Developing a strategy profile for management support systems

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ABSTRACT

In most business organizations today, a new era in the application of information-systems technology has been entered: The era of management support systems (MSS). In fact, there is much evidence to support the claim that management support systems (as distinct from conventional transaction processing or MIS systems) is the fastest growing segment of the information systems portfolio. This paper explores the urgent need for MSS planning and presents a practical methodology to approaching this very different planning problem.
THE EXPLOSIVE DEMAND FOR MANAGEMENT SUPPORT SYSTEMS

In most business organizations today, a new era in the application of information-systems technology has been entered: The era of management support systems (MSS). In fact, there is much evidence to support the claim that management support systems (as distinct from conventional transaction processing or MIS Systems) is the fastest growing segment of the information systems portfolio.

The pressures behind the explosive growth in demand for management support systems are severalfold:

1. First, managing in the eighties presents more challenges to executives than ever before. The pace at which business is conducted and the speed with which the competitive and economic environment can change are extraordinary, even by the standard of 10 or 15 years ago. New and complex businesses hit the ground running at a scale unheard of even a decade or two ago.

2. Managers in today's environment recognize that improved access to information regarding their marketplace, and their own performance within it, are essential for success and may even represent sources of strategic gain.

3. With the availability of fourth-generation MSS tools and powerful personal microcomputers, managers' frustrations over the failure of traditional (efficiency-oriented) systems to be able to respond to their effectiveness-oriented requirements are being offered a powerful and constructive outlet.

4. Finally, demand for management support systems has been heightened by the fact that, in many organizations, the vast majority of information systems resources are being cornered in order to replace 10- or 15-year-old transaction-based systems—in many cases, the same systems that promised at their inception, but never delivered, valuable management information!

THE PUSHERS AND THE CONTROLLERS

In the face of this explosive demand growth, information-systems managers are exhibiting two very different kinds of behavior: Pushing and controlling.

1. Those who are pushing correctly perceive that the demand for management support systems is strong, valid, and won't go away. Thus, they have taken the posture of aggressively providing and promoting the use of MSS technology.

2. Those who are controlling correctly perceive that the explosive growth and demand in management support systems carries with it the unpleasant opportunity to learn all over again the uncomfortable lessons of the stages-of-growth problems they experienced over the last two decades. Thus, they have taken a posture that applies a go-slow attitude, coupled with a variety of standards and rules for the purchase and use of MSS technology in their organizations.

The contrast is clear: Pushing organizations are characterized by lots of doing in the MSS area but not much managing; where controlling is the approach, there is lots of managing, but not much doing! What is most noteworthy, is that in neither case is there much overall planning going on anywhere!

Both the pushers and the controllers are responding to valid pressures and risks but are failing to recognize that doing and controlling are separate pieces of an overall process that starts with planning. (See the illustration below.)

PLANNING FOR MSS?

In the world of conventional transaction processing, operational, or management information systems, managers increasingly devote very substantial effort to the development of comprehensive long- and short-range systems plans. But practically no one makes this same sort of effort for MSS planning!

For most organizations, planning for MSS is not a current pressing issue principally because MSS activity and end-user computing typically represent a small proportion of present information-systems expenditures and because the very nature of MSS (its end-user orientation) does not produce much contention for I/S staff resources. MSS hence generates no real pressure for the rationing that is an objective of many systems plans.

But the growth rate of MSS and end-user computing activity—once it begins in an organization—is extremely rapid, aided and abetted by a growing supply of “friendly” tools available as mainframe packages on inexpensive personal computers or on outside timesharing services. If one looks ahead, it is not difficult to see the day approaching when, in many organizations, management support systems activity and its attendant end-user computing will represent a clear
majority of information-systems expenditure and usage. Even today there are a few information systems/resources managers who have already allowed this sort of growth to occur in a poorly planned fashion and, as a consequence, have either had their management clamp a tight lid on their budgets or have seen the MSS/end-user area taken over entirely by another part of the organization.

The point is, it is essential to have strategies and plans for MSS, and the time to get started on them is now, while there is some hope of keeping at least a half-step ahead of the rising water.

THE ELEMENTS OF AN MSS STRATEGY

Because MSS and end-user computing are so radically different from traditional transaction or MIS systems, it is no surprise that the dimensions of MSS strategies and plans look different also. In developing an MSS strategy, it appears that there are five interrelated strategy elements or areas in which one must make some choices of direction. They are as follows:

1. Marketing—Who are the customers and how do I reach them?
2. Products—What do the customers need?
3. Customer support—What is our approach to delivering and servicing our "products?"
4. Delivery technology—What type of technical environment is to be employed?
5. Management/policy—What are the rules that need to be in place to provide appropriate management control?

For each of the strategy elements, there are one or more sets of ranges or spectra of possible strategic positions, as shown below. (Others may also occur to you as you think through your own situation.)

Marketing

An MSS marketing strategy can be either proactive (with an active marketing program to attract important new customers) or reactive (providing support for those who ask). The spectrum would thus look like this:

<table>
<thead>
<tr>
<th>PROACTIVE</th>
<th>REACTIVE</th>
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The hierarchical target markets, or the potential customers for MSS, tend to fall into three types:

1. Operational decisionmakers who may require support for routine decisions, as in scheduling or purchasing activities, for example.
2. Analytical staff who are providing staff support to executives.
3. Executive decisionmakers who prefer or require support tools for their personal use in managing and decision-making.

The spectrum is consequently

<table>
<thead>
<tr>
<th>OPERATIONAL DECISIONMAKERS</th>
<th>ANALITICAL STAFF</th>
<th>EXECUTIVE DECISIONMAKERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSS</td>
<td>GENERALIZED</td>
<td></td>
</tr>
<tr>
<td>FACILITIES</td>
<td>DATA &amp; TOOLS</td>
<td></td>
</tr>
</tbody>
</table>

and one's MSS strategy needs to recognize the market or markets that are presently being served and that will be served in the future. Additional spectra for target markets may include functional areas (i.e., marketing, finance, etc.) and the organizational areas (corporate, division, subsidiary).

Please note that the spectrum device proposed here is intended only to emphasize a range of possibilities but not an implied direction. Moreover, one's strategy may be at a point on the spectrum, a series of points, or within a band on the spectrum.

Products

The strategy spectrum for products can be depicted as a range from highly-focused, single-purpose MSS applications at one end, to extensive general-purpose data-plus-software-tools environments at the other.

<table>
<thead>
<tr>
<th>SINGLE- PURPOSE MSS</th>
<th>GENERALIZED DATA &amp; TOOLS</th>
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Customer Support

There are two strategy spectra here, one dealing with the nature of the support and the other with its organizational location.

With respect to the nature of support, the spectrum ranges from a cadre of specialists who are proficient in the technology and perform all the applications work themselves (MSS high priests), to personnel who view their roles as teachers and coaches of end users, to people who provide assistance over the telephone (the hotline) and perform no applications work whatever.

<table>
<thead>
<tr>
<th>MSS HIGH PRIESTS</th>
<th>COACHES</th>
<th>HOTLINE</th>
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Location of the support may be within the information-systems organization, in a separate group matrixed to I/S and user organizations, or in one or more user organizations.

<table>
<thead>
<tr>
<th>I/S SEPARATE (MATRIXED)</th>
<th>USER</th>
</tr>
</thead>
</table>

The information-center concept is a user-support concept that addresses both the type and location of the support and frequently addresses the hardware issue.

Delivery Technology

There are two strategy spectra here concerning the variety and location of the hardware:
Management/Policy Groundrules

There are a variety of possible strategy spectra in this area. The major decision for each depends on the degree of discipline and control that is to be exercised. Management policies and procedures that can be addressed using the spectra include:

1. Data administration
2. Security
3. Development and documentation life cycles
4. Eligibility (application screening) (To separate out applications that may end up as production transaction-based systems.)
5. Cost justification
6. Chargeout

The preceding discussion of strategy spectra may convey, by its brevity, that you should simply sit down and begin to identify the points or bands on each spectrum where you want your strategy to be. Nothing could be farther from the truth. Each decision on strategic positioning should be made after careful fact gathering and thoughtful analysis. What can be done fairly quickly, however, is to use the spectra as a tool to record where you stand today with respect to each strategy element. That can be a very useful initial diagnostic and descriptive exercise.

An MSS Strategy Profile

Either as part of an initial diagnostic process, or once you have drawn some preliminary conclusions about the individual spectrum point or points at which you wish to direct your MSS strategies, it is helpful to have a way to visualize the collective profile of those individual decisions. Arraying the various strategy elements and their spectra on a single sheet of paper can aid the checking of completeness and internal consistency (see Figure 1). Clearly there is no one right pattern or profile of points or bands, but an unusually skewed or scattered pattern may suggest the value of some additional examination and thought.

Once the strategic destinations, or strategy profile is developed, a plan can be developed to reach this destination. Figures 2 and 3 are two examples of profiles drawn from actual Index client situations, accompanied by some interpretive comments.

Figure 1—MSS strategy-profile worksheet

Figure 2—MSS strategy profile of company A
Company A

As shown in Figure 2, the approach that Company A is taking is fairly clear. The MSS applications are highly focused and performed by a group of specialists using specialist’s tools (a highly-enhanced APL-based tool in this particular case). The company is trying to serve a broad array of customers, however, and that contrasts fairly sharply with its more narrow choices in the other elements. This suggests there may be some potential pressures for change—and in the actual situation there are. Customers at all levels are becoming increasingly frustrated at having to wait their turn and to compete for the attention of one of the MSS specialists. Moreover, the customers are concerned that they are not developing any of their own MSS capabilities and that they lack the sorts of end-user tools that might allow them to do so.

Company B

As shown in Figure 3, Company B has taken the approach of providing a powerful tools-plus-data environment aimed at providing support primarily for staff personnel. The delivery environment offers a broad range of capabilities, and the analysts use it very heavily (volume is growing at about 50% per year and now accounts for about 25%, which is 30 percent of computer usage in the entire company). There are several pressures for change, however:

1. Executive-level personnel are beginning to have difficulty identifying what benefit they have received from their growing MSS timesharing bills. Some are concerned that an expensive “analysts sandbox” has been created, and they are clamping down on computer-usage budgets in response.
2. The people who run the central computer utility are forecasting large, expensive capacity additions but are also being questioned harder about where the benefit is.
3. Operational decisionmakers are feeling poorly supported, because most of the analytical work is in the planning arena.

The pressures for change in this case appear to boil down to the need for diversifying Company B’s portfolio of MSS customers and products—particularly to find ways to provide specific high-value support to operating and executive levels.

There are two additional points to make on the use of the strategy-profile technique.

1. The strategy profile worksheet is intended to be flexible and to be tailored to a given organization. Hence the precise definition and number of possible strategy spectra are not fixed and should be altered as appropriate.
2. The strategy profile developed should be used to create a plan for reaching the strategic destinations envisioned. It is also an excellent vehicle to communicate the organization’s position on management support systems.

SUMMARY

The central messages of this paper are

1. Management can and should do planning for MSS and end-user computing.
2. There are at least five major strategy elements for which directional decisions need to be made.
3. It is important to examine these strategy directions in relation to each other to check for internal consistency and to anticipate where pressures for subsequent change are likely to occur.
4. The strategy-profile technique is one way to visualize your MSS strategy and should be used both diagnostically (to look at what you are presently doing—your de facto strategy) and prospectively (to indicate intended directions or shifts in MSS strategies).