer, like operating systems, had to be a very, very great concern to the hardware people, I thought. And I thought IBM would certainly by the 1970s begin to understand it. And, of course, they missed it on the personal computer and gave their birthright to Microsoft. It's just really put a chink in their armor all through the years. And it turned out that Informatics suffered along with it, too, because I bet that they would focus on software.

Changes in the Competitive Environment in the 1970s

Johnson: I'd like to understand something in terms of your experience of being in the software industry 10 years before I was out there. What really created an opportunity for me was the fact that IBM sold so many of those 360/370s and people weren't able to fully utilize them. They weren't able to use all of the capability that they had, so it created a vacuum that just sucked up software. It makes me think of your analogy about kids on the beach. Everybody was shoveling their buckets full of sand and there was so much sand and so much

opportunity that it wasn't a matter of trying to beat the other guy out. It was a matter of how fast you could shovel yourself.

But I think it must have been a different situation in the early 1960s. As I understand from what you've written, it was the proliferation of computer technology generally and people having it and not knowing what to do with it. Is that correct?

Bauer: Well, computers really stormed onto the scene in the 1960s and an awful lot of companies were putting out computers. IBM was putting out probably more of them, especially in the later part of the 1960s, than anybody else, but leaving aside for the moment, whether it was IBM or the other manufacturers, there were a hell of a lot of computers out there. And we had a tremendous shortage of people able to program them. I think part of the early success was the fact that there was a lot of computer capability and a tremendous shortage of people. So if you were the kind of person who could get some talent together, it was a slam dunk to sell that capability. Of course, we had loftier ideals than that. We didn't want to just sell bodies. We wanted to have contracts to do specific end-goal kinds of things like build a compiler or build a real-time system, a radar-control system for the Navy or something like that. That's what we wanted, but of course there was a shortage in those areas as well. So that was the tenor of things.

And I think you're right. In the 1970s, things began to heat up a little bit on the competition scale. Even in the 1960s, we were oriented to products. I can't remember a time when I didn't think that Informatics would be very largely a software products company, not a professional services company. That was the other mistake I made, by the way. We had a very, very good start on professional services. I just didn't pay enough attention to that thinking, it would probably go away but hell, it didn't. It just grew and grew and grew through the years.

All through the 1960s, we said, "You know, accounting systems are going to be big." But we didn't want to get into them too early. Every year in our strategy meetings, we would say, "Gee, accounting systems. Hmm, that's interesting. It's going to happen." Then all of a sudden around 1970, 1971, Imlay started with MSA and he was \$2,000,000 at the time and I said, "Now, we're going to go. We're going to give John a run for his money." Of course, we thought it would be easy, MSA wasn't much at that time. John turned out to be a hell of a competitor. We thought we'd beat him easily, but we didn't do nearly as good a job as he did and we just didn't do well in the business. We were number three in the financial systems area behind Imlay and another company. But, yes, that's an example of how competition really started. We didn't have much competition with Mark IV for many, many years. It was just pure sailing for 10 or 15 years.

Inability of Mainframe Software Companies to Transition to PC Software

Johnson: Are you familiar at all with what's going on with the World Wide Web and the Internet?

Bauer: No, I'm not that familiar. That was the number three mistake I made, by the way. I didn't think that personal computers were going to come on that strong and that fast. You know what's tremendously interesting to me, is that there's no CEO founder from the 1960s, 1970s and even into the 1980s who successfully took their company from the mainframe/mid-range business into the PC business. Computer Associates is the only one that has some kind of claim to having done that. Informatics didn't do it. Sterling Software, they're hanging in there.

Johnson: Do you know Information Builders that produced Focus, Gerry Cohen?

Bauer: No.

Johnson: They're not a huge company, but they're still, I think, probably within the top 25 software companies. I don't know for sure, but I think they're probably close to \$100,000,000 a year.

Bauer: What's the name of the company?

Johnson: Information Builders and their product is Focus, which as I understand it is not too different from what Mark IV was originally, a report generator, file management system. They started in about 1974 initially on mainframes and they have successfully transferred that product over to PCs.

Bauer: But very, very few of them did. If you started early and you knew the mainframe and minicomputer business, you somehow could not successfully jump into the PC business. It was a different mentality. I can't really explain it except to observe that that seems to be what happened. Maybe there is something different to the mentality of the PC software companies. You know, right away they started to think of large numbers of people and shrink-wrapped products that would be sold right off the shelf. That was really foreign thinking to many of us in the 1960s and 1970s. I was kind of astounded that anybody thought they could make any money doing that back in the late 1970s and early 1980s when the whole thing started. And so, probably none of us gave it enough emphasis. Or maybe it was a new kind of discipline or a new way of thinking.

Johnson: In Martin Campbell-Kelly's paper, he defines the mainframe product software industry as a different industry than the PC software industry. That really makes sense to me because during the five years that I was president of ITAA, I don't think there was a single board meeting in which the issue of acquiring SPA [Software Publishers Association] didn't come up. I kept saying that the corporate cultures of the two organizations are so different that it was not

possible to be successful in merging the two. So it was gratifying to see that he classifies them as different industries that evolved differently.

I've changed the focus of my research from what I was doing nine years ago to emphasize how people saw the opportunity that was created and how it created a new kind of business need. Rather than focus on the problem of productizing software, which I still think is an interesting issue, I'm looking more at how people were visionary enough to perceive an opportunity and then figure out how to pursue it.

One of the things that's driving that is that I see that this new technology, the interconnectedness created by the Internet, is once again creating a platform upon which all kinds of new needs are going to arise. I think that people are going to envision ways to create markets and business opportunities that just simply weren't there until this ubiquitous networking platform developed.

And once again it's a situation where people can get into it with a fairly low level of investment. The software business passed that threshold. You now have to have pretty substantial capital investment to create a software company of any size. The marketing, distribution, advertising costs are so much greater than they used to be.

Once again you have a situation where people can seize an opportunity and create something new with a fairly limited amount of capital investment. I'd like try to draw some parallels between what happened in the 1960s when there were thousands of people who started companies, but only a few turned them into significant companies that had an impact on the industry and on the economy. What are some of the parallels that we can draw between what happened then and what's happening now with this newest opportunity that's arisen?

Bauer: I suspect that there are two different kinds of entrepreneurs. There are the science and technology entrepreneurs and then there are the guys who understand how people think and how you merchandise things and who are only marginally knowledgeable or even interested in the technology. That a different kind of entrepreneur. The computer business has changed to be much more consumer-oriented.

There's still some interesting technology like database management systems. But a very large percentage of it seems to be driven by entrepreneurs who understand that the merchandising is not very different from the clothing business.

But you're right about the Internet being important. I had dinner recently with Steve McClellan, the computer analyst from Merrill Lynch, and I asked him what the hottest data processing thing is right now in the securities and investment business. He said, "Anything connected with the

Internet.” I don’t understand how people are going to make any money on the Internet, but I guess they’ll figure out new ways of merchandising.

Johnson: Well, Walt, remember that nobody knew how anybody was going to make money in software because nobody knew how to charge for software or make money on that either. So I think there’s some interesting parallels to be drawn here. People sure as hell figured out how to make money selling software even though there was a time when no one would invest money in a software business because no one knew how to make money at it.

Bauer: Oh, I agree. I sure didn’t mean that I think that nobody will make money at that because I absolutely think they will. What I meant was that I personally don’t understand it.

In the 1970s Informatics sponsored a seminar every year with UCLA and one of the topics was computers and communication. It was very clear that each was the handmaiden of the other, even from the start. And we worked with programming message switching in the early days so it was very clear that was going to happen. Then when PCs came in at first they were one computer sitting on a desk but, gee, it quickly became very clear that you’re going to want to start interconnecting them.

Johnson: I want to take just a minute more because I know you are almost out of time. You’ve talked in the past about the problem of getting skilled management people as opposed to technical people. And about the difficulty of getting financing which you solved very creatively at Informatics when you got several customers to finance the development of Mark IV.

Is there anything else you’d like to add to that in the context of the 1960s before we sign off? Are there other problems that prevented or restrained growth?

Bauer: Well, as I think back on it, it never ceases to amaze me that the whole financial community just went into a big tailspin about software companies in the 1970s. It was absolutely amazing. You would not have believed that that could happen and it just astounded us because we never doubted for one moment that software was going to be a big thing. And all of the sudden, the whole financial community and, as a result, a lot of other people even outside the financial community, figured there was no business here. But the thought that I would like to leave with you is that we were all convinced that software was going to be as big as hardware. We used to talk day-in and day-out about how much money was being spent on software. Even in the late 1960s, it was getting so that there was as much money being spent totally on software as on hardware.

The trends were very clear and we were just so convinced that software was going to be a very big thing and I think that that sure sustained me in my thinking. I don’t know how many other entrepreneurs of that day felt as convinced of that as we did or as I did, but I guess maybe

every entrepreneur who goes into a new area has to be convinced that it's a big thing. But in those days, I think there were relatively few people who appreciated that. People just did not believe that this was going to be a big industry.

Johnson: OK, great way to wrap this up. Thanks for your time.

Bauer: Okay. I enjoyed talking with you.

Johnson: Bye.

Bauer: Bye.