Planning Systems for Successful Management

By

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Close to seven years ago at a meeting such as this in Washington, I made a plea for intelligent information systems. Systems which would serve as an extension of human capability and aid managers in (1) Effectively planning for and controlling their operations and (2) Relieving themselves of all repetitive tasks so that they can concentrate on preventive planning rather than fighting crises.¹

Although I indicated at the time that planning is a painful activity, mainly because it involves estimation and forecasting, I grossly underestimated the difficulties involved. As the years went by, and I studied why many organizations do not plan, I came to appreciate that the underlying causes of inaction went far beyond the unwillingness of managers "to venture into the unknown". It is not simply a problem of individual courage or capability, although initiative, willingness to take chances, perseverance, stamina and capability for both synthesis and deduction are necessary. It is a complex organizational problem. The "will to plan" is much more dependent on the type of environment which top management and the control system create than on the individual traits, no matter how important the latter are.

If we accept the proposition that planning is under normal conditions, an onerous task, and that people avoid it if they feel that they do not have to engage in it, then we must (a) try to understand the reasons why this aversion is prevalent, (b) identify the symptoms exhibited in organizations which do not encourage planning and the causes of these symptomatic behaviors, and (c) effect the necessary changes in the organizational climate which will encourage planning for the prevention of crises.

Let me now amplify a little on what causes the resentment toward the planning activity.

Why People Resent Planning

The major reasons behind managerial resentment toward planning are:

1. Inability to Cope with Complexity\(^1\): Planning is an associative and hierarchical process. The planner in order to choose objectives and effective methods for implementation must be able to relate causes with effects and information with what he is trying to do. The cause and effect relationships and the information mostly extend into the future, require articulation of critical assumptions and explicitness which is often unsettling. The longer the time span covered by the plan the greater the interdependencies and the more difficult the exercise becomes. And this on top of the difficulties involved in coping with interdependencies and cause and effect relationships at any point in time. All in all, complexity is painful and the manager must face it if he is to plan.

\(^2\) I am referring to a manifested inability not necessarily inherent.
Although I strongly believe that planning is an activity not limited to the Chief Executive of an organization, yet I am strongly convinced that he has more power than anyone else in the organization to reduce the complexity, and also bring about the necessary changes in attitudes toward this normally painful activity. Every manager should be a planner, but unless the Chief Executive puts the weight of his office behind it and creates the appropriate environment to bring about order out of chaos at his level, the task of lower level managers becomes impossible and almost always is doomed to failure. To repeat, if the overall situation within the organization is too chaotic and the climate one of accentuating the pain, the average manager's chances for success are small, and the responsibility for this falls squarely on the shoulders of the Chief Executive.3

Because the various activities within organizations are interrelated, the greater the chaos and pain the greater the tendency of managers to leave things to chance rather than attempt to influence operations through planning and implementation of well articulated plans. So not only the planning attempts for improvement fail but also operations gradually degenerate through lack of attention and inaction.

2. Planning Enforces Discipline: In addition to forcing the manager to come face to face with complexity and stretch his neck out into the future, planning imposes discipline both in the articulation stage and the execution of the plan. To develop a plan, the manager

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3 A good manager should be able to organize his own operations and create some semblance of stability. If the external environment - other parallel operations and those above him - is chaotic, however, not only his overall impact will be small but his operations will be adversely affected.
must formalize his thoughts, build an abstract representation of the world with which he is dealing and carry out the consequences of the relationships that he postulates. Out of all this the manager must then derive standards of performance for control of operations.

The plan, therefore, provides a mechanism for continuous review and accountability, both aspects of control, which people resent and even fear because they are more often than not misused. Again in this respect the Chief Executive of an organization has the power and responsibility to change the climate and the philosophy of the planning and control system. It is one thing to use a planning and control system as a means for encouraging managers to learn from their experience and improve their operations, and another to provide data to the bosses so as to control their managers.4

I strongly believe in the power of management science techniques, quantitative models, computerized systems et al. but all these "come to naught" if the proper climate, attitudes and philosophy do not exist.

3. Plans Provide Information to Others: Another aspect of the planning process is that in its output, that is to say the plan, it provides information to others within the organization. It thus decreases privacy and exposes errors in forecasting and judgment. It enforces integration and poses a threat to independence. In organizations where the motives of leaders are suspect it will be suicidal for anyone to expose himself. Secrecy and more of the same is the safest way of life. If there is no documentation there is no easy way of assessing performance.

4 Douglas McGregor in his Human Side of Enterprise, McGraw Hill, New York, 1960, attributed these characteristics of control systems to conscious managerial "assumptions about human nature and human behavior". Our arguments here do not depend on such assumptions nor are they intended to refute them.
So, as you can see, people have good reasons to resent planning. It not only thrusts them into complex situations fraught with uncertainty, with which they often cannot cope, but it also curbs their freedom and has the potential of making their life both difficult and risky. People, in short, will not naturally seek complexity, regimentation and exposure unless properly encouraged. The will to plan must be cultivated, instilled and inculcated within the organization by those on top. If the latter do not succeed in it, it is very unlikely that this role will be assumed voluntarily by lower managerial levels.

One may, of course, ask the question. Given that people have good reasons to resent planning, is it better to do away with it? The answer, of course, is definitely not. No one gets anything for nothing and for sure not the manager. He is employed to organize the activities of his area of responsibility and contribute to the total. So he must plan. The planning exercise imposes a mental discipline which exposes intuitive inconsistencies. Furthermore, the plan provides a frame of reference without which learning is difficult to occur. The value of this critical managerial activity far exceeds the psychic and other costs it may impose. The question, therefore, is not one of "planning versus no planning", but rather one of "how to plan", "how much", "in what form" and "at what level".

Symptoms Caused by the Lack of Planning

One can identify several symptoms in organizations where planning is either not practiced, or not effectively implemented.

1. Perennial Crises: I am sure that you will not be surprised if I were to tell you that over 90% of the working hours of the average executive is spent on fighting crises and at most 10%
strategy and planning. I can even go a step further to claim that over 50% of the precious small amount of time spent for planning is initiated because of crises and is crisis oriented. There are two points which need to be brought out here.

(a) That the worst time for planning is when one is fighting crises. Views are distorted, tempers are high, impatience sets in and 'expedience for bypassing the problem prevails. Procedures which are designed to get the organization out of a particular crisis are often elevated to policies and strategic plans, only to lead the organization into the next crisis.

Crises are mostly oriented toward the past and the present. Planning is aimed toward the future. Crises need fast action. Planning needs serenity and contemplative deliberation. The actions which are necessary to get an organization out of a crisis it finds itself are not the ones which will prevent it from falling into the next one. To illustrate, a firefighter mostly does things instinctively and without much creative thinking. He is conditioned through drill and practice to respond fast without challenging premises or even thinking while he fights the fire. The one whose task is to develop a strategy and policies for preventing fires, however, thinks a great deal but operationally does very little. The firefighter "runs and uses hose and water". The planner for fire prevention deliberates and uses pencil and paper. Policies and operating procedures on how to fight fires, after these occur, are as a result, different from policies and
strategic plans on how to eradicate the causes of fires. It is a confusion on this difference that leads people to persistently respond to symptoms rather than causes.  

(b) Perennial crises are degenerative. The more crises executives must fight the less time they can afford to devote to the prevention of crises through planning, and the less time they devote to planning the more crises they have to fight.

The only blessing which one may attribute to crises is that they may transmit to the organization a sense of urgency and with it the will to plan. Top management should not lose the opportunity of attempting to change the organizational attitudes toward planning in the aftermath of a crisis.

2. No Learning Takes Place: Another symptom of the lack of formal planning is that managers go over and over the same ground and through similar experiences without realizing it. In short they learn very little from their experience and that of others within the organization because there are no reference points for assumptions, implications and standards of performance. They thus get in a vicious circle.

One of the characteristics of a good manager is that he learns from experience, enriches the knowledge of his organization by formalizing it and cuts apprenticeship for others.

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5 In the case of management processes, unlike firefighting, it is often more harmful to appeal to the symptom than do nothing. The reason for this is that there is information in the symptom for probabilistic identification of causes and often any suppression of the signal prolongs the process of.
3. Sequential Handling of Tasks: Whenever planning is absent and complexity at its extreme, managers attempt to cope with interdependencies by attacking tasks sequentially rather than in parallel. Actually they have no alternative because they are inundated, they have nothing to which they can fall back and any control system, which may exist, cannot provide them with the necessary support for effective decision-making unless it links operations to the relevant plans.

The problems which force managers to attack problems sequentially also enforce upon them a short-term outlook. Planning under these circumstances is more likely to be scheduling of day by day activities. The span of attention of the harassed executive is inversely related to the intensity and the number of crises with which he has to deal.

I am sure that you are familiar with situations where managers consume themselves fully in solving, let us say, a manufacturing problem only to find out that after they become production ready they have no orders to fill and even if they had orders they have no raw materials to use in production.

The higher up in the organization one goes the greater the necessity for planning in parallel rather than sequentially, and the greater the value of long-range and strategic planning.

4. Simplistic Solutions: The greater the confusion within organizations the greater the tendencies of people to jump to simplistic solutions. Every situation assumes values of either zero or one, no mixed solutions, no grays, only black and white. People do not use their ingenuity but resort to a simplistic procedure, policy or what-have-you to cover themselves. Determinism prevails and decision-making processes are ignored. Many executives within these organizations will claim, especially in private, that "the problem is simple and the solution obvious". No one does anything
about it, however, because "I was not asked" and after all "it is not my problem". Actions are limited to the minimum necessary extent, which means only when crises occur, and even then it is more of the same. Otherwise, the organization is paralyzed drifting from crisis to crisis.

5. Backward Rather than Forward Look: When in a crisis, organizations have the tendency to go into the "staff meeting" syndrome. In the absence of a plan, it is very difficult to identify the causes of the crisis, so the discussion very rarely goes beyond the stage of identification of the symptoms before it reverts into a head hunting session. The discussions become heated, people become defensive and shut their eyes and ears to ways which can get the organization fast on its feet and prevent similar problems from occurring in the future. Meetings, under such circumstances, are not conducive to learning, do not provide much, if any, information and are adjourned without having identified the real problem let alone the solution to it.

6. Information Used as a Power to be Withheld: As we have already mentioned, planning requires an atmosphere of openness, interdependence and visibility. It needs information to sustain and effectively implement it. In organizations where the planning discipline has been instilled, the absence of the necessary information becomes obvious and established procedures are used to obtain it.

In organizations which are not influenced by formal plans and formal planning procedures, information is used as a power base. It is, therefore, often withheld no matter how critical it is to
the success of the total organization. In fact, there is a positive incentive to withhold it. The worse other people are within sick organizations the better the one who withholds information relatively looks.

7. Suspicion and Backknifing: Without formal plans the chances are that the organization will not have developed operational goals, standards of performance, milestones and formal information systems for monitoring performance. It, therefore, becomes difficult to identify causes, evaluate performance and reward appropriately. Blaming each other is not the only adverse consequence of such situations. The greatest damage occurs when the environment becomes so unhealthy that not only it is not conducive to cooperation but on the contrary encourages suspicion, backbiting and destruction.

8. Politics, Favoritism, the "Ins" and the "Outs": Closely related to the previous symptoms is the creation of a leadership vacuum. When things get out of hand, the probability is great that the top executives of such organizations, feeling insecure, will tend to isolate themselves if not physically, mentally.

They will be inclined to suspect the motives of their subordinates, ascribe to the latter their own failures and become secretive. This stage in the evolution and the absence of any formal standards of performance, will most likely leave lower-level managers unsure as to where they stand. Since the organization has no plans and well articulated goals, the latter managers will simply not know where to turn. While some will valiantly try "to keep the ship afloat", others capitalizing on the opportunity
will become "political", and start catering to the vanity of the "boss". The latter in return will give these trusted subordinates power which is normally used for professional character assassination. There are now two classes of people in the organization, the "ins" and the "outs", each suspecting and maligning the other. Sycophancy and hypocrisy are the order of the day and a lot of energy is expended by the "ins" on how to neutralize, if not exterminate the "outs".

Once a business organization has been transformed by inept leadership from an economic entity to a political, it is doomed to failure. People are pushed "aside" and the exodus starts. To save the organization one needs a thorough "house cleaning" starting from the top.

The beauty of plans, budgets and standards of performance is that they can keep executives honest and protect them and their organizations against the executives' excesses and worst tendencies. It is easy not to look for something which is not available but rather difficult to ignore the signals when these come loud and clear. Plans, budgets and standards make the difference between success and failure.

Effective Planning Systems

Having talked about the reasons behind the managerial resentment toward planning and about the symptoms exhibited by organizations which do not plan and do not have formal standards for evaluating managerial performance, I would like to turn to planning systems.

Some of my thoughts on the characteristics of effective planning systems have been already expressed in other sections of this paper. Now I intend to bring these to focus and elaborate.
What then are the elements and characteristics of effective planning activities and plans.

1. They must be initiated and encouraged by the very top levels of management, that is to say by the people who can change the climate from one of suspicion to one of cooperation.

   The top management levels define the overall objectives which can start structuring the managerial environment. Whatever assumptions, judgments, choices and decisions for implementation are made at this level, become constraints and facts for guiding the judgments of lower managerial levels. That is why I claim that unless the chief executive of an organization contributes to this process of creating a semblance of order out of chaos the chances for success of lower management is small, and even with success the results are inconsequential.

   Those who constitute the top management are the chief pattern recognizers on the relationships between the outside world and the organization. This pattern recognition capability is very critical for the next characteristic of successful plans.

2. The planning activity and the resulting plans must be formal, in the sense that these must include specific definition of:

   (a) The critical assumptions, regarding the external environment, and how these affect the goals of the organization.

   (b) The goals to be pursued, both qualitative and quantitative, and the translation of these into operational objectives.

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(c) The critical decisions and operations which are necessary for the accomplishment of the objectives, and the specific cause and effect relationships linking them together.

(d) The signals which will indicate whether the choice of decisions and operations will effectively carry out the objectives of the organization. As part of this activity there should be also a specification of the meaning of deviations.

(e) The type of measurements which will best generate the signals and with what degree of refinement.

(f) The Managerial Information and Control System, that is to say, the system which will apply the measurements, generate the signals, analyze the information generated and then transmit it to the appropriate levels for action.

(g) The strategy for execution of the plans.

We must note here that the above elements of planning activities and plans are:

(i) Model Based: That is to say these are based on abstract representations of the "world" with which the manager/planner is dealing. The greater the perceptiveness of the manager and the greater his ability to handle complexity the more global, long-range, and elaborate these models tend to be. As the manager learns from experience he should consolidate and formalize the knowledge he has gained by restructuring and upgrading the models.
Hierarchically Connected as a System: This implies specification of the significant "means to ends" and cause/effect relationships. Furthermore, all these relationships must be connected together as a system. The latter, for our purposes, may be viewed as an assemblage of interconnected subsystems and elements, such that the value of any part of the system is judged not independently but only in terms of its contribution to the overall objectives of the system.

Iteratively Developed: The point which needs to be stressed is that management is not an exact science. A lot of things are done, hopefully, in a semi-scientific way and by "trial and error". And so in strategic planning we develop models, derive goals, strategies for implementation, look at the logical consequences of our assumptions and if the expected results are either "unrealistic", "not feasible", or "unsatisfactory" we go back all over again. Thus through successive iterations we arrive at a plan which is acceptable. Later on, of course, in the process of implementation we may find out that there were a lot of things we did not consider because we did not know how to handle
them or predict their behavior. (In fact, often we do not know what we do not know). This should not discourage us. We must remember that if it were not for the existence of a plan we would not have been able to realize what we have left out. In short, a well-articulated plan serves as a basis for learning and improvement.

(iv) Sustained by the On-going Information System: Many organizations do rather well and develop plans, but stop short of specifying the signals and measurements which will provide indicators for performance evaluation. In this way the necessary linkage between planning and control is missing. Operations, therefore, do not provide the necessary information for sustaining the planning activities of the organization and as a result operations' managers and planners live in two different worlds.

Under such circumstances the planning efforts of the organization go to waste and the "information" generated internally is considered by top managers as useless. Operations keep plodding along as usual and performance-review sessions become "fencing matches" and "ulcer-generation" exercises.
It is not an insurmountable task to link the elements of planning and control processes. The major requirements are that managers (a) discipline themselves to define the signals they want, how often they wish to have them and specify the possible implications of variations in the signals and (b) aid the designers of control systems to provide them with information which refers not only to the results from operations but also to the validity of the various environmental assumptions (both external and internal) which link plans to operations.

3. Must Be Probabilistic And Not Deterministic

Every manager that I know expresses a strong desire to manage by exception. Yet invariably we find most of these managers:

(a) Demanding more and more data
(b) Looking at each and every observation that comes out of the Accounting system
(c) Picking out the red (unfavorable) variances for questioning and ignoring the positive variances
(d) Closing the variances out to the "Profit and Loss" and starting all over again next period

I do not consider the above approach and behavior consistent with the managers' professed desire. So let us see what they should do instead if they really wish to manage by exception.
Given that patterns are based on statistical norms and that data do not convey information unless they are associated with a pattern, then we must conclude that only deviations from statistical norms should be reported. In other words, we must impose quality assurance and quality control standards on the data in order to generate information. The managerial information and control system, therefore, must not only collect and report data but it should also evaluate probabilistically the information before reporting.

Deviations both positive and negative which are not probabilistically significant should not be reported. Only those which are out of the "normal" range should be reported together with the probability that such a result can occur due to chance if the process were under control. These variances should then be analyzed for determining the causes and their probabilistic consequences. Undesirable discoveries should initiate remedial action and the reasons for exceptional performance should be disseminated within the organization for educating managers how to do better.

What determines exception from the norm would be up to the recipient of the information to decide. He may obviously obtain help from management scientists or operation researchers on statistical issues, but the most critical element should be the manager's notion of what is "normal" behavior and what he feels comfortable with to delegate to the system. Incidentally, once the system is used, the manager through learning and sequential adaptation can adjust the control limits and filter out more or less information as he pleases.
This is management by exception in my estimation. Please note here two corollaries:

(i) It is the manager's pattern which is important and not that of the system designer.

(ii) The Information System draws on two types of models, objective and subjective.

Objective models are those which, according to the opinion of the "experts", are the most appropriate for generating a given output (data) or the output most appropriate for a given decision situation. We must further specify that the output of objective models must not depend on the characteristics of the measurer or manipulator if it is to be objective.\(^7\) Subjectivity, therefore, refers to models which are not universally accepted and to data which are the result of such models and measurements. Data, whether the result of an objective or subjective model, must be placed into a context (the original model or another one) to generate meaning.

I hope that no one jumps to the conclusion that only "objective data" are useful in decision making. On the contrary, objective data although necessary are not sufficient for success. Their power, the fact that they are verifiable and convey more or less the same information within the context of the original model, is the very source of their weakness. Success is a relative notion and implies uniqueness. If, therefore, all managers were to use purely objective information exclusively, no one will be able to distinguish among them.

\(^7\) This definition is similar to that found in Yuji Iijiri, The Foundations of Accounting Measurement, Prentice-Hall, Englewood Cliffs, New Jersey, 1967.
The successful manager uses objective data as inputs to subjective models. It is in this way that he generates "unique" information. The manager derives his subjective models from his unique experiences, from his intuition, from the patterns that he discerns. As he proceeds he tests the validity of his intuitive judgments.

There are certain powerful implications of the model of information processing that I have just sketched.

(a) It implies that the manager is capable of building on his experiences and constructing more and more powerful models.

(b) It tells us that intuition not only is desirable but that we should encourage the executive to exercise his educated intuitive judgments.

(c) It implies that the information system must enable the manager to test the validity of his intuitive models, by providing him with the subjective information that he needs.

(d) The particular decision, it tells us, must be evaluated in the context of the universe of similar decisions and over its life span. We should not, on the basis of any single observation, infer in a deterministic fashion the validity or non-validity of a decision. If we look at decision situations deterministically we run the risk of either discontinuing a good approach before it proves its validity or getting wedded to a bad approach prematurely, and ascribing its damage to other decisions.
(e) It also implies that once "enough" experts imitate a successful executive and copy his subjective model, the latter automatically becomes objective, and the "game is over". Unless a more powerful context is built to use the output (information) of the previously subjective model as input (datum) into a new model, no one will have any competitive edge. In other words, there is no excellence in doing exactly whatever everyone else is doing, nor is there any excellence in imitation unless the knowledge is used as a stepping stone toward new ingenious approaches.

4. Finally, the planning system must permit, for each chosen plan, the monitoring of the conditions which will enable the organization to switch to the best alternative in case of contingency. Obviously, no manager can afford to have contingency plans for each and every deviation from the assumed level of each and every datum regarding the external environment and the internal capabilities and operations. He must identify only those elements which are critical and develop at the planning stage contingency plans in case those critical assumptions, operations, etc. do not materialize according to the plan. He must then instruct the custodians of the managerial information and control system to provide measurements and generate signals on these critical elements, so that the manager can retrieve the appropriate contingency plan and implement it when necessary. This is necessary for preventive rather than crisis-reactive planning.
I hope that I gave you enough taste, in this exposition, of some of the things that you can do to change your planning behavior and that of your organization. The changes that I proposed will conserve your time and that of your managers. They will get you out of firefighting and into preventive planning. But above all they will upgrade the managerial capabilities of your organization and change the climate from one of suspicion, backbiting and mutual destruction to one of creative cooperation. Whether your organization is large or small is immaterial. You do not need elaborate systems and computers for a system such as the one I described. More important than hardware are the conceptual framework and the intellectual discipline it imposes, the approach to planning, the managerial environment and the attitudes (the will to plan and excel) that the latter encourages.