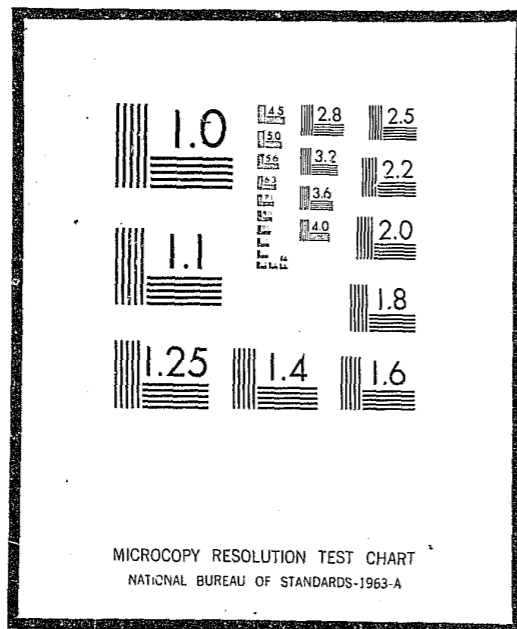# NCJRS

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TITLE: A Case For Research And Planning In A Police Department

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A CASE FOR RESEARCH AND PLANNING
IN A POLICE DEPARTMENT

In reaction to current economic conditions many Chiefs, Commissioners, and City budget managers are attempting to trim down their Police departments to conserve a currently scarce resourse . . . money. In too many instances Research and Planning units are the first to go, especially if they have civilian staff. We are going to make a case for retaining these units (indeed, for most agencies, expanding them) to meet what we are going to call the *information processing* problem.

Being honest, how many times do you, the supervisor, read articles over two pages? You'd like to, but somehow that article on "Probability of Crime Occurrence, Mapping and Analysis Techniques" always ends up at the bottom of the "IN" file. You know it could be of great use if only you didn't have to read those seventeen new general orders, find that missing shotgun and respond to six family disturbances.

We are attempting to make our case at a time when the equipment is being made available to departments to increase their flow of information. This is heavily impacting the first line supervisor, and placing reams of computer reports on the Lieutenant's and Captain's desks. It is our case that what we call a research and planning unit can effectively assist the processing and synopsis of reams of technical data. The product will be simple reports which can give the supervisor and street officer, as well as the Chief, useful, easily interpreted concise information that will reduce the range of decisions the officer has to make, and the number of sequential decisions as well.

This unit is not being proposed to *rob* the officer of the decision function. It will vastly increase the amount and quality of information the officer will have available on which to make a decision without burying him under it. This will make for a more effectively used resource, the officer, which you can present to the City Council in terms of . . . money (salary).

If you will accept as given that what we are going to call a Research and Planning unit is going to be used to process information, then we must develop answers to the following questions:

1. How does information processing relate to the structure (organization) of a research and planning unit.

2. What are the qualities of information processing that make this so?

We still answer question one by referring and developing models of a police research and planning unit as related to the information processing requirements. The fewer *problems* we identify with the models, the closer we'll be to our goal. Question two will be answered by considering the term information processing and the problem that makes it necessary which we will call *uncertainty*.

Information Models

In order to complete the task with a high level of performance, activities that take place in various groups must be coordinated. Information flow must be coordinated.

Therefore, a simple design is created to provide an integrated pattern of behavior across inter-departmental groups. We will start with a simple design, note the problems, and then note the changes in form.
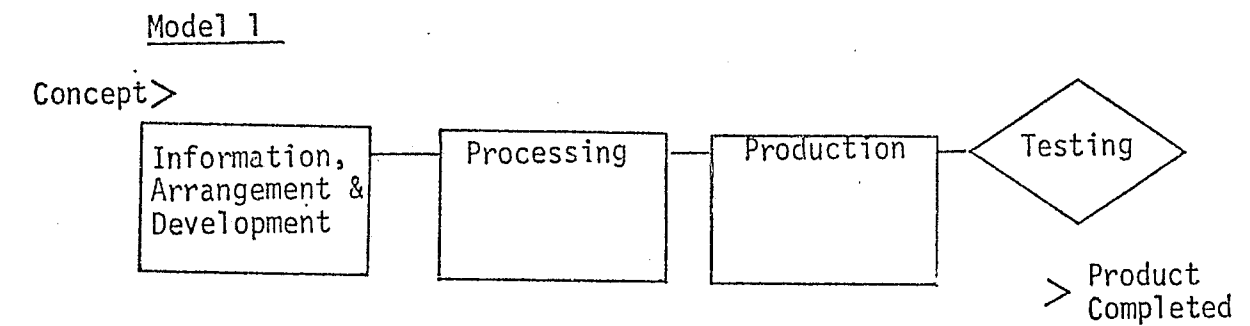
Model 1

Concept>

Model 1 is an *ideal* model. Its problems are that the model assumes:

a. The concept is *well* defined.
b. Information arrangement is a *simple* process and development is easy.
c. Processing is simply a matter of *assigning the parts* to the *proper people*.
d. Production provides *all* the necessary skills.
e. Testing is *well* developed and the things being tested can be easily isolated.
f. Products completed *fit perfectly* and need no review.

Reviewing "a" through "f" it becomes apparent that the ideal model is too narrow for imperfect people. It does not allow for error. Few concepts are well defined because the very nature of police work is *diversity*. While the job may seem boring because of a low frequency of activity on some streets, the types of activities are as different as people.

Information arrangement is seldom a simple process. Remember the last warrant you helped make, or offense report you wrote? If information arrangement were a simple matter and development easy, there wouldn't be a need for lawyers, judges, warrants . . . as an intelligence officer can testify, information arrangement and development is a big part of the battle.

Processing may simply be a matter of assigning the parts to the right people, but which parts, to which people, and who are the *right* people. Whole areas of study are devoted to such things as decision analysis, judgmental probability, operations research . . . the answer is not simple. This flows over into the ability of production to provide *all* the necessary skills.

Testing is not currently *well* developed. While it is true that we really do know more about crime than our politicians care to admit, adequate testing is an area with moral as well as manpower and controls problems. That products don't *fit* perfectly can be covered from many different viewpoints. We just don't have the technology available to foresee all the problems that can arise with a product. In the police environment, moreover, many of our products must be produced by our concepts by "08:00 hours, yesterday!"

To deal with these actualities then we go to current actual organization models and see if we can't build something useful.

Model 2

Rules, Programs, Procedures

The simpliest method of coordination of increased information load is to specify necessary behaviors in advance of their use. In order for this to be effective, the organization employees *must* be taught the job-related situations with which they will be faced, and the behaviors appropriate to those situations. As situations arise daily, employees act out behaviors *appropriate* to those situations.

The resulting organizational structure would look something like the following:
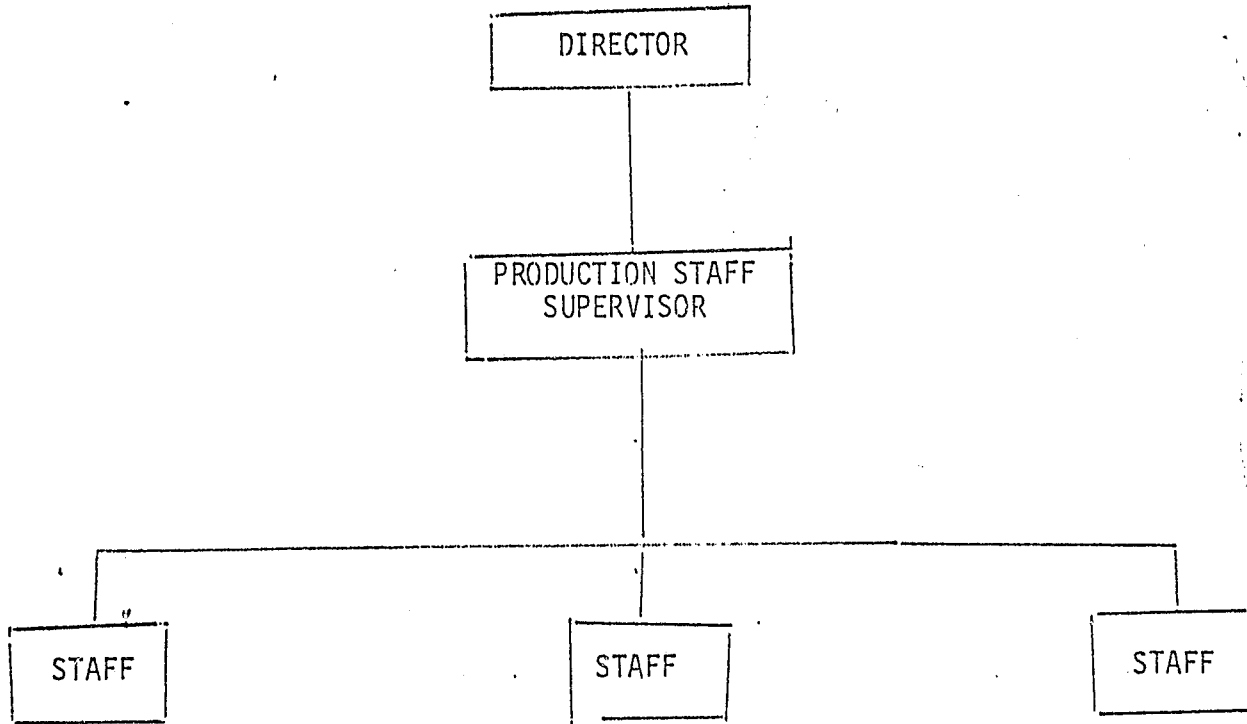
SEE FIGURE # 1

The primary virtue of this system is that it, with the use of correct rules, procedures and programs, eliminates the need for further communications among sub-units. The best example of an efficient use of this structure is an automobile assembly plant. As people come and go through the organization, the rules provide a specific memory for handling routine situations. The use of this system is limited. It is limited to those job-related situations which:

a. Can be *anticipated* in advance.
b. The *best* appropriate response can be easily identified.

The problems are hopefully apparent. As this organization that depends on rules and procedures encounters situations it has not faced before it "isn't in the book" so production grinds to a halt. Dealing with human (police)

FIGURE # 1

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                    │   DIRECTOR   │
                    └──────┬───────┘
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              ┌────────────┴────────────┐
              │   PRODUCTION STAFF      │
              │      SUPERVISOR         │
              └────────────┬────────────┘
                           │
        ┌──────────────────┼──────────────────┐
   ┌────┴─────┐      ┌──────┴─────┐      ┌──────┴─────┐
   │  STAFF   │      │   STAFF    │      │   STAFF    │
   └──────────┘      └────────────┘      └────────────┘
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services does not lend itself to anticipation, each day will be the same; different. The best response will depend on from whose and from what viewpoint you're looking. Do we take a vote, or only count those with weapons? As this heirarchical organization encounters these *new* problems that aren't in the book, it will have no ready made response. This leads to disunity and discontent because *uncertainty* is high (i.e.: I'm producing more, but I'm not sure that's better, because I don't know what I'm producing.). To handle this we have to move to a different organization. The *vertical* heirarchy we've just seen is great for producing cars, but poor for information processing.
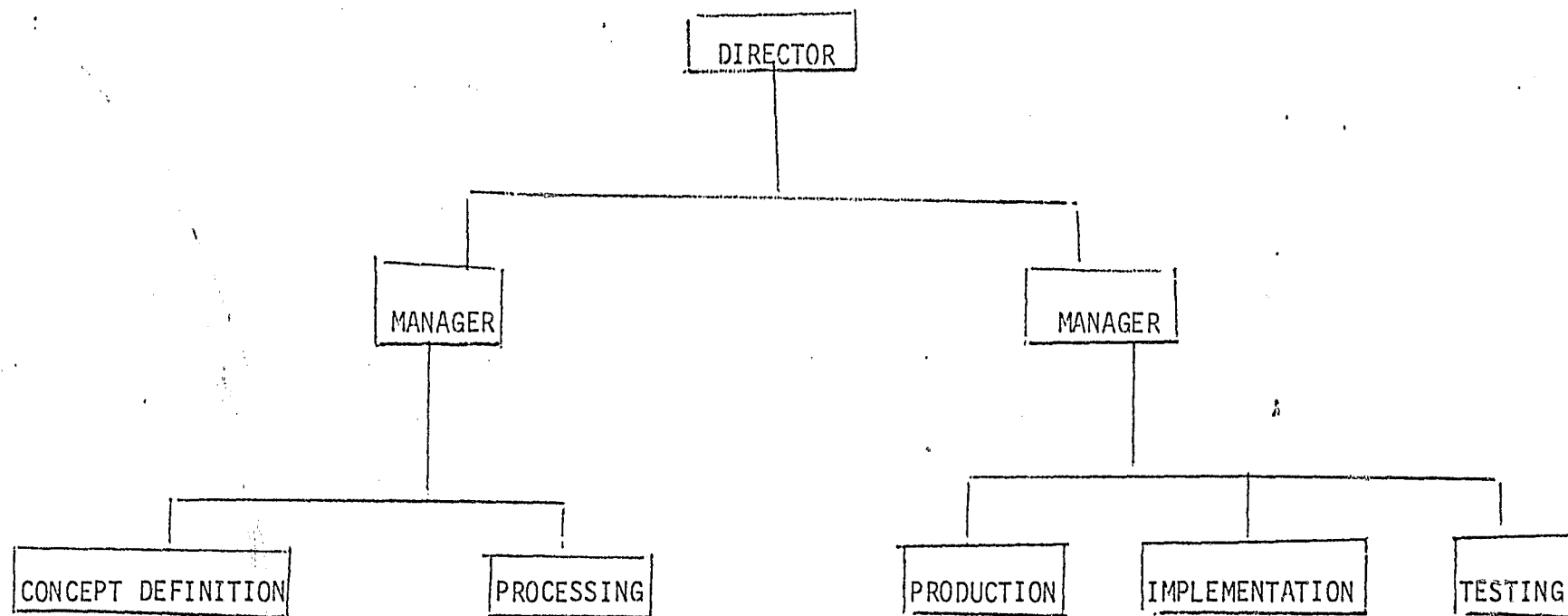
Model 3

Beginning Information Processing

The following structure is developed to deal with the new situation problem. As unanticipated events arise the problem is referred to a second level of management to make decisions based on demonstrated experience, expertise. Since the junior manager has *more time* to deal with the unanticipated event because anticipated events are directed to subordinates, the structure has been useful and effective for many years, when it is arranged *properly* (we say this because most agencies mix model 2 + 3 and get 0).

SEE FIGURE # 2

FIGURE # 2

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                              ┌──────────┐
                              │ DIRECTOR │
                              └──────────┘
                    ┌──────────────┴───────────────────┐
              ┌─────────┐                          ┌─────────┐
              │ MANAGER │                          │ MANAGER │
              └─────────┘                          └─────────┘
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│ CONCEPT DEFINITION │ │ PROCESSING │ │ PRODUCTION │ │ IMPLEMENTATION   │ │ TESTING │
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Since this structure is essentially heirarchial, junior managers rely on authority and reward to insure effective performance from subordinates. As educational levels increase throughout the structure, middle managers usually submit to the participatory management processes like management by objectives. The destruction of this system of things comes when information flow increases. As computer reports pile up on the middle manager's desks and subordinates lose direction because their supervisor is seeking some, or has given up, entirely tough new choices are faced.

Vertical Information Systems

To handle the increased need for information to solve problems and the increased need to generate information to solve problems as needs and demands from the community rise one must adopt one of at least three strategies. Increased information flow must be responded to by:

* Slack resources
* Self-contained Tasks
* Vertical information systems

The current system of things seems to dictate that Vertical Information Systems will be the response (NICIC, LEIN, CLEMIS, SPARMIS, ALERT II). This is probably because creating slack resources simple means hiring more people, or buying more equipment to deal with the information increase. Since the increase ebbs and flows, but always increases, the bulk of people and equipment will become larger and larger, and over time, the internal communications structure will break down, the bureaucracy will lurch forward and the cost will rise and rise as salaries increase.

Self-contained tasks could be an answer, in that units start to decentralize to where the problem is, and each unit supposedly has the capacity of the parent. The problem is that each unit then needs all the equipment of the parent, and all the information of the parent, and 10 heads aren't necessarily better than one. The cost of duplicating resources becomes prohibitive.

The Vertical Information System is basically equipment oriented. It allows the computer to collect data and synthesize data. Machines don't need big salary increases to match the cost of living. Computers can also handle task much more quickly than many humans attempting the same calculations. A tremendous revolution in information processing takes place and suddenly... the Lieutenant and the Chief have stacks of computer reports sitting on their desk from yesterday while city data processing brings in another basket. The problem that has arisen is that information frequency has increased beyond the individual manager's ability to utilize it effectively:

a.   Each link has a finite capacity for handling information.
b.   As organization task increase in uncertainty, more exceptions arise that must be referred upward in the hierarchy.
c.   As more exceptions are referred upward in the hierarchy, the decision makers become overloaded.
d.   Serious delays develop between the upward transmission of information about new situations and the response to the information downward.

Now enters research and planning to assist in insuring quality, utility, and effectiveness, while assuring that costs and benefits are in equilibrium. Since the research and planning unit will be receiving vaguely defined *concepts*, and information concerning *diverse* operations useful information arrangement is *complex*, it will have to be involved in:

a.   Attempting to assign the proper parts to the proper people to keep costs in line with benefits.
b.   Supplanting or providing the operation with the proper skills to reduce uncertainty.
c.   Testing the production products for effectiveness and utility.
d.   Evaluating the products to make sure they are fitting the needs at that time.

The unit that is assigned these tasks will have all the organizational history we have currently reviewed. But, since it is processing information for a department, and dealing with the *uncertain*, by assisting in reducing that uncertainty and increasing the information's utility, this unit's structure will be *different*.
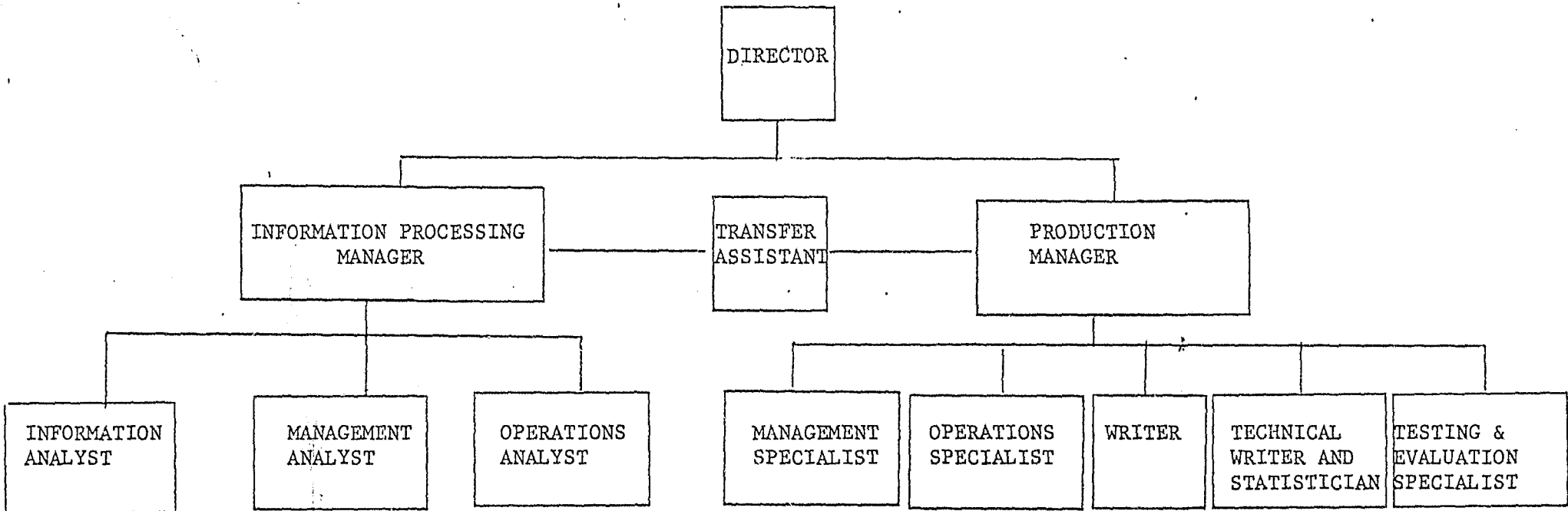
UNCERTAINTY

Finally you say, we're going to answer that second question. If you skipped the organizational theory to this point we've got you trapped anyway. Uncertainty we will define as the difference between what we know, and what we need to know to make a decision that is effective. Another cut at that is if the process of decision can lead to more than one possible outcome, the outcomes are uncertain. The greater the uncertainty in a situation, the greater the need to process more information, more bits of data, to have more useful information about the decision so that the decision is less uncertain.

An excellent example can be the next decision you make. How many parts of that decision, and that decision's outcome are certain. If you had more information about the parts, wouldn't it be useful. If that information were in *street* language, graphic and easily used wouldn't your decision making be more accurate, your quality of life a little better? What if you were a Chief faced with single member districts, and seven council persons each of whom wanted their police services improved, while the city budget Director was saying service delivery must be more cost effective and a Mayor who's saying cut the waste out but deal with the councilperson's problems yesterday. It might be of utility to all concerned, *pareto-optimal* even, if your computer could generate maps showing current force status and disbursement versus policital jurisdiction, correlating population density, age, distribution, educational attainment, occupation, median housing values and renting costs, whether housing was owner

occupied, or occupied at all, what the occurence of crime by type was this month, last month, this month last year, and what the probability occurence by crime type will be during three hour segments, by street blocks during the next twenty-four hours. If you could then show that your current disbursement was cost effective in terms of resources expended versus inceptions attained, costing assaults, rapes, homicides like insurance companies do (because with a social utility function we have to start somewhere) you might have quality information from your information processing. Information with utility. If that type of information seems to have utility to you you might start with a research and planning unit like the following, and in a year or two add an Office of Operations Support, which will be covered in the next article.

SEE FIGURE # 3

FIGURE # 3

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                              ┌──────────┐
                              │ DIRECTOR │
                              └────┬─────┘
           ┌───────────────────────┼───────────────────────┐
┌────────────────────────┐  ┌────────────┐  ┌────────────────────────┐
│ INFORMATION PROCESSING  │──│ TRANSFER   │──│     PRODUCTION          │
│        MANAGER          │  │ ASSISTANT  │  │      MANAGER            │
└───────────┬─────────────┘  └────────────┘  └───────────┬─────────────┘
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| INFORMATION ANALYST | MANAGEMENT ANALYST | OPERATIONS ANALYST | MANAGEMENT SPECIALIST | OPERATIONS SPECIALIST | WRITER | TECHNICAL WRITER AND STATISTICIAN | TESTING & EVALUATION SPECIALIST |

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