

TITLE: "THE TEN COMMON MYTHS OF I.T."

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Since 1971: *"Software for the finest computer - the Mind"*

*"A company runs on information, not data."
- Bryce's Law*

INTRODUCTION

You've heard them all before. They particularly arise whenever quality work is required or when organization and management control is imposed. Of course, I'm talking about the ten common myths of I.T. Ten common rationalizations people in the Information Technology world turn to whenever their authority or professionalism is challenged. They are neither new or limited to a specific geographical location. They have been around as long as the modern computer and they transcend all cultural and industrial boundaries. What's worse, they have proven to be effective.

The following is the ten most popular myths in the field. Obviously, it is not all inclusive. It is simply the ten most commonly used:

- OUR PROBLEMS ARE UNIQUE
- WE NEVER SEEM TO HAVE ENOUGH TIME TO DO THINGS RIGHT
- YOU ARE STIFLING OUR CREATIVITY
- SYSTEM DESIGN IS AN ART FORM
- TECHNOLOGY WILL SOLVE OUR PROBLEMS
- A DBMS IS A PREREQUISITE FOR DATA BASE
- THERE IS AN INFINITE AMOUNT OF DATA IN AN ORGANIZATION
- OUR COMPANY RUNS ON DATA
- USERS OWN THE DATA
- USERS DON'T KNOW WHAT THEY WANT

Let's look past the facade of each of these for a moment and see what they really mean.

"OUR PROBLEMS ARE UNIQUE"

This is perhaps the most popular of the myths and is probably used to pacify the ego of I.T. Management. I discovered it several years ago when I happened to do some consulting for three separate companies from the United States, Japan and Brazil. In all three instances, the I.T. Managers insisted their problems were unique to their company. They pointed at the overwhelming pressure they operated under, uncooperative users, insensitive management, and some cultural constraints. The parallelism was incredible. Here were three separate companies, geographically separated by thousands of miles, all of which describing the same problems, yet viewing themselves as unique.

In studying this further, I discovered most companies share the same problems, such as:

- A. A substantial backlog of user requests (three to five years seems to be the norm).
- B. Poor communications internally within the I.T. staff and externally with end-users.
- C. Project cost overruns and slipped schedules.
- D. Employee dependencies to maintain and support systems.
- E. Hardware/Software dependencies; systems are tied too closely to a particular vendor, making upgrading difficult.
- F. Redundant data throughout an organization (we know of one state government who conservatively estimated NET-PAY is calculated at least 100 different ways).
- G. Lack of adequate documentation (thus providing job security for the staff).
- H. High staff turnover.
- I. Design inconsistencies.
- J. Systems personnel clash with data base personnel.
- K. Information Systems do not meet users needs.

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L. DBMS is used as nothing more than an elegant access method.

M. Data is tied too closely to applications, making change difficult.

Bottom-line, I.T. organizations suffer from low productivity and poor performance. Inevitably they end up in a "fire-fighting" mode of operation constantly patching problems. However, the problem here is the chief fire-fighters are also the principal arsonists. It is unfortunate the "fire-fighters" enjoy higher visibility than those who work quietly in a methodical manner. This is a situation where the guilty are promoted and the innocent are prosecuted.

Instead of imposing management discipline and control, I.T. managers resign themselves to a life of chaos. It is no small wonder their average tenure in office is less than three years.

"WE NEVER SEEM TO HAVE ENOUGH TIME TO DO THINGS RIGHT"

This implies "*we have plenty of time to do things wrong.*" There is an interesting relationship between the quality of a product and the speed by which it is developed. This phenomenon is true of any product being built.

The faster the delivery of a product, the greater the chances are for inferior quality. The slower the delivery, the greater the chances are for superior quality. Neither extreme is acceptable; an even balance must be maintained to assure one doesn't have an adverse effect on the other.

Instead of developing a long range plan that incorporates an information strategy, management nurtures the problem by saying they need everything "yesterday." Software vendors prey on companies like this by offering miracle products (e.g., CASE, 4GL, program generators, etc.) promising to accelerate development while producing quality results. Without the appropriate management environment, they deliver neither and compound problems further. These tools concentrate on efficiency, not effectiveness. Before you can streamline your operation, you must first know what you are doing.

"YOU ARE STIFLING OUR CREATIVITY"

This scapegoat is a favorite among the "techy set." It is a defensive expression that springs up whenever discipline or change is mentioned. What is ironic is these

same people do not hesitate to reorganize a user's department. The hypocrisy is incredible. Systems people, who are supposed to be the agents of change in an organization, are the most resistant to it.

"SYSTEM DESIGN IS AN ART FORM"

Closely related to the "stifling" myth is the view of system design as an exotic art form. Most systems developers like to be viewed as free-spirited souls who do not like to be encumbered with organization, discipline and accountability. The fact is, many of these so-called "*Rembrandts*" are nothing more lousy house painters. They hide behind the mystique of their technology in the hopes it will conceal their poor performance.

Systems design is a proven and teachable science. This is not to suggest science lacks creativity. For example, there is considerable creativity in the sciences of architecture, engineering, music, etc. Science simply establishes the governing principals and rules to be observed in your work.

"TECHNOLOGY WILL SOLVE OUR PROBLEMS"

This is more of a train of thought as opposed to an actual expression. It is based on the belief that hardware and software will correct all of the ills and ineffectiveness of the company. The belief that technology, not management, will solve problems is just as prevalent today as it was when the computer was first introduced.

It is fascinating to watch companies throw millions of dollars at solving a problem through technology, yet balk at spending money for management, a sort of "penny-wise and pound foolish" mentality. Corporate management genuinely believes that I.T, management controls and tools can be developed inexpensively, if not free.

To some companies, technology is purchased more as the latest status symbol, as opposed to its practicality. It is purchased more to "*keep up with the Jones'*" than anything else. What they don't realize is the Jones' are in as much trouble as they are.

"A DBMS IS A PREREQUISITE FOR DATA BASE"

I remember meeting an I.T. Director from a large regional bank from the U.S. southwest who insisted his company didn't have a data base. What he meant to say was he didn't have a DBMS (Data Base Management System). With the propagation of DBMS packages in the field, most

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companies now sincerely believe a DBMS is a prerequisite for data base. Although DBMS software offers tremendous leverage for file management, it is far from being a mandate for data base.

All companies have a data base, some are managed, most are not. A data base is nothing more than a collection of all of the data required to produce information. Obviously, this definition transcends the computer. It is a recognition that data is a resource which must be managed like any other resource; e.g., money, people, materials, etc.

A DBMS offers great capability when managing data stored on mass storage devices. But it must be realized that data is used throughout an entire organization, in manual and computer applications, in a variety of files (manual, tape, microfiche, disk, etc.). Data Base Administration activities typically cover only the data used by a DBMS. What is necessary is a higher level position that manages all of the data, regardless of where used or how stored. The Data Management function should behave in a manner similar to Materials Management, Financial Management, and Human Resource Management. This is the Achilles' Heal for most I.T. organizations, the failure to recognize data as a valuable and re-useable resource.

To compound problems further, even when DBMS technology is introduced to a company, it is rarely used effectively. Instead of utilizing a DBMS to share data among applications, most apply it as an access method only.

I conservatively estimate less than 5% of all I.T. organizations in the world have successfully implemented a managed data base environment, DBMS or not.

"THERE IS AN INFINITE AMOUNT OF DATA IN AN ORGANIZATION"

Some people would have you believe there is an inordinate number of unique data elements used in an organization and to catalog and control them is a mammoth undertaking (therefore, we shouldn't waste our time). Instead of documenting a data element and re-using this intelligence, people typically redefine data with each application. This leads to inconsistent definitions and redundant work effort. But worst of all, it makes implementing a change to a data element extremely complicated.

In reality, there is a finite number of data elements in any

given organization, probably in the neighborhood of 3,000 to 5,000. And although it is no small effort to document the data, it is a wise investment in the future. Once it is defined, a data element can be re-used in multiple applications, which leads to a shared data base environment. Capturing this intelligence must evolve over time with each application, it cannot be captured over night.

"OUR COMPANY RUNS ON DATA"

This is one of the most naive statements in the business, one rooted in ignorance. The person using this expression obviously doesn't grasp the inherent differences between data and information. They are not synonymous. The differences are simply too numerous to list here but essentially Data by itself is meaningless; it is the representation of a fact or an event. It is the raw material by which information is produced. Contrary to this, Information is the intelligence or insight gained from processing data to support specific business functions.

A company runs on information, not data. In fact, information is the most important asset a company has. All actions and decisions are predicated on information. Organizations progress when the impact of good actions and decisions outweighs the impact of bad actions and decisions. Information gives us the means to make these actions and decisions.

Those who do not understand the differences between information and data are probably the same people who do not understand the differences between an information system and computer software.

"USERS OWN THE DATA"

This is a typical attitude found in companies who do not understand the concept of managing data as a resource. In this situation, data is jealously guarded by each user. As a consequence, redundant files and applications are the norm. The sooner you get past this stage, the better off your organization will be.

Does the Controller "own" the money? Does the Human Resources Manager "own" the employees? Does the Materials Manager "own" the parts? Of course not; they simply administer the resource. A comparable position to manage data resources must also be created.

"USERS DON'T KNOW WHAT THEY WANT"

Translation: "I don't know what I'm doing so I'll just keep hacking away at the problem." This type of comment is
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a sign the person is not properly trained in Systems Analysis. Users didn't get their job by default; they must know a little bit about their end of the business, otherwise they are not going to have it for long. The problem typically stems from the analyst's inability to define business problems, specify information requirements and to effectively communicate with the user. Instead of asking how the user wants to view their screen, try to understand their problem first. An elegant solution to the wrong problem solves nothing. Only when the Systems Analyst can walk in the moccasins of the user, does the analyst have the right to build a system for the user.

CONCLUSION

You would think after forty years of promoting these myths, we could invent some new ones that are a little more imaginative. The fact they have survived this long is indicative that management is still not facing up to their problems and are still baffled by technical gobbledegook.

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