Giving away the data processing store, or Does the data processing department as we know it today have a future?

by LOIS ZELLS
Yourdon, Inc.
New York, New York

ABSTRACT

Data processing’s position in the organization, as we know it today, does not work! There is an ongoing communication gap between data processing groups and the rest of the world—the users. This never-ending adversity between users and data processing continues to reinforce polarization. The situation hampers productivity and drains important energy—energy that could be rechanneled and made to work for the organization.

The first step in solving any difficulty is to establish ownership of the problem. In this case, we are faced with a clear case of sibling rivalry. Often, the only way to stop the squabbling is for the parent to assume the role as arbiter of peace and establish the ground rules for a harmonious family life.

Because they are in antagonistic positions, users and data processing cannot solve problems themselves. It is executive management’s responsibility to provide the framework for harmony and to continuously and visibly demonstrate the commitment to a new approach. Otherwise the whole process will just be another empty exercise in futility—better left untried.

In our attempts to remold the organizational personality we may address

1. Long-range planning
2. Managing organizational expectations
3. Training issues
4. Public relations

Then if management recognizes that we cannot continue as we are today, if management truly can envision a time in the future when the current trend will be reversed, and if management is willing to consciously choose to redirect the flow, harmony can and will be realized.
INTRODUCTION

A new management information system (MIS) director recently told me that his department had achieved such poor credibility under his predecessor that he was going to run the department by keeping the users in the dark as much as possible and not committing to anything. That way, there would be no disappointments. In another instance, a chief executive told me that he had so little confidence in his data processing department that he would only let them maintain existing systems. All new work was being handled directly in the CEO’s office and executed by outside consultants.

Data processing’s position in the organization, as we know it today, does not work! There is an ongoing communication gap between data processing groups and the rest of the world—the users. This never-ending adversity between users and data processing continues to reinforce polarization. The situation hampers productivity and drains important energy—energy that could be rechanneled and made to work for the organization.

WE WANT TO CHANGE THE BUSINESS AND WE WANT TO CHANGE ATTITUDES

Outdated and nonfunctional, the traditional bureaucratic business philosophies need to be swept away so that fresh and unbiased approaches can be introduced. The solution to these problems lies in restructuring the environment and remolding the personality of the organization in order to inspire teamwork and new ways of viewing the function of data processing.

There is not, however, a simple and free path to achieving these goals. Most important, none of this will work without the understanding, approval, and commitment of executive management. It will happen only if we move ownership to upper management, that is, if the process is executed at the highest levels of the organization. Furthermore, it is important to realize that more than just lip service will be required. Executives need to be willing to visibly and continuously demonstrate their commitment to this new way of doing business; otherwise the whole process will be just another empty exercise in futility; better left untried. But, if management recognizes that we cannot continue as we are today, if management truly can envision a time in the future when the current trend will be reversed, and if management is willing to consciously choose to redirect the flow, then harmony can and will be realized.

We start by going back to basics and remembering that data processing is a service group to the company, and therefore should be conducted as a business—whose success is determined by the goodwill it establishes through its customers; and, although rarely stated formally, it is necessary to recognize that there also are certain responsibilities that users should automatically assume in this interchange.

As a matter of fact, many businesses are successful as a result of: good public relations, educating customers to understand their roles and responsibilities, as well as what is reasonable to expect from the company and its products. If the antagonistic trend is to be reversed, an effective data processing advertising campaign should be staged so users can rethink their images of data processing.

In this paper, we will crystallize what we can reasonably expect from the data processing function, as well as offer some suggestions for improvement. However, in order to change the future, we must first understand the past.

WHERE ARE WE COMING FROM?

A controversial issue that really fires the imagination comes from trying to determine what role data processing should play in the organization. Turned around, the question is just as meaningful if phrased as “What is the organization’s responsibility to data processing?” Depending upon which side of the fence you are standing, you may have some definite opinions on this subject.

The Corporation

When asked about their attitudes about the data processing investment, many corporate executives voice their dissatis-
faction with the low returns they perceive they are getting from data processing expenditures.

- Often, data processing is viewed as a bottomless pit into which enormous amounts of money flow, while requests for services continue to pile onto an already overloaded backlog.
- Senior management does not get all of the information they need for controlling current operations and planning for the future.
- Improvement drives instituted to clean up data processing rarely do more than freshen up existing systems by scrubbing questionable reports and refining remaining ones.
- The creation of new computer systems often is abdicated to technical personnel, who, in turn, become so caught up in state-of-the-art advances that they lose sight of the real business problems that need to be solved.
- Because of their anxieties regarding ownership of the information resource, data processing departments zealously guard their territory and often are reluctant, or even totally unwilling, to support the acquisition of microcomputers unless they also can maintain control of that resource. However, data processing may be unable either to effectively introduce micros into the organization or to instill corporate confidence in their ability to achieve that goal.

To staff data processing departments, companies employ so-called experts. Large amounts of time and money are spent on these employees, and expectations are high. Since these experts are only people and not infallible, they make mistakes. Systems are rejected, even when delivered on time and within budget. Most often, however, systems not only do not deliver what the user expected, but the projects themselves are usually completed late and over budget. Credibility suffers and data processing gets a black eye. The problem is enhanced when dissatisfaction occurs because reliability of already existing systems is low and maintenance budgets become very high.

Data Processing

While the above complaints may be justified from the corporate perspective, interviews from the other side of the fence bring to light facts that are just as legitimate.

- Management professes to believe in realistic planning and control, but when project teams present their schedules for time, people, and costs, management often tries to condense these figures—without reducing the scope of the project.
- Systems developers are not always given the time to do their jobs correctly. For example, although it has been repeatedly demonstrated that more reliable systems are developed by front loading the effort into analysis and design, project participants are still pressured into doing the whole project "quick-and-dirty" or at best are rushed through the early phases to where they can do some real work—like coding. The desire for quality systems is often just lip service. Given the choice between a system that is completed late with no errors and one finished on time with imperfections, the organization often chooses to meet the target date.
- Companies declare their desire to move away from crisis-reactionary mode (where workers spend long hours of overtime in exchange for little or no compensation) to a proactive, controlled environment. When the time comes to put this into practice, what we really see is a continuing request for doing it the old way—just once more.
- Organizations establish elaborate goals for training that are either not used at all or, if trained, students are not given the opportunity to use the skills they have acquired.
- Project participants are required to deliver successful projects, but have no control over the environment that affects the project development process. In turn, project leaders (managers) are required to answer for the success of the project, but rarely are given the authority to get the job done.
- Application teams often find it impossible to uncover a user, sponsor, or owner of the system who is willing or able to participate in and direct the process.

The lists of complaints from both camps are endless. Time and money are wasted, dissatisfaction filters up the corporate structure, and declining productivity invades all levels of the organization. Departmental segregation within the company propagates divisions and barriers that generate independent islands of politics, power, and miscommunication. This lack of understanding of the organization by the organization obstructs the integration of any innovations that may benefit the organization. Large amounts of energy, which could be channeled into productive and beneficial results for the company, are wasted.

EXECUTIVE MANAGEMENT AS THE “CHANGE AGENT”

It has been stated that “everybody complains about the weather, but nobody ever does anything about it.” Data processing’s black eye cannot be healed by griping about inefficiencies. They are obvious! What is not so apparent is how to overcome the problems.

The first step in solving any difficulty is to establish ownership. In this case, we are faced with a clear case of sibling rivalry. Often, the only way to stop the squabbling is for the parent to assume the role as arbiter of peace and establish the ground rules for a harmonious family life.

Because they are in antagonistic positions, users and data processing cannot solve problems by themselves. It is executive management’s responsibility, as the parent, to provide the framework for harmony and to continuously and visibly demonstrate a commitment to a new approach.

Successful executives know they must act on their environment rather than continue to react to it! Therefore, top management should decide:

1. What kind of data processing environment they want
2. What they are willing to pay to get it
Ownership of the problem needs to be accepted at elevated levels and conscious choices must be exercised in choosing how to restructure the environment.

One high-powered management consulting group I know of will only do work for troubled MIS departments after a firm liaison has been established with the chief executive. The CEO must sign a contract for visible and sustained support of the remolding effort. While it is legitimate for the executive to withdraw from the process, he or she in doing so recognizes that, although withdrawal may be a necessary business choice, it will likely cause the demise of the effort. Rather than allow the project to then suffer a slow, painful death, it is immediately canceled. However, the consulting group still gets full payment. This may be considered a rather extreme approach, but it certainly demonstrates an important fact: Either corporations sincerely want to improve the situation—or they don't! It is necessary to qualify the seriousness of their intent; and if it is not present, then the project should not even be undertaken.

Assuming senior management recognizes that there is a problem, the project will be conducted at the executive level and will involve all segments of the organization. Agreements and conflicts will be crystallized, problems will be resolved, and an action plan will be developed. This information will be disseminated to the whole organization. In our attempts to remold the organizational personality, we may address:

1. Long-range planning
2. Managing organizational expectations
3. Training issues
4. Public relations

LONG-RANGE PLANNING: DIRECTING AN EYE TO THE FUTURE

Faced with a desire to control company direction, many organizations have adapted advanced planning methodologies such as strategic business planning and strategic systems planning. Not only do managers need to be concerned on a daily basis about problems of productivity, backlogs, and changing priorities, but the solution of these problems must be compatible with long-range company goals. Each daily decision should be evaluated based on its ability to support or obstruct future objectives. However, many organizations are still confused about exactly what business planning and systems planning are, how these two processes relate, and how to integrate them with organizational theory and the behavioral sciences.

Strategic Business Planning

During the strategic business planning effort, corporate executives identify the performance factors that can improve business results. From an analysis of this information they may select the long-range goals and objectives for the organization. Strategies and tactics are then devised that should enable attainment of these targets.

Who "Drives" The Strategic Business Plan?

At the top of the organizational structure, we may find a function for corporate planning and development. It is unencumbered by traditional and inflexible divisional borders, has the visibility and support necessary for effectiveness, and possesses the high-level perspective. This group may be further divided into:

- Strategic business planners, who lead the development of the "five-year" business plan (goals, objectives, strategies, missions, and tactics).
- Management planners, who analyze the alternatives for implementing the strategic business plan. They prioritize projects, optimize resources, and maximize staff use.
- Environmental analysts, who provide economic and political intelligence necessary for evaluating new opportunities and threats.
- Venture developers, who develop new approaches for achieving strategic goals.

The problems regarding which goals and objectives should be important to the company must be elevated to include a wide perspective of issues. However, often the current approaches do not demonstrate even a minimal level of social awareness. As a matter of fact, most current business-planning efforts tend to limit their attentions to satisfying economic and political pressures, resulting in 75–95% of their emphasis being placed in the inanimate areas of technology, revenues, methodologies, and organizational structures. There is little or no concentration on integrating the humanistic views (especially the needs, requirements, and expectations of users and the data processing professionals who plan, develop, and support their systems). Nevertheless, we should search to find ways to satisfy the conflicting objectives of:

1. The public and private goals and values of the organization
2. The public and private attitudes of the organization toward their personnel
3. The public and private attitudes of the organization toward their customers
4. The public and the private goals of the employees themselves

We would be wise to acknowledge, at last, that it is necessary to consciously implement mechanisms that will foster and feed a positive social environment—where users and data processing groups can focus on common targets rather than on personalities and the behavior that supports polarization.

MANAGING ORGANIZATIONAL EXPECTATIONS

Every organizational effort is infused with many undefined and assumed attitudes. Given any kind of a transaction and two to N participants, there will be two to N views of the transaction, which may not always be in agreement. There are
always dozens of subtle nuances floating like puffs of smoke above every enterprise, often in conflicting directions. We should crystallize these views, resolve the disagreements, and disseminate this information to the community.

The most successful departments within a company are not necessarily the biggest or the most visible. Rather, they are those that provide what the organization expects. More departments fail because of inflated and unreasonable expectations than for any other reason. Therefore, never underestimate the importance of managing organizational expectations. In any data processing organization, effective presentation of the various agreements and decisions is a must. The users, who range from executive managers to hands-on operators of systems, need to have a clear understanding of data processing and its functions so they do not expect more than can be furnished. At the same time, data processing personnel must raise their awareness and appreciation for the conflicts the user faces when attempting to maintain existing business operations while also supporting data processing's efforts.

Furthermore, the red-flag issues should be brought immediately into the open and dealt with objectively rather than suppressed until they become emotional hot potatoes. We often try to bury obstacles with the good hope and intention that time and short-term success will overcome them; unfortunately, we know from painful experience that they don't go away. Failure often occurs when the organization cannot or will not acknowledge problems. However, even the most taciturn managers cannot refute clearly stated facts. Organizational expectations can then be realistic, approved, documented, and disseminated.

In a different context, we could say that the group will choose what games will be played and will establish the ground rules for each game before the playing starts. Any rules will be legitimate as long as all of the participants concur. With this increased knowledge, management can then assess each venture's effect, determine if the organization is committed to successful completion, and decide if the endeavor should be continued or abandoned. In other words, every enterprise should be evaluated based on its effect on the organization, the organization's ability to complete it successfully, and whether or not it supports long-range goals.

What Causes Miscommunication?

First, we should recognize that data processors are not the decision makers for the organization! In the past, our conscientious enthusiasm to do a good job led to the belief that data processing should drive the decision-making process. The reality is just the opposite. We would not contract to build our dream house without commitment of our sustained involvement or the expectation that our opinions will be continuously solicited and our choices incorporated. Since data processors are only the builders of systems, why shouldn't customers of data processing "constructions" be required to provide the same level of participation?

Data processing should, therefore, be recognized as a service group to the organization, responsible for providing facts about alternatives and risks. The decision-making responsibility may then be moved back to the user, where it belongs, allowing the choices to become organizational products rather than data processing projects.

Next, we recognize that conflicting objectives are often a cause of project failure. Two essentials to the success of the process are user participation for successful definition of requirements, and detailed specifications for avoiding uncertainties, omissions, ambiguities, and error. Difficulties arise when data processing prevails upon users for participation to document and validate requirements. Because of the need to maintain existing business operations, user management may be in a bind and need to reduce, or even eliminate, their level of participation. Other times, when data processing workers negotiate for the weeks and months necessary to complete detailed specifications, they are informed that there is simply not enough time, and may be advised to do a less thorough job in order to meet the target date.

Thus, we observe conflicting objectives, which are very confusing to participants. It may be that the constraints are legitimate, and if so, recognition must be given to that fact, and a concise acknowledgment of the trade-offs must be made. Then any results are due to organizational choice, and if projects are late or fail, it is because of poor choice rather than poor management. If constraints are artificial or arbitrary, is it logical or fair to impose unrealistic target dates that serve only to reduce quality and reliability of systems? Where is this direction coming from? Is it real, or imagined? Does upper management need to clarify its position?

Third, many systems people are advised that it is more important to finish a project within a prescribed amount of time than it is to worry about maintenance costs. Not only is this amazing, but it is also confusing to people who understand the high costs of maintenance. What does the organization want from its systems? What degree of accuracy is required? Is reliability important? At the bottom line, does the company know what errors cost? Is reduced maintenance a critical factor? How can we achieve our goals? Is this information being communicated to employees?

Fourth, we must help the organization understand that project planning is an iterative process. It is impossible to present a comprehensive and detailed schedule for implementation on the first day of a project. Furthermore, it is unlikely that an inclusive project plan that is precise can be provided before design is finished. Consequently, as we migrate through the development life cycle, our knowledge base of the project becomes more comprehensive, and we are able to refine the plan.

If management, on the other hand, chooses a target date and advises the project team to retrofit a project into that time frame, the options are as follows:

- Apply more resources—work overtime, assign the super-workers, add more people, and assign the experts.
- Eliminate features.
- Do a less thorough job and accept the risk.
- Agree to do the whole project in the allotted time and finish late and over budget.
desirable. Does management truly understand and appreciate the planning effort? What do they expect from the process? Are their expectations realistic?

Most of these options are dishonest and none is really highly desirable. Does management truly understand and appreciate the planning effort? What do they expect from the process? Are their expectations realistic?

Last of all, documenting organizational expectations takes time and people. Managers who resist dedicating time and resources to this effort are deceived into believing the effort will not be expended later in reacting to undefined expectations.

Even with all the work, the effort may not be rewarded with enthusiastic response. Tom DeMarco states, “The most perfect crystal ball makes no guarantee that users will be happy when they see into the future, only that what they see will be accurate.” Our purpose is simply to minimize the effects of surprise and unpreparedness. As we gain experience and credibility, we may find that unwarranted endeavors—which in the past would have gone on to completion, even though they should have been canceled—will be recognized earlier and be nullified. People who want the transactions at any cost will attack the process or the team members and ignore the projections. If approval is received, implementation can proceed very rapidly and productivity levels can be raised significantly.

ARE WE ACHIEVING THE DESIRED RESULTS FROM OUR TRAINING EXPENDITURES?

A recent survey of 800 managers revealed that training in general was not considered that important to their companies. Yet, these very managers also complained that most employees had some very basic holes in their awareness of how technologies can best be exploited to serve the organization.

With the mounting demand for proficient personnel and the parallel increase in salaries, organizations are seeking ways to realize a higher return on their personnel-investment dollar. Education of the staff is clearly one avenue to that end. However, companies often cannot or do not create an environment that nurtures high yields on any educational expenditures.

Not all companies are in the training dark ages, and those that believe they are enlightened take umbrage at being described in negative tones. We are told that the classes employees do attend are meant to improve the skills of the students and are not intended as vacations, a way to break the monotony of routine, or simply an exercise to satisfy overall organizational training requirements. On the contrary, seminars are supposed to enhance the expertise of the participants and enable them to be more productive in their jobs. Yet managers often have no idea what is being taught to their employees in the classes, have no understanding about whether or not any of the ideas being conveyed even support company goals, and consequently have no plans for implementing the concepts being taught. Thus, when students return to work, they are not even given the chance to exercise the philosophies or skills they have learned.

On the other hand, there are many times that, although a new management policy dictates that the entire group learn new concepts or skills, only half-hearted attention is given to the implementation of the new approach. Actual execution is often obstructed because proper completion is not possible within the imposed target dates.

Most participants in training seminars regard the opportunity as an employment “perk,” recognizing that education is one road to career advancement. As a matter of fact, many employees also are conscientious enough to want to attend only those classes that will help them in their jobs. Attendees usually are eager and optimistic and this attitude is frequently complemented by the enthusiasm and interest of the instructor. But then something goes awry. Disillusionment sets in—either during the teaching session or later on the job. Employees up and down the organization convey feelings of extreme frustration and exasperation. Students demonstrate their skepticism by asking questions such as: “Why aren’t our managers here to hear this?” “Will they really do this in my company?” “Why is there never time to do it right, but always time to do it over?”

When management prevents the growth of quality by failing to train people properly or to support the use of the techniques, then talking about the desire to improve productivity becomes a sham. Productivity does not increase by osmosis. If you are sick and the doctor prescribes medicine, you do not get well by filling the prescription and putting it in the medicine cabinet. Having students learn new concepts does not benefit the organization if these people are not given the opportunity to exercise and learn the use of the new skills and then apply their new expertise.

Does the company really know what it wants from the training experience? Are there corporate objectives against which they can evaluate training strategies? Have these objectives been crystallized and clearly communicated to all of the players? Does the training function have the visibility and recognition necessary to support fulfillment of its aims? Naturally, there are no answers that will work for all companies all of the time. Each organization must choose the correct philosophy for its enterprise and this information should then be disseminated (and continuously reinforced) to all of the appropriate individuals. A continuous, voluntary, and tailored training program that is flexible enough to adapt to the technical and managerial needs of the organization should be developed. As the company acquires new pieces of equipment, implements new technologies or software, and institutes new management philosophies, training modules should be provided for employees. It is also essential that managers take the initiative to prepare themselves in the subject matter being offered to their personnel. Bosses who believe they are too busy for training or who think they are above it all will not only experience a loss of credibility but, what is worse, will doom implementation of the new approaches to failure.
An Action Plan for Improvement

Determine what you are trying to accomplish (e.g., what development and planning philosophies and techniques you want to adapt). Make sure your plan fits in with the long-range organizational goals. Write it down and get management's agreement and support (including executive management). Learn what is being taught. Evaluate all courses to determine whether they satisfy your criteria. Assure your workers that you support these ideas—and upper management must really demonstrate that support. Listen to what the people are learning. Provide follow-up support. Look for areas of confusion and clarify them. And get your money's worth from your training investment!

PUBLIC RELATIONS

In the advertising industry, the benefits of good publicity are quite naturally recognized and accepted. Why can't we borrow and integrate their techniques into the data processing business environment? Since our goal is to rethink our image of data processing, we can use advertising strategies to discover what the organization's current attitudes are, crystallize the "new opinion," and plan a public relations campaign.

Discover the Current Attitudes

Before committing to this project, the organization should be aware of two essentials: First, this is a time-consuming and labor-intensive effort. Second, the fact-finding process must be conducted in an unbiased manner and by a group with no vested interest in the outcome. It follows therefore that it may be preferable, both in terms of time and effort as well as objectivity, that this project be handled by an outside group.

All segments of the organization should be interviewed. The interviewees must be assured that their interviews will remain confidential and that they will be given an opportunity to verify and, if necessary, correct their summaries before they become public record. When the information is collated, it may then be categorized by positive and negative attitudes; these groups may then be subdivided into agreements and conflicts. It is extremely important, at this point, to give visibility to the red-flag issues that pervade every organization.

Crystallize the New Opinions

Executive and middle management must carefully weigh and consciously choose to retain or change each idea. Sometimes, a business decision dictates that we retain some less-than-desirable approach. While this is certainly legitimate, the organization should do so only when it fully understands the trade-offs. Managers must set priorities about the kind of work environment they want to create and then translate these priorities into effective human resource management policies. The outcome of this exercise should be a new business philosophy for data processing's position within the organization. This philosophy, naturally, will include the technological and economic aspects of the function, but also will address reshaping the attitudes of both data processing and users.

Plan a Public Relations Campaign

If the company were planning to introduce a new consumer product, they might stage an advertising campaign to bombard the media. Since we are aware of the success of this strategy, we may borrow some advertising ideas, shift them around, and add some new approaches of our own.

In the simplest form, strategically placed posters may introduce new ideas. For short-term results, contests and campaigns are effective. However, the real success of any project relies on two components: (1) satisfactory project completion and installation and (2) continued follow-up. The demise of the first is often the result of insufficient focus on the second.

If you want something to happen you should make someone responsible for it. Since we want to establish an awareness function, it may be advisable to appoint the responsibility for the implementation of this approach to the people who are ultimately responsible for elevating organizational awareness—the educational division of the company.

Making use of the state-of-the-art training technologies such as interactive video and computer-based instruction, proper implementation of the campaign may include an integration of strategically placed "message units," tailored training modules, and continuous and voluntary training programs (especially for users on reasonable expectations for data processing and for data processing on reasonable expectations for users).

IN CONCLUSION

Most of our literature concentrates on what to do about improving data processing productivity. By continuing to view this as a data processing issue, we reinforce their segregation from the mainstream of the organization. We must acknowledge that reversal of this trend will be accomplished only when we recognize that this is an organization problem. Since data processing accounts for so much of the total business budget, it behooves executive managers to take a more active interest in directing the role of data processing within the organization. Users must be educated to understand data processing and its frustrations, and data processing must be trained to appreciate users and their business.

Finally, we should recognize that a new way of doing business does not become a fait accompli overnight. Organizations that choose to restructure their environments should do so only if they acknowledge that these changes will take time and money. There is no such thing as a free lunch! But, do you pay now? Or do you pay later?

ACKNOWLEDGMENTS

I am indebted to Kathy Spencer who typed this manuscript in record time, so that I would not miss the deadline for submittal—by too many weeks. Dave Appleby of FORD in
London was a dear to let me have his cartoons to help lighten up a very serious subject. If I tried to name all of the colleagues who have discussed my ideas and forced me to crystallize my concepts, I’d probably take twenty more pages, so thank you, one and all!

REFERENCES
