

11-1-2009

Useful Lessons from My Career as an Academic in Information Systems

Gordon B. Davis

University of Minnesota, gdavis@umn.edu

Follow this and additional works at: <https://aisel.aisnet.org/cais>

Recommended Citation

Davis, Gordon B. (2009) "Useful Lessons from My Career as an Academic in Information Systems," *Communications of the Association for Information Systems*: Vol. 25 , Article 36.

DOI: 10.17705/1CAIS.02536

Available at: <https://aisel.aisnet.org/cais/vol25/iss1/36>

This material is brought to you by the AIS Journals at AIS Electronic Library (AISeL). It has been accepted for inclusion in Communications of the Association for Information Systems by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Communications of the Association for Information Systems

CAIS 

Useful Lessons from My Career as an Academic in Information Systems

Gordon B. Davis

University of Minnesota

gdavis@umn.edu

Abstract:

This "last lecture" is to my fellow academics in information systems. My lecture has two parts: Part I presents personal career advice for my colleagues. I have had many successes and some failures, and I have observed the careers of many faculty members and doctoral students. I will summarize my observations as actionable advice about being a successful academic while being a happy, contributing human being. The second part is how I see the future of our field. I have seen huge changes and there are more to come. I am optimistic, and I will share my views and the reasons for them with you.

Volume 25. Article 36. pp. 437-450. November 2009

Editor's note: The article is an invited lecture given at AMCIS in San Francisco on 7 August 2009, based on the concept of the "Last Lecture" by recipients of the Association for Information Systems LEO Award.

BACKGROUND FOR MY ADVICE TO ACADEMICS AND MY VIEWS OF INFORMATION SYSTEMS AS AN ACADEMIC FIELD

My career spans the entire period of the adoption of information and communications technology in organizations (from punched cards to the Internet). It includes the rise of the organization function of information systems and the emergence of an academic field of IS (also called Management Information Systems or MIS). I have had great opportunities to work with colleagues to found an MIS department, head an MIS research center, create new IS degrees and curricula, and write original books and manuals. I have been very involved with doctoral students, including leadership in the Minnesota MIS doctoral program and provider of advice to doctoral students in many fields. I have been involved internationally with the development of the IS field and have been part of the leadership for our major IS organizations. These events and activities have helped me observe my colleagues and formulate advice that I believe can be helpful to many. To help a reader understand the events that have influenced me, I have summarized in an appendix my personal life, my academic life, my publications, and my work in institution building.

Example: Sometimes, when I give a talk, a person will come up to comment about the importance of a book of mine he or she had read. I don't ask, "Which one?" Instead, I wait for them to comment further. If the person says something like, "Your book helped me to really understand (or teach) about information systems, the book is almost certainly one of the two editions of *Management Information Systems: Conceptual Foundations, Structure and Development*. If the person makes some comment like, "Your book saved my life," the book is the small monograph on managing the process of doing a doctoral dissertation called *Writing the Doctoral Dissertation: A Systematic Approach*. I will comment on these books during the talk.

PART I: MY ADVICE ABOUT LIVING A PRODUCTIVE, HAPPY LIFE AS AN ACADEMIC

The advice I am giving is based on introspection about my life and observations of many faculty colleagues and doctoral students at Minnesota and elsewhere. Typically, the advice has come about because I was puzzled by what happened or I was puzzled by the actions of others. As a result of observations, thinking about what I observed, thinking about explanations, and relating the situations to theories about individual behavior, I formulated advice that has proved remarkably robust when faculty colleagues and doctoral students apply it.

Example: This example illustrates how an experience helped me formulate good advice for others. One of the most powerful lessons in my academic life took place when I was working on my doctoral dissertation at Stanford University. The dissertation involved significant reading and conceptualizing. I was in the library stacks each day reading and pondering and thinking thoughts (hopefully great ones). One day, my wife (who has intuitively very high schedule discipline) asked me a simple question: "How many pages did you write today?" As I read and pondered the next day, the question caused me to stop in mid-afternoon and start writing. I wrote some pages every day and finished in good time. The question changed my behavior because it focused me on an important part of the dissertation process—the writing. I have advised many students who have trouble completing, and given them the counsel to ask themselves the question (put it on your mirror): HOW MANY PAGES DID YOU WRITE TODAY? It also applies to writing articles and papers after the dissertation.

My observations and advice are neither unique nor surprising; rather the advice recalls lessons that most of us know but have been forgotten or ignored. I can illustrate my advice with lessons from my own experience, but many of you (or perhaps most of you) can relate them to experiences in your lives. In other words, the value of placing these lessons and advice in a talk and an article (a "last lecture") is that the talk and article surface and make clear some problems, behaviors, and solutions that you may vaguely know. They may also give you some new thoughts or new ways of thinking about a problem and a solution.

In my advice, I have not tried to deal with all problems of an academic life but to focus on some difficult ones. In order to avoid a huge list, I focus on five important things to do for a productive, interesting academic career. The five things also help one to be a balanced, productive member of society.

Five Important Things to Do for a Productive, Interesting Academic Career

1. Understand the dynamics of an academic career.
2. Develop clarity in your goals, values, and talents.
3. Understand and apply planning and schedule discipline to your life and work as an academic.
4. Understand and apply ways to balance your personal life and the demands of an academic career.
5. Keep yourself flexible and open to interesting opportunities for teaching, research, and service.

In talking about doing these important things, I have observed very large individual differences among my colleagues and students. For each individual point, some seem to be able to do it easily—sometimes intuitively with little thought. Others struggle with accomplishing the point, even though they may believe it is vital. For the purposes of thinking about the issue, assume a normal distribution of ability to accomplish the five important things (especially point three about planning and schedule discipline). This means that some of you will have to work harder to accomplish the thing, but I believe it is possible for everyone to do reasonably well. The lesson that comes from this concept is that most of us do not intuitively do what we should do to have a productive, interesting academic career, but by being explicit in our objectives and following simple rules for productivity, most or perhaps all of us can achieve objectives that are satisfying to us.

Example: One day I had a hall conversation with a colleague who was not going to get tenure. The record was clearly insufficient. He mused, “I guess I should have done things differently.” My reaction in my head was: “Of course!” But why wasn’t it clear to him from the beginning? This and similar incidents caused us to mentor new faculty better, but the best solution is for the new faculty member to understand what to do and do it from the beginning.

1. Understand the Dynamics of Your Academic Career

Academic careers are interesting and demanding. They require hard work. The popular idea of a college professor is a job in which you teach maybe eight to twelve hours a week. You read a lot, but you have great freedom. You have summers free. After you have mastered the lectures you will give, you are even freer to think, to ponder, and to pontificate. Sounds great, but this has never described my life or the lives of my colleagues who were dedicated to being real academics. We did a work sampling study of academics about thirty-five years ago. The analysis showed a typical fifty-hour week. I suspect that the Internet and e-mail have increased the average weekly work time. There are some dynamics of an academic career in information systems (and other fields as well) that are vital to understand in order to manage your life.

- We are knowledge workers without natural boundaries to our work day.
- We will always have more to read, to learn, and to do than are possible.
- In the field of information systems, the problem of “more to learn” is multiplied by the rapid pace of technology innovation, new systems, and new applications.
- Teaching requires keeping up not only with pedagogy but also with curriculum changes and planning. This is particularly difficult in information systems.

We are knowledge workers. Some knowledge workers can do their work outside the office. The nature of faculty work is such that it can be done 24/7 and most of it without being in the university office. A worker in a factory works while at the factory; a clerk in a store works during working hours. There are no natural limits to the working day for a faculty member. The only limits are those you set.

The potential knowledge that may be relevant to our knowledge work is greater than we can know. You will never read all there is to read. You will never learn all there is for you to learn. You will never do all there is to do as a faculty member. Perhaps some parts of the university have reasonable boundaries for their field of knowledge, but we do not.

In the field of information systems, the things to learn are multiplied by the rapid pace of computer and communications technology, new systems, and new applications. At no time in history has a field of human endeavor had so much dramatic change in technology capabilities and incredible reductions in size and cost in such a short period of time . . . and it hasn’t stopped.

Example: When I started in computing, the major computers in business had 50,000 numeric characters of memory; the cost of the computer was about \$500,000. Today, my presentation is on a \$15 flash drive holding 4 billion bytes.

Teaching in information systems is more difficult than many fields of knowledge in the university. There are some fundamentals in our curriculum, but it is sometimes hard to formulate and teach these when technology changes and cost reductions keep changing the nature of solutions. I will come back to the curriculum problem, especially the first course, when I talk about the future of the field.

In essence, an academic in information systems can look forward to an ongoing program of personal learning in order to keep current with the field and to ongoing changes in the courses and curriculum. These changes are interesting, but they suggest the need to manage your academic life rather than letting it overwhelm you. The dynamics of your academic career also make it important to set boundaries on your academic work, so that you make sure you have time and energy for your personal and family life (more about this in point 4).

2. Develop Clarity in Your Goals, Values, and Talents

A common thread through all “success” literature is the need to set explicit goals and priorities for your life. In a life with many competing interests and demands, it is vital to allocate your time and talents wisely, so you achieve the most important outcomes. These goals and priorities can be simple and straightforward. I focus on two important issues in developing clarity in your goals, values, and talents.

- Figure out your talents and gifts and decide how to maximize and take advantage of your best talents and compensate for your worst ones.
- Since there is usually more than one important goal, learn how to divide your time, talents, and energy among your most important goals (academic and personal).

It helps to know your natural talents and gifts and things you are not particularly good at. There is, at least conceptually, a portfolio of skills to be a good academic and to live a productive life. However, it is not likely you will be equally good at all of them. You may be outstanding in some, okay in others, and (with effort) passable in the rest. By understanding your talents, you can take advantage of your best talents and compensate for your weakest ones. If you are intuitively a very good teacher, take advantage of this natural ability and work to become an outstanding teacher. If you have poor natural ability as a teacher, learn how to be an acceptable teacher and apply yourself to compensate for your weakness. You can learn to be a good teacher. The concept applies broadly to the important activities in being an academic and in being a productive person.

How do you discover your talents and your gifts as an academic? You can observe yourself and notice those activities and interactions where you seem to do very well (above average) and also observe those where you do not do so well. You should observe patterns of ability. A few examples of talents and gifts that are important in your academic life are the ability to formulate clear concepts, to explain facts and concepts simply and clearly in writing, to explain facts and concepts simply and clearly in lectures or exchanges with students and other audiences, to generate lots of ideas (ideaphoria), the ability to see patterns in observations and in data, the ability to relate to students and other audiences, the ability to see value in alternative methods and views. When you understand your gifts and talents and understand that they allow you to naturally perform some activities better than most of your colleagues, you can develop them and emphasize them. When you understand that you have some poorly developed talents, you can work to improve them to an acceptable level.

Example: I found out very early I was quite good at explaining things and writing explanations. I also have high ideaphoria (I can generate lots of interesting ideas). I was also good at seeing the existence of systems (or lack of systems) in organizations. I had a comparative advantage in conceptualizing and thinking of solutions or alternative explanations for problems. On the other hand, I could plan and schedule only moderately well and I didn't do it instinctively; I had to work at it. I was not good at analytical modeling and numerical analysis. One of the factors in success in my career has been the fact that I tended to take advantage of and apply my best skills and talents.

Example: I started my career with a little above average natural teaching ability. As I received feedback on teaching from course surveys, I found large differences in results. Some courses were outstanding; others were barely satisfactory. When I pondered the results, I found that three factors contributed to teaching success for me: high personal knowledge of the subject matter, reasonable preparation, and high level of interest in the course by both me and the students. Understanding these factors helped me to work to develop my natural teaching talent and overcome potential deficiencies.

Example: One of the exercises I have used with new doctoral students is to have them make a ten-year plan. They look at me as if I am crazy because they have a hard time planning for the next term. I point out that a ten-year plan will take them through a doctoral program and to the tenure decision. Once they see this, they can formulate a rough plan. The plan gets changed, but changes are easier to make than to redo everything.

Example: Be realistic. Early in my advising, I encouraged a doctoral student to learn everything I wished I had learned and do everything I wished I could have done. I loaded him up with unrealistic expectations, and he got so discouraged, he dropped out. I learned from that advising failure to help doctoral students focus rather than trying to know everything and do everything.

Since you will have more than one important goal, it is important to not focus on one and lose sight of other very important goals. You may want to be a great researcher, a great teacher, a great advisor/mentor, a great husband or wife, and a great parent. Dividing your time and talents among these goals will require you to set priorities and limits. I will talk more about that issue later.

Example: Develop clarity of goals for your personal life. Marriage and family, are vital goals for most people, and they should be explicitly considered. A faculty member can get so caught up in becoming a great scholar that he or she forgets to find a great companion to marry or to nurture a marriage or to have a great family relationship. The search for a companion and the nurturing of a marriage and a family are worthy goals to include in your top priorities.

Example: A student dropped out of the doctoral program. It turned out he felt that the demands of the doctoral work and a professorial career would ruin his marriage and family life. I and other faculty missed the signals about his concerns and did not help him understand that he could balance career and personal life.

3. Understand and Apply Knowledge Work Planning, Schedule Discipline, and Work Motivation to Your Life

The first two points (understanding academic life and developing clarity about your goals and talents) deal with preparation. The third point deals with getting your academic work done. Since there is not enough time to do everything, your task is to develop and apply a reasonable level of planning and schedule discipline. This sounds constraining and harsh, but when you learn to do it reasonably well, you will be freer and less harried than the person who does not learn this. Being successful in setting goals and achieving them creates energy. Success breeds success.

By the time you start your degree program or start your academic career, you should be able to examine your behavior and evaluate your natural ability relative to planning and schedule discipline. As I mentioned earlier, I believe there is a normal curve for such ability. Some people have very high intuitive ability and others are almost devoid. Your intuitive ability to plan and schedule is a starting position; for most people, your intuitive ability at that point is insufficient. Fortunately, planning and schedule discipline can be learned and your normal, intuitive ability can be dramatically changed by explicit attention to doing it.

Example: I started out when I was a doctoral student somewhat below the middle of the normal curve for intuitive planning and schedule discipline. I had been able to meet course requirements, but these tended to be doable in short periods of concentration. They did not require longer-term planning and schedule discipline. I have improved in schedule planning and schedule discipline, but I still have to work at it. If I stray from the principles of planning and scheduling and if I meander when working on a project, my performance deteriorates. I see the effect when I don't apply planning and schedule discipline. I live with a counter example. My wife is intuitively very, very high on the normal curve for planning and schedule discipline; she focuses quickly and works directly on the things that must be done. Her famous question ("How many pages did you write today?") came naturally from her very high intuitive planning and schedule discipline. When she did her doctorate, she did an excellent dissertation on a good schedule, and it was instructive to watch her apply her high level of schedule and planning discipline.

Example: Working with colleagues or staff who exhibit good planning and schedule discipline can be helpful to you. You can learn from them. However, there is a danger if you exhibit poor discipline when working with colleagues and delay the completion of a research and writing project. You may find you will not have opportunities to work with those colleagues again. If you are willing to accept the help and example of those who have schedule discipline, you will benefit. I have had the help of an assistant, Janice DeGross, who has very high ability to complete work on time and with high quality. She has added significantly to my productivity. I have worked with

colleagues who were very good at completion, and they helped me to be productive because I was motivated to meet the deadlines we set.

Example: A very bright doctoral student told me he believed the planning and scheduling principles I taught were good, but he couldn't do them. He has been creative and productive, but I believe he could have done better with a modest amount of extra attention to planning and scheduling discipline.

Example: It took me a while after I started my academic career to appreciate and think about the severe problem some people had in completing doctoral dissertations (since I had not experienced it). The problem was especially severe when they accepted teaching positions before completing the thesis. In several cases, persons could not complete the dissertation while doing the full-time work of a faculty member. To complete, they left home and closeted themselves in an apartment in the city of the university granting the degree. Only by this drastic measure were they able to complete. They were all bright. They were all motivated at a high level. Something was missing. I came to realize that they did not understand the dynamics of planning, scheduling, and motivating the daily work required to complete the knowledge work project of an independent dissertation. When I was in Belgium with the European Institute for Advanced Studies in Management, we were working with European doctoral students. I thought they would be different, but they weren't. Many had difficulty completing. I could construct many reasons, but the common theme was that they did not know how to manage the knowledge work of the dissertation project. I wrote a short, simple working paper for these students explaining how to manage the project. It was subsequently published in the United States as *Writing the Doctoral Dissertation: A Systematic Approach*. It has been used by tens of thousands of students in different departments in a large number of universities.

Over the years, I have refined the concepts that I developed in 1972 but the basic ideas have remained very robust. Five ideas get at the essence of planning and schedule discipline. These are fundamental, and anyone (no matter how schedule-discipline impaired) can make use of them.

- Know how long it takes YOU to do knowledge work tasks. Develop some explicit estimators for planning.
- Set time and effort limits on each knowledge work project (or major parts if it is long).
- Plan for motivating yourself. Define short-term deliverables to measure your progress and motivate you (the M&M approach).
- Schedule your activities to match your productivity patterns during a day or other period.
- Schedule hard things for uninterrupted times when you can concentrate and schedule things requiring little concentration (and allowing interruptions) for rest times or tired times.

You must have some rough but explicit estimators for doing activities in a knowledge work project. Why explicit? Because many (or perhaps most) of us intuitively underestimate the time it takes to do knowledge work activities. My observation is that we tend to underestimate worse if we estimate the total time than if we estimate the different parts of the knowledge work project. Some people are good at intuitively estimating a project. I am not, and many of my colleagues are not. Don't be fooled into believing you are an accurate intuitive estimator unless you have lots of evidence.

Example: I estimate that it takes two hours per double spaced page to organize and put on paper ideas that I already know well and have talked about. It takes up to five hours per page for fuzzy ideas that I have to formulate into coherent content. This means a ten-page write-up of things I know well will take twenty hours; my intuitive estimate without applying the page estimate algorithm is likely to be five or six hours.

Example: I estimate it takes me an average of three to four hours to prepare properly for a course lecture and class discussion. Again, my intuitive estimate will tend to be very optimistic. I say to myself, "I know the subject, so I will be ready in an hour."

The next good idea for planning and schedule discipline is to set time and effort limits for a knowledge work project and for major parts of it. If there are no time and effort limits, knowledge work will expand to take all the time and effort that are available. The adage was articulated as Parkinson's Law by a British humorist, Cyril Northcote Parkinson, as the first sentence of a humorous essay published in November 1955 in *The Economist* and in a subsequent book. This humorous adage turns out to be a serious, important principle. This means, for example, that if you were given an assignment to prepare an analysis of the cause of the United States housing crisis and prepare a good recommendation, you could take one month, six months, twelve months, three years . . . or forever. You can spend whatever time you are allowed. This principle was demonstrated in early information system development

projects that tended to go on and on without being done. Only by breaking projects down into short projects with deliverables (sometimes natural deliverables but sometimes artificial deliverables that demonstrated progress) were we able to get things done on time.

Example: It is possible to spend almost unlimited time on a research project. It is also possible to over-prepare for teaching. Without a plan for a class session with appropriate goals and objectives, an instructor may accumulate too much material, add irrelevant stories and examples, and bore the students.

The third idea is to plan and schedule in such a way to help with your motivation. It is hard to maintain motivation for a goal that is ill defined or far off. Short-term deliverables help with motivation. Each deliverable or milestone is motivating. Remember the psychology experiments with rats where they gave a rat that did a task a reward (a food pellet) to motivate it. We tend to need motivation from completion. Each completion gives us motivating reward—a psychological candy (think of an M&M). It gives us success energy and helps us continue on to the next part of the project. Therefore, you need to identify and focus on short-term deliverables that motivate you. Just don't make them too long; create short ones that lead you to accomplish the big result you want. Rather than thinking of writing an article as a single knowledge work task, break it into shorter deliverables that can be done in a day, a few days, or a week. The short-term task deliverables typically include an abstract (write it first), an outline, a description of the problem, explanation of significance, etc. Short deliverables for teaching a course may be the outline of learning objectives, the outline of course topics organized by day of delivery, detailed notes for a single lecture, etc. When you finish a milestone, celebrate with a reward (your knowledge work M&M). Examples of rewards might be as simple as a short recreational activity (a movie, a ball game, reading a mystery, watching a television program). It can be for you alone, or it can involve your spouse and/or children (since they have waited for you to finish).

Example: My personal style is to write an abstract first. If I can't write an abstract describing what I expect the article to say, I have a hard time writing the article. The next task is a list of the headings for the article (sort of a table of contents with a short description of the expected contents). The same concept applies to a book or a dissertation. I can then set a schedule and time limits for each part. If I need to do some research, look up references, or any other preparatory work, I can define them as deliverables and estimate time and effort for them.

Example: Schedule activities that will help you be a better teacher: seminars on teaching improvement, feedback from faculty you invite to listen to your class as a mentor (you can do this for others), feedback from students, and teaching the same class more than once to develop your lectures and teaching style.

The fourth idea for planning and schedule discipline is to make use of your individual productivity patterns. Most of us have distinct productivity patterns during a day or during a week. Some people are most productive early in the morning. That is true of me. Some people work best late at night. It is important to schedule hard things during high productivity times and easy things at less productive times. Since some things can be done in the midst of interruptions, schedule interruptible tasks during rest times or tired times. Not everybody is the same, so figure out what works for you and then plan and schedule the way it works best for you.

Example: If your best time for productivity is early in the morning, don't start by answering the e-mail or doing other things that can be done during low productivity times. Most of us have a tendency to do short jobs first because they give an instant reward (an M&M), but doing them first in a high productivity time can keep you from more important tasks. Remember that every completion gives you an M&M, so using valuable high productivity time for things that do not require concentration and attention means you have wasted the time. You will get M&Ms but you won't have used your time resources wisely.

Example: Editing or proofreading are easy for me to do during rest time or tired times. I try not to use high productivity, concentration times for it.

Example: The first edition of the MIS book was very difficult. I did not have a good pattern to follow. I needed long periods of concentration. I was able to isolate myself for a period of ten weeks. I avoided interruptions and rest work. This period of concentration was unusual, but it was needed for that project.

Example: When I was doing the revision of the MIS book, I couldn't seem to make progress, because I needed some uninterrupted time to concentrate and formulate the revision. I finally went to an isolated spot where I didn't have any short jobs to keep me from the hard work. On the first morning away from the mail, telephone, and other short jobs, I felt almost sick from the lack of M&Ms from short jobs. It was only when I got into the rhythm of the hard project and started getting some outputs, such as chapter outlines and drafts of hard sections (these give M&Ms), that I became motivated and could stick with it.



Example: We are not all the same in terms of hard work and easy, rest work. I like to do personal financial work during rest or tired time. I find it does not take too much effort and concentration to record transactions in Quicken, pay bills, download transactions from the bank, reconcile, etc. It is rest work that gives me M&Ms. My wife has a nonfinancial background, and personal finances that are rest work for me are hard, concentration work for her.

Example: Some of the failures in timely completion of dissertations that I observed were, I believe, due to the tendency by those who are all-but-thesis and have taken a teaching position to consume most of their time doing short jobs they need to do. It is understandable. Starting a new job at a new school with new classroom and advising responsibilities means there were many demands on their time. After doing these jobs first, they are too tired to make progress on the hard work of the dissertation.

4. Balance Personal Life and the Demands of an Academic Career

The university does not usually set work times and “not work” times or work places and “not work” places. For much of your work time as an academic, you define work times and places. The technology of the Internet means you can work at home with the same access to library and other resources as at your office. Work time boundaries have disappeared. The result is that it is easy to let academic work crowd out important parts of your personal and family life. One important part of the solution is to schedule and set tough time and space boundaries between work and personal life. This means that certain times and places are for family; other times and places are for academic work. Knowledge workers faced with this problem have developed different strategies, and one size does not necessarily fit all. The point is to make sure you have a boundary strategy that works for you.

Example: I have found it is very important for me to have personal life boundaries. These are daily and weekly boundaries to have time with my wife, time with children, such as dining together and family night, and sabbath day for worship and related church and family activities.

Example: It is easy for spouse and family to get the idea that you have important work to do and that you probably will not have time for them or at least they will not have any priority. The solution is to be proactive and put dedicated times on the calendar—time in which the spouse and family will be first.

5. Keep Yourself Flexible and Open to Interesting Opportunities

Even though you should have some ideas about your gifts that give you advantage and have thought through goals and a plan to guide your life and developed schedule discipline to help you be productive and have tough boundaries to keep a happy, balanced life, you should always be open to interesting opportunities. They can come at unlikely times and disturb your plans—but don’t reject them without serious and thoughtful consideration. In general, opportunities come because you do things that elicit them. Four thoughts illustrate how you can increase the likelihood of interesting opportunities.

- Be open to colleagues and students with diverse backgrounds and interests. Be interested and helpful. These are likely to be sources of opportunities.
- Be open to great opportunities that are likely to employ and expand your natural talents. Ponder them carefully and be willing to change your plans to accept them.
- Be open to unlikely research opportunities. Problems you experience, observe, or hear about (even small ones) can be the basis for great research. Consider partnering with colleagues who can augment your research skills for a research project.
- Be open to leaves and sabbaticals (mine were great!). Consider leaves in industry or government. Leaves can be for a quarter, a half year, a year, or longer.

Example: Being open to colleagues and students with diverse backgrounds led me to seek to understand different views of research. I tend to be a positivist, but working with colleagues in Europe and the United States has helped me appreciate alternatives. While working on a case study of an information system failure, a colleague on leave at Minnesota (Allen Lee) suggested hermeneutics as a way to understand the case study. We worked together, and it was an eye-opening experience.

Example: An example of a great opportunity that took a leap of faith to accept but expanded my natural talents and interests was the responsibility for the computer that was given to the business school just before I took my position at Minnesota in 1961. Even though I had done some computing while consulting before taking the Minnesota position, I was not a computer expert. But the position employed and expanded my natural talents and interests in business systems, especially systems for providing reports and analyses for managers. The

position led me to learn about computers and write one of the early texts on computing that was designed for business students (a very successful text). The responsibility was the beginning of a set of activities that led me to work with colleagues in formulating the Minnesota MIS academic programs and establish a research center.

Example: An illustration of being open to unlikely research opportunities is a field experiment I conducted with John Neter, a professor of statistics and quantitative methods. I had done some auditing early in my career, but I thought it was boring and I had no interest in doing research on it. One day, the Internal Audit Manager for a local bank called my colleague and inquired about sponsoring audit research. John came to me to see if I had any ideas. I remembered some experiences in auditing where I questioned the evidence from audit confirmations where companies or individuals were asked to confirm the amount of their account (payable, savings, etc.). We did a field experiment to test how well the recipients of audit confirmations did the task (confirmed correct balances and disconfirmed incorrect ones). The results of our field experiment were incredibly important to audit practice. My point in the story is that my natural inclination was to avoid the research project because I had no interest in auditing. I could easily have ignored the research opportunity being offered, but I did take advantage of the research offer. I used my background to describe a problem that needed research, we did an interesting field study, and the result was interesting and valuable. The story also illustrates the value of partnering with one or more colleagues who have better talents and skills than you in some aspects of research. I understood auditing, I understood the problem, and I understood the value of the result. I partnered with a colleague who had outstanding skills (better than mine) in formulating a field research experiment.

My three leaves were not traditional sabbaticals; they were actually leaves without pay from Minnesota because my salary and expenses were paid by the hosts for my leaves. That fact made the finances easier to deal with, but other problems common to leaves were present. The important message about these leaves is that in each case, I and my family had reasons to not do them, but they turned out to be terrific. I label the three leaves as a leave that came at an inconvenient time, a leave I thought I was too busy to take, and a leave that required facilitation.

- A leave that came at an inconvenient time. I was asked by the American Institute of CPAs to come to New York for fifteen months to help support efforts to get CPAs more knowledgeable in computing and its effects on their activities. It was inconvenient to my school; they needed me to teach but they still encouraged me to take the opportunity. It was inconvenient for the family. After ten years of marriage, we had just moved into a new home. We had two children in primary school and a new baby. We saw the inconvenient aspects, but we also saw the opportunities the appointment would bring and the possibility of an interesting time for the older children. It turned out to be an incredible opportunity for me and also very good for the family.
- A leave I thought I was too busy to take. I was invited to join the faculty of a new institute in Belgium, the European Institute for Advanced Study in Management. We would work with doctoral students at the dissertation stage, along with their advisors. I looked at my schedule and told my wife, "I am too busy—maybe next year." She said, "What will be different next year?" I was leaving for a trip and made a list with two columns—the first column was why I couldn't go at that time and the second column was why I wouldn't be able to go the next year. The lists were the same, so I accepted the appointment. It was the most productive time in my academic career, including the two books for which I am best known.
- A leave that required facilitation. An opportunity came to go on leave to Singapore as Shaw Professor at the National University of Singapore. It sounded great, but my wife was finishing her doctoral studies in counseling psychology and was ready to do a dissertation. The leave depended on being able to facilitate her dissertation. We did some brainstorming and developed an idea for research she could do in Singapore. There was in her department a famous researcher in cognitive moral development. Research had been done for a number of populations, but there was almost no research involving business students and no cross-cultural studies on this subject for this population. The result was a great year for me. It was a good year for her as she completed her dissertation based on a cross-cultural study with Minnesota and Singapore students. I also learned a lot about cross-cultural research and cognitive moral development.

Reality Check: I Have Had Failures Along the Way Because I Didn't Always Follow My Own Advice

I believe the advice I have given will help my colleagues to be more productive and happier in their lives. However, it may be helpful to disclose that I didn't always follow my own advice. I label these failures as a persistence failure, a leaning too far in future failure, and a project selection failure. Each of these illustrates some things to watch out for.

- Persistence Failure: I had a good idea for a conceptual article. I and some doctoral students conceptualized the management of knowledge work and wrote a conceptual framework article. When the article was turned down by a major journal, I forgot my usual principle when I have an article that I consider to be interesting. I revise and try again and get it published some place. I try to keep in mind that often the best journals have a bias against innovative ideas. However, in this case the concepts were not formulated and documented well

enough, so the rejection was not unreasonable. If we had rewritten it, we probably could have gotten it into a publishable form. I think the result would have been a valuable addition to the literature.

- **Leaning Too Far in Future Failure:** I and Dave Naumann had an idea for a textbook on knowledge worker productivity with information technology. We explained *knowledge worker productivity* and then explained how information and communications technology could be applied in achieving productivity. We tested the book and got some encouragement. It was published but didn't do well. It had some good concepts, but the combination of productivity and technology ideas were not developed well enough and associated research was not compelling enough for a successful textbook. I still think the ideas underlying the book were good and worthwhile, but it was premature. It needed a lot more experimentation, more relevant and compelling explanations and exercises, and more classroom trials.
- **Project selection failure:** I didn't do the third edition of the MIS book because I had an oversupply of interesting writing projects that were compelling but, on balance, less important. I failed to follow my advice of understanding and evaluating my goals and planning appropriately. If I had been more careful in planning and scheduling, I would have seen clearly that a third edition was more important than the string of interesting projects that were less difficult and therefore more enticing. The net result was that I never got around to the important (and very difficult) task of a third edition.

PART II: MY PERCEPTIONS OF THE FUTURE OF THE ACADEMIC FIELD OF INFORMATION SYSTEMS AND HOW TO TAKE ADVANTAGE OF A CHANGING TEACHING AND RESEARCH DOMAIN

As I explained earlier (also see Appendix), I have been part of the development of the academic field of information systems. Over my career I have worked to explain and re-explain what we are about, the content of our courses, and the curriculum we should use. I have been the author of important textbooks. The world is changing, but many lessons of the past help us understand the future. I believe my involvement in building the field of information systems gives me interesting insight into the strengths and weaknesses of the academic field and directions the field may take in the future.

My Perceptions about the Teaching Mission for Information Systems

An important teaching mission is critical to the future of information systems as an academic discipline. I believe the faculty teaching IS will continue to have two important teaching missions:

- Preparing non-majors with knowledge and reasoning skills for their interactions with current and future systems based on information and communications technology and preparing them to innovate in specifying and adopting new uses.
- Preparing IS majors to analyze, build, implement, and manage information technology that supports organization activities and to propose innovations.

The first teaching mission is based on the existence of a body of knowledge that is important to people in their understanding of the world around them, including the world of their work. The second mission says there are jobs that require specialized skills and the fundamental knowledge for this work can be taught. The first teaching mission is broad and extends well beyond the business school or information technology school. The second mission depends on specialized positions that benefit from the intellectual preparation that is done well in universities.

These two teaching missions depend on a body of theories, concepts, principles, and practices that can be taught to students and applied when they are at work. I believe these exist, and, based on my experience in the field, I believe we can and will do the work to keep the teaching materials relevant and current.

My Perceptions About the Market for the Body of Knowledge That We Teach

There have been naysayers who proclaim the demise of the body of knowledge and the teaching and research mission of the IS field. It is true that IS activities may shift between being performed by in-house personnel and being provided by external providers, but the fundamental activities and knowledge requirements persist. My optimistic view is based on a few propositions:

- Organizations need systems to do organization work. These systems rely heavily on computer and communications technology. These systems decay naturally as conditions change, as temporary fixes are made permanent, and technologies no longer fit well. The systems need to be refreshed, revised, and improved to reflect organization changes and changes in technology. The work of providing and refreshing systems is never done.

- Organizations will continue to need managers, IS specialists, and personnel who can innovate and partner in development and implementation of new and revised systems that take advantage of advances in information and communications technology.
- The rapid cycle of technology innovation will continue. These innovations will need to be incorporated into organization systems.
- There will be a long-term need for an IS function in every organization. There will be an ongoing need for the knowledge and skills of IS professionals.
- There will be continued demand for IS specialists who combine technical and organization knowledge.
- New technologies and new applications will add to the knowledge and skills expected of IS specialists. Some skills will increase in importance; others will decrease.

In other words, the organization function of IS will continue to be important. There will be a market for the knowledge and skills we research and teach.

My Perceptions About the Future of the IS Academic Field in the University

This continuing need for the knowledge and skills we research and teach suggests that there is a viable future for the academic field of IS, and it will do well. On the other hand, given the fact that the technologies and applications change rapidly, the field will experience change and stress in response to changes in requirements. We will be faced with an unrelenting need for updating the technological part of our domain knowledge. We do not have strict boundaries around our topics and knowledge areas. We share some topics and knowledge areas with others (even though we may have different viewpoints or reasons for studying them). We also have a comparative advantage in teaching and researching some topics and topic areas. Illustrations of areas of comparative advantage, unique position, or unique qualifications are the following:

- Unique position to teach system concepts relative to work systems that employ and rely on information technology. These include system concepts, systems thinking, socio-technical system context, cognitive limits with systems, human-technology interfaces, motivation in system use, and enterprise and other packaged systems. We are not the only academic field interested in systems in organizations; our special interest and expertise arises because we are system builders. We elicit requirements for systems supporting organization work. We acquire and implement the systems, and support the operation and updating of the systems.
- Unique qualifications to teach modeling concepts to understand and describe systems and data.
- Unique position to research and teach the body of knowledge and practices that help managers identify information and communication technology trends, evaluate affordances of new technologies and systems, think innovation, evaluate opportunities, and establish timing trials of new technologies and devices.
- Unique position to teach future managers about information system project management issues, information and communication system risk, risk assessment, and risk management.

System concepts are fundamental to analysis of requirements and design of new systems that employ information and communications technologies. They are a vital part of the body of concepts that we employ. We can probably do a better job of making them relevant to students and those who will work with us in defining requirements for systems.

In building systems, we teach students how to model existing systems and analyze new alternatives available with information and communications technologies. We teach students how to model both existing system behavior and processes and to model proposed systems. This modeling is not normally taught by any other function in the organization.

An area that naturally fits into our domain is the identification of information and communication technology trends and evaluation of the effect the technology may have on the organization. This is difficult to do. It is not a topic in most courses. Yet, this is a recurring problem in organizations. Adopting new technologies too quickly may be very costly and lead to failures, but adopting too late may be also be costly in terms of lost opportunities and loss of leadership. The teaching material and case studies need to help managers at all levels to evaluate new developments and identify how the affordances that new technologies bring may be used in the organization. The approach, if taught well, will add significant value to those who learn to do it.

Risk assessment is a process that has unique characteristics for information and communications technology systems and applications. We can provide a coherent way to think about and manage the risks in new systems.

The Textbook Problem

Textbooks, especially for the first course, are very important in defining the domain of a field and differentiating the concepts, theories, and practices of the field from other, closely related disciplines. It is hard to be innovative with a textbook. If you lean too far into the future, you fall on your face. If you match the teaching capabilities of the current faculty, you may sell books, but you won't advance the field. I had the honor of writing a path-breaking textbook that helped define the content of the field of information systems. I combined concepts and theories with descriptions of practice and procedures. The textbook, *Management Information Systems: Conceptual Foundations, Structure, and Development*, was published in 1974. A second edition (with Olson) was published in 1985. It has been ranked as a classic in the field.

Example: Sometimes faculty select textbooks based on their current (perhaps outdated) knowledge. Choice of out-of-date textbooks reflects the difficulty of keeping up to date. Does it happen? I reviewed a proposed computing textbook that was terrible for the students; it was out of date. I recommended against publication, but it was published. It did well for two years and then died quickly.

I already explained that I failed to do a third edition, probably because it would have been difficult and because I had a large supply of shorter, easier projects (more availability of M&Ms). It is hard to know what I would do if I were working on a 2010 revision. I am out of date relative to the current textbooks, but I have pondered how I might improve the 1985 edition of what was a leading-edge book. Beyond the usual updating, I would probably make significant changes to strengthen several topics. Three examples of topics I would now include are:

- System concepts as applied to work systems in organizations (both knowledge work and clerical work).
- How to identify systems that have decayed and need revision with new technology and systems that are still working but can benefit significantly from new system thinking and new information and communications technology.
- How to think about affordances (actionable properties or functions) of information and communications technology, how to identify useful affordances not currently available, and how to forecast affordances expected to be available in the future. The topic should provide some guidance on how to estimate the timing and difficulty of adopting new or improved technology.

Summary Thoughts About Securing the Future

As I said, I am an optimist relative to the long-term health of IS as an academic field. I believe there are good reasons to be optimistic. I and two colleagues (Anne Massey of Indiana University, and Niels Bjørn-Andersen of the Copenhagen Business School) did a Senior Scholar paper for ICIS 2005. I end this paper with five recommendations we made to our colleagues. I believe they are still relevant and useful.

- Be proactive in defining our domain and articulating the importance of its parts.
- Be aggressive in research and teaching at the fuzzy boundaries of applications with shared responsibilities.
- Add real value to students in IS courses for non-majors.
- Be proactive in keeping current on relevant technology and practice.
- Be aggressive in adding value to IS practice and producing graduates prepared for a productive career.

APPENDIX
LIFE OF GORDON B. DAVIS
(PERSONAL, ACADEMIC, PUBLICATIONS, INSTITUTION BUILDING)

Short Summary of Personal Life

- Grew up in Idaho Falls, Idaho (between Salt Lake City and Yellowstone National Park)
- Family life
 - 1954 Married to LaNay Flint (who in 1987 received a Ph.D. in Counseling Psychology)
 - Four children: Alison, Jennifer, Clark, Flint
- Active in The Church of Jesus Christ of Latter-day Saints
 - 1950–1953 Missionary
 - A variety of other church volunteer roles ranging from gospel teaching to leadership and administration

Short Summary of Academic Life

- Academic preparation
 - 1955 BA (Political Science), BS (Accounting) Idaho State University
 - 1957 MBA Stanford University
 - 1959 Ph.D. Stanford University
- Industry experience
 - Grew up in Idaho with family business—wholesale produce
 - Some accounting experience and CPA certificate
 - 1959–1961 Consulting Touche Ross Management Science Group
- University of Minnesota (1961 to 2004, 43 years)
 - 1961 Assistant Professor
 - 1964 Associate Professor
 - 1967 Professor
 - 1975 Honeywell Professor of MIS. Emeritus 2004
- Honorary doctorates from France, Switzerland, Sweden
- Major Leaves from University of Minnesota
 - 1966–67 Computer Consultant to American Institute of CPAs, New York City
 - 1971–1972 Professor at European Institute for Advanced Studies in Management, Brussels, Belgium
 - 1986–1987 Shaw Professor at National University of Singapore

Summary of Publications

- Twenty-three books (thirteen first editions and ten revised editions) with coauthors for eight. Motivations for books were mainly teaching need and innovative ideas about content and pedagogy. Eighty percent were successful in the market. Two of these (in two editions) have had very significant long-term impact:
 - *Management Information Systems: Conceptual Foundations, Structure, and Development*, 1974 and 1985 (with Margi Olson), McGraw-Hill Book Company.
 - *Writing the Doctoral Dissertation: A Systematic Approach* (with C. Parker), 1979, 1997, Barrons Educational Series.
- One-hundred-fifty-five articles on a variety of topics including IS curriculum, conceptual formulation of the field, analysis of concepts and developments in the field of MIS, and results of research

Summary of Activities in Institution Building

- 1968: **A Founder/Innovator in Minnesota MIS Academic Program.** The Minnesota MIS program is often identified as the first formal degree program in information systems. Three of us (Gary Dickson, Tom Hoffmann, and I) raised money, established a research center (MISRC), designed a curriculum, built a doctoral program, and later started the *MIS Quarterly*.
- 1972 to 2002: **Helped Formulate and Publish Model Curricula for IS Programs.** I participated in the major efforts to formulate IS model curricula.
- 1982 to 2001: **Leader in International Cooperation in Disseminating Knowledge of Information Processing.** USA representative to International Federation for Information Processing (IFIP) Technical Committee 8 (Information Systems). Chair of TC8 for two terms (1989–1995)
- 1979: **Helped Establish International Conference on Information Systems (ICIS).** Conference chair 1988 in Minneapolis. This became the leading international conference.
- 1995: **Helped in Formation of AIS—Association for Information Systems** (with leadership by Bill King). I was 1998 President.
- **Advisor, Committee Member, Reviewer, Advice Giver to Doctoral Students.** Worked personally with more than 150 doctoral students in MIS and other fields in the United States and other countries. Influenced thousands of doctoral students through a monograph on doing a doctoral dissertation and many talks on the subject to doctoral consortia and other venues.



Copyright © 2009 by the Association for Information Systems. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and full citation on the first page. Copyright for components of this work owned by others than the Association for Information Systems must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers, or to redistribute to lists requires prior specific permission and/or fee. Request permission to publish from: AIS Administrative Office, P.O. Box 2712 Atlanta, GA, 30301-2712, Attn: Reprints; or via e-mail from ais@aisnet.org.





EDITOR-IN-CHIEF
 Ilze Zigurs
 University of Nebraska at Omaha

AIS SENIOR EDITORIAL BOARD

Guy Fitzgerald Vice President Publications Brunel University	Ilze Zigurs Editor, CAIS University of Nebraska at Omaha	Kalle Lyytinen Editor, JAIS Case Western Reserve University
Edward A. Stohr Editor-at-Large Stevens Institute of Technology	Blake Ives Editor, Electronic Publications University of Houston	Paul Gray Founding Editor, CAIS Claremont Graduate University

CAIS ADVISORY BOARD

Gordon Davis University of Minnesota	Ken Kraemer University of California at Irvine	M. Lynne Markus Bentley College	Richard Mason Southern Methodist University
Jay Nunamaker University of Arizona	Henk Sol University of Groningen	Ralph Sprague University of Hawaii	Hugh J. Watson University of Georgia

CAIS SENIOR EDITORS

Steve Alter University of San Francisco	Jane Fedorowicz Bentley College	Jerry Luftman Stevens Institute of Technology
--	------------------------------------	--

CAIS EDITORIAL BOARD

Michel Avital University of Amsterdam	Dinesh Batra Florida International University	Indranil Bose University of Hong Kong	Ashley Bush Florida State University
Fred Davis University of Arkansas, Fayetteville	Evan Duggan University of the West Indies	Ali Farhoomand University of Hong Kong	Sy Goodman Georgia Institute of Technology
Mary Granger George Washington University	Ake Gronlund University of Umea	Douglas Havelka Miami University	K.D. Joshi Washington State University
Michel Kalika University of Paris Dauphine	Julie Kendall Rutgers University	Nancy Lankton Michigan State University	Claudia Loebbecke University of Cologne
Paul Benjamin Lowry Brigham Young University	Sal March Vanderbilt University	Don McCubbrey University of Denver	Fred Niederman St. Louis University
Shan Ling Pan National University of Singapore	Jackie Rees Purdue University	Thompson Teo National University of Singapore	Craig Tyran Western Washington University
Chelley Vician Michigan Technological University	Rolf Wigand University of Arkansas, Little Rock	Vance Wilson University of Toledo	Peter Wolcott University of Nebraska at Omaha
Yajiong Xue East Carolina University			

DEPARTMENTS

Global Diffusion of the Internet Editors: Peter Wolcott and Sy Goodman	Information Technology and Systems Editors: Sal March and Dinesh Batra
Papers in French Editor: Michel Kalika	Information Systems and Healthcare Editor: Vance Wilson

ADMINISTRATIVE PERSONNEL

James P. Tinsley AIS Executive Director	Vipin Arora CAIS Managing Editor University of Nebraska at Omaha	Copyediting by Carlisle Publishing Services
--	--	---

