MIS Systems: The Role of Authority and Responsibility*

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Abstract

There are many theories on how to handle the implementation of data processing techniques. There are many more reasons why system projects do not work. This article stresses the need for giving authority commensurate with the level of responsibility to attain success.

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Much has been written about the “failure of data processing in achieving its potential.” Many writers in recent years have expounded on “The Myth of Management Information Systems” or “The Poor Utilization of Computers” or “The Failure of the Computer Revolution.” Frequently, these same writers have developed, what they believe to be, solutions to these problems, phrasing concepts in terms such as “user involvement,” “top management direction,” “committee leadership,” “long range planning,” and “distributed processing.”

This article is devoted to specific situations where failure has occurred in the use of data processing and to an examination of the root causes. I have invariably found, in all the aborted projects studied, that one person was responsible for the organization and completion of the project, while another person held the authority to determine if the efforts of the first person would be used. This situation of responsibility without authority was the prime cause of all failures.

Any proposal to improve the rate of success in systems development must meet the problem of authority vs. responsibility, head on. If we look beneath the surface of “user involvement,” “top management direction,” “committee leadership,” “long range planning,” and “distributed processing,” as approaches to solving system problems, we find that they have one thing in common. Authority and responsibility are consolidated in one decision-making entity. In cases where authority and responsibility were not consolidated, use of these techniques did not preclude system failure.

Simply stated, in setting up any effort for the development of a data processing system, it is imperative that the person responsible for the development of the system also have the authority to approve each step of that development right down to final acceptance. The relatively short but dynamic history of systems development teaches this very clearly.

Authority and Responsibility

The need for coupling authority with responsibility is not only considered sound practice in business, but in all well-structured, well-run
organizations as well. Its importance is recognized in the military as well as the socio-political sphere. Yet, it is the most consistently violated rule of good business, and this particular violation has been felt acutely in the realm of data processing.

The impact of the concept and the rate of usage of data processing on the business community has been both rapid and dramatic — probably more so than any change in the business community in living memory. And it is this very "newness," coupled with high volume, that compounds the troubles.

Most authority/responsibility questions that arise in modern business are answered "traditionally" from a backlog of historical precedent that, for the most part, goes unquestioned. Everyone knows that the introduction of a new product line will require the attention of a product manager. Business has recognized the need for product managers for over 100 years. But, business has had only 10 or 15 years to come to grips with data processing and apparently is not sure how to handle it.

A sense of urgency is injected into the situation due to the fact that everyone soon realizes that the data processing system is, by nature, intimately involved with other organizational entities within the corporate structure. It must "know everything" in order to function with maximum productivity. Accounting is in a somewhat similar position in that it must gather and review data from various corporate entities. Accounting has been doing so for many years and now is automatically accepted, comfortably surrounded by accepted business practices — "business practices" being little more than a system of laws which define the proper relationship among functions, and are commonly agreed upon. Data processing simply does not, at this time, have a place-definition that everyone is aware of and in tune with. That might take 10 or 20 more years. When we do establish procedures, commonly accepted for handling an "Inventory Transaction" or a "Product Structure" or a "Hospital Invoice," etc., we will then witness far less conflict or resistance toward DP. We will witness a form of "maturation" of the DP concept which is very nice for the next generation of managers. But what do we do in the meantime? What do we do today?

Let us at least agree for the moment, in principle, that the person assigned the responsibility for the data processing system should also be assigned the authority necessary to complete the task properly. We will clarify this responsibility/authority concept later.

But, I would like to take a moment to point out some instances where responsibility/authority seem to exist, but may not.

User Involvement!

What a marvelous phrase! We have heard much of it in recent years and it seems to tie everything together in a neat package. The user gets involved in the development of the system and because he feels familiar and comfortable with the final product, will, theoretically, effectively employ it.

The word *user* is a "catch." Is there such a thing in data processing as "a" user? Systems are seldom used by one person; they are usually used by a group that will change in complexion in time, with conflicting requirements, and with such divergent interests that they *cannot* all be involved. Without organization and leadership, group involvement would be little more than mob involvement. User involvement, therefore, means "leader" or "manager-of-the-group" involvement. In those cases where user involvement has been successful, the "user" involved has been the leader or leaders in the corporate structure or other key personnel with decision making power in the functional area. If, when you ask for user involvement, you are sent the junior clerk of the department, the project is in trouble; few have ever succeeded. So when we say "user," we mean only a key or dominant figure with decision making power in the areas involved. That is a must.

The next word is "involvement." What exactly is involvement? This is one area where both user and systems analyst should be cautious. There is a tendency for the systems analyst to believe that he knows how best to perform a given function. In many cases this may be true, but it is the user who is responsible for running a given system. The user, therefore, has the authority to make the decisions. It is my recommendation, based on sound experience, that in those cases where the
user does not want to make a decision, data processing should not perform this function by default.

If the user does not exercise his decision making authority, or does not want to "get involved," then clearly the question should be directed to higher management. It might be a good opportunity to reinforce the importance of legitimate user involvement to management and thereby turn a negative situation into a positive one. Management must recognize the vital need for user involvement as the data processing system is developed. Too many senior executives tend to say, "I don't care how it's done, just get it done." It is very unlikely that a project developed in that kind of a management atmosphere will ever work well.

We can see that the user must not only have the authority to make decisions but must exercise that authority by close involvement in the data processing development. He may wish to delegate some authority to the data processing group in order to expedite the numerous decisions that will have to be made. He can not, however, delegate those decisions which are the foundation of his function, and that properly require his personal approval.

The data processing group will process all data accurately and efficiently and make all the necessary operational decisions on their own. But the user, or leader, must make the fundamental decisions on whether or not an invoice requires counter approval, inventory updating will be performed once a week, an MRP run will be done once a month, etc. These are fundamental questions in the functional area and must be decided by the proper user or "functional manager."

Top Management Direction

For purposes of this discussion, I have defined "top management" as those individuals in the corporate structure that have the final responsibility and authority in the management of two or more diverse corporate functions and/or geographical locations. TMD is required whenever we need to make functional or geographical "tradeoffs." Naturally, the person having the authority to make corporate tradeoffs will be held responsible for these decisions.

Tradeoffs will undoubtedly be required whenever the data processing group tries to organize and structure data from different segments of the corporation. As an example, if we are working on a Standard Cost System that the entire manufacturing facility would adhere to, we would be involved not only with the accounting department, but also engineering and manufacturing. The data processing group will, therefore, have to report to and work with individuals other than the chief financial officer, even though the common thrust of their efforts is to establish a standard cost system.

So now we have the Division Managers of Finance, Manufacturing, and Engineering involved in a "fiscal" matter. Their involvement cannot be superficial. They will be expected to fully contribute their effort and expertise as frequently as needed in order to properly complete the project. Decisions will have to be made that could affect only one division or all three. For the over-all good of the project, a give and take (tradeoff) of individual interests will have to take place as well as a willingness to commit divisional resources. Decisions will have to be made, and the person who will have to make them is the one to whom Finance, Manufacturing, and Engineering report.

Top management may elect to designate a representative to make the day-to-day decisions requiring TMD. However, the designated representative must be acceptable to Finance, Manufacturing, and Engineering, and the area of authority explicitly defined beforehand. Communication relative to the progress of the project should be open and democratic. All concerned should be equally aware of what is going on. Too many times, top management has given the go-ahead to one of the functional groups without letting the others know about it. The inevitable consequence is lopsided development of the project with a lot of good people feeling left out, slighted, or even worse, incompetent.

On the other side of the issue, management or its representative must be prepared, and have the authority to take corrective action, if one of the functional groups lags behind or fails to properly respond. Unfortunately, the representative is usually given "full responsibility," but seldom the authority to take the necessary corrective action. It doesn't take long before we become members of a scenario in which accounting has...
done their part, manufacturing has done their part, but engineering, for example, has not yet completed the product structures defining the product.

In some cases, the participants may not only be in separate parts of the facility, but sometimes in different states or even countries. When the data processing project involves separate divisions or facilities that are physically separated by some distance, the problem of dual management must be dealt with. In such cases, the decision-making authority should be the manager to whom the entities report. This individual must be willing to be involved in the project and to assume the responsibilities for it, or face the prospect that the project will probably fail. It would be better, under circumstances of lack of top management involvement, for each entity to go its own way since without the requisite direction, "participation" would be lost by differences in objectives or the self-interest of each entity.

Steering Committees

Steering committees are usually composed of individuals having a vital interest in the subject that the committee is organized to "steer."

Because committees seldom reach unanimity, they usually provide a body of opinion on how to handle a given situation. They become effective only when a leader is appointed and given the responsibility to clarify and state the position of the committee, and then the authority to enforce that decision upon all concerned.

Committee meetings too often are viewed by the participants as an opportunity to make themselves heard, rather than as an effective mechanism for arriving at decisions. Note, however, that the steering committee involved in a data processing project cannot, as a whole, assume the decision-making role. Its leader must be the prime functional manager, or his delegate, who alone can provide the requisite authority and responsibility for decisions affecting all. For a functional manager to tell the data processing manager to pull together a committee of the people involved and to make decisions involving his functions is to abrogate his authority and responsibility. Should such a committee be drawn up, there will be a series of get-togethers and much discussion, a great deal of apparent activity, and very few concrete results.

The value of a steering committee, therefore, is to provide a valuable forum for each of the diverse entities to present its case for or against a given system proposal, to gain insight into the problems and achievements of others involved, to share expertise in the cause of the common good, etc. But, once all the facts and thoughts have been aired, it is the responsibility of the leader to make the final decision that, in his best judgment, serves the best interest of all concerned. Having made that decision, he must exercise his authority to ensure that all functional entities adhere to that decision.

Distributed Processing

One concept that is treated almost as a "cure-all," is "Distributed Processing." I have read that the best way to solve any data processing problem is to give the "user" his own computer. But, as we have seen, where there is a single user, there are few problems, and where the system involves several users, a coordinated system is essential. Distributed processing has its distinct advantages, but it also has notable limitations. A user who does not want his system run on the Central Computer will probably not want to use a minicomputer. If you tell him that he has to have a minicomputer, he will use it against his will and use it poorly.

The problem of processing between functions still remains. Distributed processing will encourage the development of individual department files that are unrelated to the central records or that are redundant. This is exactly what data processing systems are intended to eliminate.

For example, I was involved with a medium sized corporation having three inventories: the Accounting inventory, the Production Control inventory, and the Manufacturing Shop Floor inventory. Each of these inventories had its own card or index-file record. When we ran cross-references on the three files, we discovered that they bore little resemblance to one another although they were all recording the same
subject. In effect, Manufacturing was keeping track of what they "thought" was on the shelf, Production Ordering was ordering material based on what they "thought" they had in stock or needed, and the Accounting Department was telling corporate management how much money was earned or lost, based on what they "thought" was inventory activity.

Comparisons run on these files revealed discrepancies as large as 20%, which is intolerable. All of these files have now been fed to a central processor which is accessible to all three functions by remote terminal. Now all three functions retrieve the same number. There are still problems in getting each of the functional groups to process their records promptly, consistently and accurately. This is a responsibility of management, and management has the authority to enforce it.

It is also the sole responsibility of management to prevent a proliferation of minicomputers that will do little more than hold the same basic data files as the central system.

There is a place for the minicomputer in facilities that have central processing. The plant that I mentioned requires a large central computer to control inventory, a record which is common to diverse functional entities. In addition, there are also six minicomputers in departments where the database is unique to that department, which is prime justification for a minicomputer.

Here again, the same questions of authority and responsibility arise. If the working data of a department is the sole responsibility of that department, then they should have the authority to select and use a minicomputer, or if possible, utilize the central computer system. Since it is the responsibility of data processing to see to it that the computer system and software are run properly and effectively, they should be considered the authority for selecting the hardware and software.

Where the database is common to multiple functions, or passes from one functional area to another, a higher level of management will have to get involved. The decision will have to be made whether to use individual databases coordinated by a "master" processor or a central processor available to all, and who is going to be responsible for the maintenance of the database and who shall have access to it.

Long Range Planning

A long range plan for data processing, without a long range company plan, is nonsense, I have been appalled at the attempts I have witnessed to develop plans for a data processing installation in the absence of any sound plan for the corporation, or business entity, as a whole.

The data processing requirements are always part and parcel of the overall business plan. The development of a data processing system will undoubtedly require changes in methodology for the functional areas involved. Data processing, therefore, merely becomes an element in the restructuring of that methodology. We cannot simply say, "in 1978 we will develop a new invoicing system." That is a case of the tail wagging the dog.

The responsibility of data processing is to support the company business plan. The authority for data processing to fulfill that responsibility is vested in the company business plan and can never be considered separately.

Conclusion

Many people would say that the point of this article is quite obvious: "One must relate authority with responsibility." But we have seen where failure has been the result of assignment of responsibility without authority and that problems are solved or eliminated when the authority/responsibility element is clearly defined and designated.

The high turnover among data processing managers is not proof of their incompetence or lack of managerial skills. Rather, it is frequently the result of their being given "full responsibility" for the system development without the necessary definition of scope and authority.

Simply put, if a plant manager is contemplating the installation of a data processing system, his first concern must be to see to it that the person assigned the responsibility for the system, is also given the necessary authority to get the job done, which includes in turn, his authority to have data processed by the DP entity in conformance with his decisions.
Authority/Responsibility Role

About the Author

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