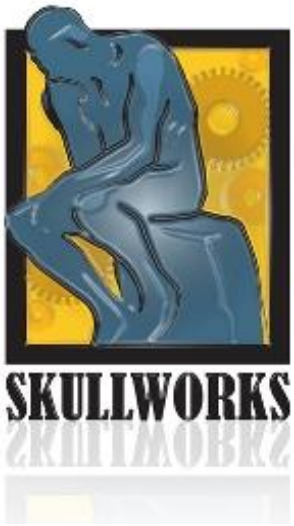

Roadmaps to Results

A Paper by Fred Nickols

Introduction

If you are a no-nonsense, performance-oriented manager, executive or consultant who likes hooking what you do to the bottom line, then chances are you are ever on the lookout for better roadmaps to results. Some roadmaps you already have; they are reflected in the models you use to examine, understand and intervene in your organization's *performance architecture* (more about that term in a moment). These roadmaps take the form of diagrams of the structure of the work systems, organizational operations and processes, accounting systems and financial indicators in relation to which you target and then attempt to realize and measure specified results. Other roadmaps you will have to discover or create. Fortunately, they are easily developed. You might have to do some digging to define them but they're there for the making.

This article is about performance architecture and how to use roadmaps to increase your chances of achieving desired results. My objectives in this article are to introduce you to the concept of performance architecture, illustrate it with examples, and persuade you that learning more about it could provide significant benefits to you, your colleagues and your organization.

Performance Architecture

I use the term "performance architecture" to refer collectively to three related domains of performance found in all organizations. The three performance domains are *financial*, *operational* and *human* (see **Figure 1**). Managers, executives and consultants intervene in these three domains so as to produce specified, targeted results. Sometimes we intervene in only one domain so as to achieve results there; on other occasions, we intervene in one domain so as to achieve results in another. These domains, then, are

linked to one another, as indicated by the overlapping of the circles in **Figure 1**. All three domains have very different structures and thus the roadmaps derived from them are very different. For now, suffice it to say that the three domains define an organization's performance architecture. Given this brief conceptual introduction, let's tease out the details with a case example.

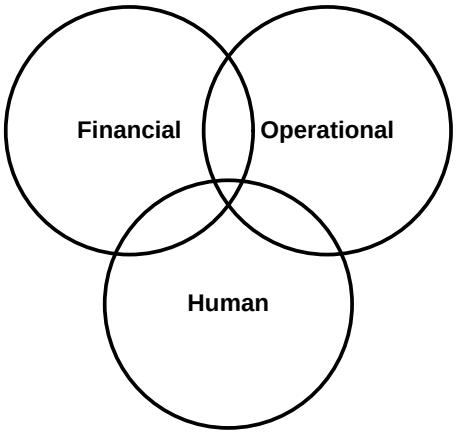

Figure 1 – Three Domains of Performance

An Operational Problem: "The Reject Rate is too High"

A division manager at a company where I had been hired as an internal consultant asked me to examine one of the operations in his division. He had been a client of mine when I was an external consultant and we had a good working relationship. His problem, as he described it, was that the reject rate in a certain operational area was "too high." He wanted me to look into matters and see what could be done to bring the reject rate down. When asked how low he wanted the reject rate to go, his answer was, "As low as you can get it." And so I set off to "look into matters."

One of the first things done was to prepare a basic diagram of the operation in question (see **Figure 2**). As shown, the operation processed registration forms. The forms were submitted by applicants who wanted to register for a certification test. The forms, received via regular mail, were batched and then scanned for computer processing. Computer routines edited the information from the forms and, assuming no errors, a seat would be assigned for an upcoming test. If the computer edits identified errors in the information from the form, the forms were flagged for resolution of the errors. If the resolution clerks could correct the errors, they did; if not, the form was returned to the registrant.

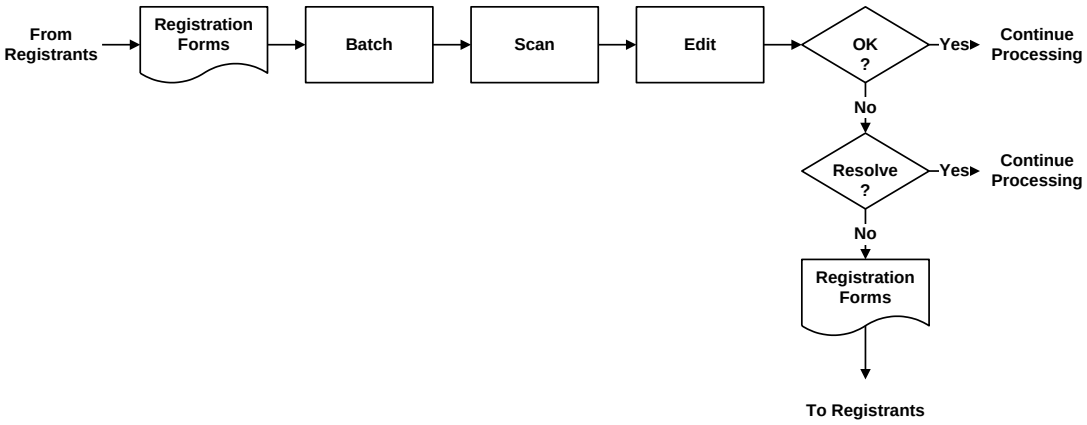

Figure 2 – Registration Processing Operation

The next step was to meet with the supervisor of the operation in question to determine the specific size of the reject rate. His intuitive grasp was that about half the forms were rejected. However, to get beyond this "gut feel" the supervisor agreed to collect the data from several "runs." These data established that the reject rate regularly varied between 60 and 70 percent. Of these, about half (30-35 percent) were being returned to applicants. Of these rejects, most had rejected owing to invalid or missing institutional codes. The other half appeared to owe to plain sloppiness on the part of the applicants. The supervisor and his staff were convinced that the applicants were incapable of filling out the registration form.

At this point, it was obvious that the cause of the reject rate wasn't some kind of malfunction or "glitch" in the forms processing operation; instead, it owed directly to what might be termed "faulty input." So, a model of a production work system was employed. (see **Figure 3**).

In **Figure 3,** the processor is the applicant, the person who wants to register for a certification test. The input to this work system is a blank registration form and the output is a completed registration form, which was the input to my company's processing operation. The process in **Figure 3** can be thought of as "filling out the registration form."

All work systems also have a control subsystem, which is represented in **Figure 3** by the controller. The controller's function is to impose standards and requirements, especially to ensure that outputs satisfy requirements. Because this was a human work system, the controller is also the applicant. In an ideal situation, the applicants would want to fill out the form in a complete and correct manner and they would be capable of doing so. They

would be able to manage their own performance. Given that the forms produced by applicants were so error-riddled that they resulted in a 60-70 percent reject rate, it seemed obvious that the applicants couldn't fill out the form and/or didn't care to.

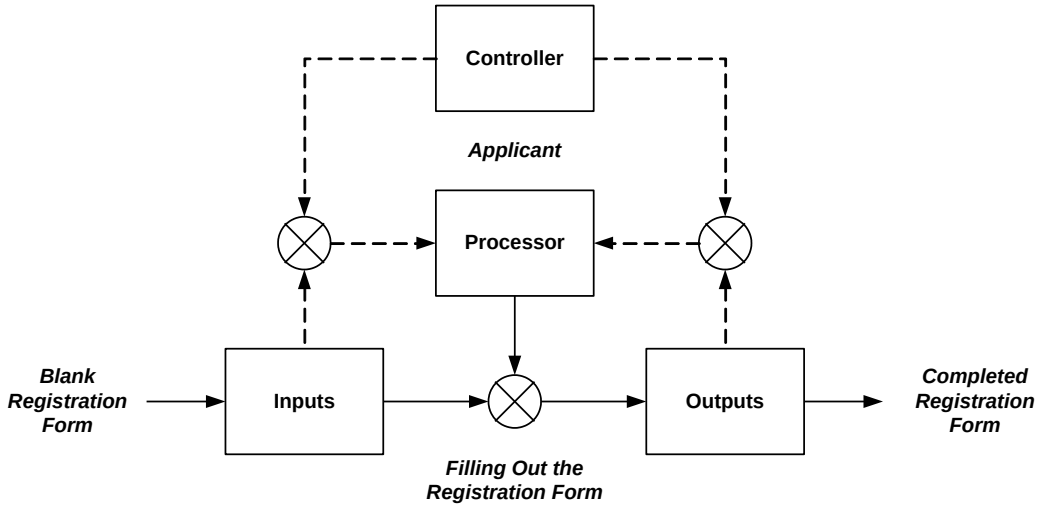

Figure 3 – A Production Work System

At this point I began looking into whether or not the applicants could be reasonably expected to fill out the registration form and be motivated to do so. My focus shifted from the operational domain to the human domain.

The Human Performance Component of the Reject Rate Problem

The thinking during this stage of the project was guided by a different roadmap, a model of human behavior and performance called the GAP-ACT Model (see **Figure 4**).[1]

In the GAP-ACT model in **Figure 4**, performance is defined by the state of some target variable (T). In this case, the target variable was the registration form. The desired or goal state (G) for this target variable – from the perspective of my company – was typically stated as "clean and complete" (i.e., error free). However, given that the completed registration form was actually produced by the applicants, the only goals that really mattered were theirs.

[1] This model is based on perceptual control theory (PCT) as articulated by William T. Powers in several books. See the PCT reading section at the end of this paper. A more robust explication of the GAP-ACT model can be found on my web site at http://www.nickols.us/gapact.pdf

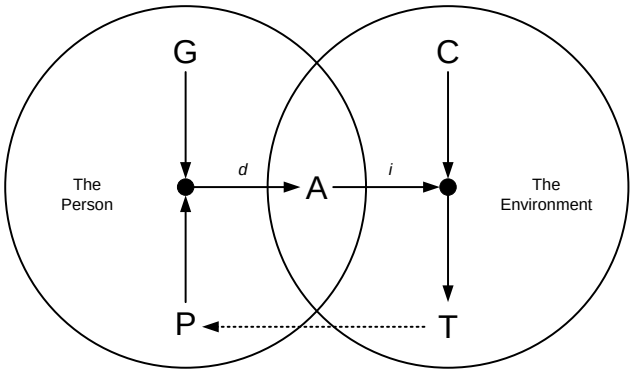

Figure 4 – Human Behavior and Performance

What was known of the applicants' goals at this point can be summed up as follows:

- They were trying to obtain employment.
- They had to be certified to obtain employment.
- Certification hinged in part on passing a written test.
- They wanted to register, take and pass the test.
- To get a seat at a testing center they had to fill out and submit a registration form.

According to the GAP-ACT model in **Figure 4**, the current or actual state of the target variable is defined via perceptions (P) of that target variable. The perceptions of T at my company can be summed up as registration forms that were riddled with errors, resulting in an initial reject rate of 60-70 percent. The probable perceptions of the applicants were quite simply that the registration form had been returned to them and this was the first time they knew something was wrong with it.

In the model shown in **Figure 4**, desired performance is achieved as a result of the performer having a goal (G) for the target variable (T), comparing his or her perceptions (P) of the target variable with the goal and, if a discrepancy (*d*) exists, adjusting his or her actions (A) so as to bring the target variable into alignment with the goal. Moreover, these actions are purposeful; they are carried out with an outcome in mind. Consequently, they constitute an intervention (*i*).

Given a reject rate of 60-70 percent, it seemed likely that the applicants couldn't tell and possibly couldn't care if the registration forms they submitted met my employer's requirements for processing purposes. However, it was also quite obvious that *their* goals were being affected. In half of the cases, the applicant's registration form was returned for correction. This delayed taking the test and that, in turn, delayed obtaining employment. An incomplete, incorrect registration form was costing the applicant time

and money. (The high rate of rejects and returned registration forms coupled with applicant complaints was also affecting the client for whom my company operated the program.

The model in **Figure 4** implies that actions (A) affecting the target variable must be effective; in other words, they must affect the target variable in ways such that it produces the desired state of the target variable. This means the performer must have a suitable repertoire of behavior. In addition, the model in **Figure 4** also indicates that there are other actors and factors that influence the target variable. These are complicating or confounding conditions represented by (C). Thus, any effects of the performer's actions on T are mitigated by the effects of C. Assuming C consists of negligible factors, no more than minor disturbances, the performer's actions will compensate for the effects of C and performance will occur as desired. In some cases, the effects of C overwhelm the performer's ability to bring the state of the target variable into alignment with the goal state. In this case, there were two complicating conditions affecting performance.

The applicants were literate, which means they possessed the necessary basic ability to fill out a registration form. However, the high reject rate made it clear that the applicants' actions were not resulting in an error-free registration form. It seemed reasonable at this point to suspect the applicants did not know how to tell if the registration form was or was not properly completed. Owing to the high percentage of rejects attributable to institutional coding errors, it seemed evident there was some kind of problem with institutional codes. So, two things came under scrutiny: (1) the instructions accompanying the form and (2) the code list from which the applicants were expected to extract institutional codes and enter them on the registration form. It was found that the instructions themselves were sketchy and incomplete. The code list provided to the applicants was organized in numerical order. This was great for the resolution clerks in my company, who wanted to find the institution associated with a particular code but it was not helpful for applicants who wanted to find the code associated with a particular institution. The applicants required a code list organized in alphabetical order by institution name. And nowhere were the applicants advised of the consequences of failure to submit a complete and correct registration form. Considerable improvement in the instructions was possible and warranted.

Subsequently, the instructions for filling out the registration form were revised and expanded, including a section explaining the consequences of an incomplete or incorrect form. An alphabetically organized code list was provided as well. Shortly thereafter, the reject rate plummeted from 60-70 percent to less than 9 percent.

To sum up, in accordance with the framework in **Figure 4**, the aims were to provide the applicants with plenty of reason to want to fill out and submit a clean and complete registration form and to ensure they had the tools to do so. Moreover, that had to be done in a way that allowed them to tell if they had performed the task properly. If they did, the reject rate would plummet – and indeed it did.

So far we have seen how roadmaps of the operational domain can lead us to the human domain and we have seen how a roadmap of the human performance domain can lead us to actions that result in improved performance. At this point you might be asking, "What about the financial domain?" That's next.

The Financial Impact of the Reject Rate Problem

The division manager who originally requested assistance wanted to lower the reject rate as much as possible. Once the reject rate had dropped to less than 9 percent, he was asked if he wanted it taken even lower. His response was to say, "No, we have bigger fish to fry." However, it did seem prudent to make some determination of the financial impact of the recently realized improvement in performance. This objective was furthered by a model of a key aspect of the division's financial performance (see **Figure 5**).

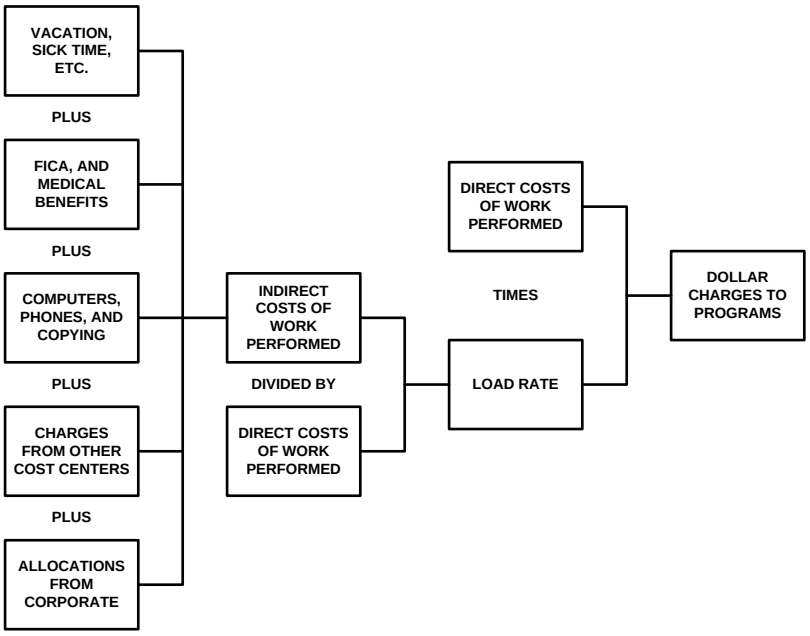

Figure 5 – Calculation of Charges to Programs

Because the resolution workload plummeted right along with the reduced reject rate, the direct costs of work performed in this program dropped also. The employees who had been assigned to do the resolution work were reassigned to other areas where the workload was increasing, thus heading off the need to hire additional employees in those areas and making the workload reduction cost savings very real instead of simply shifting the cost burden from one area to another. Their reassignment also meant that the indirect

costs associated with these employees were now being charged elsewhere. And, because the reject stream was now significantly smaller, computer charges from the Information Systems group were also reduced. Internal experts estimated an annual cost savings of $360,000 due to such improvements. These perceived cost benefits went a long way towards soothing a client annoyed by the formerly high reject rate and the accompanying applicant complaints.

The costs of realizing these improvements in operational and financial performance were considered negligible, consisting mainly of scattered chunks of my time over a six-week period and the costs of producing and distributing a revised set of instructions and an alphabetically-organized code list.

Concluding Remarks

Our foray through this performance improvement initiative illustrates how models can serve as roadmaps to results. It also shows the three domains of performance that make up a company's performance architecture: financial, operational and human. In this example, we started in the operational domain then made our way into the human domain and, lastly, focused on the financial domain. A different case might have taken a still different path, perhaps from the human domain to the operational domain and then to the financial domain. In any case, it is important for HPT professionals to remember that the three domains are linked that any performance improvement effort requires attention to all three domains.

The central point of this paper is that the solution to any problem lies in the structure of the situation in which that problem is embedded. Further, our models of these structures should guide our investigations and interventions. Here, the operational aspect of the reject rate problem was driven by faulty input to a process, not the process itself. The solution, from an operational aspect, was to improve the quality of the input. The human aspect of the reject rate problem was driven by an initial inability of the applicants to produce a satisfactory registration form. Solving this problem meant equipping applicants with appropriate goals and the tools with which to perform. The financial aspect of the reject rate problem tied to the way in which charges to clients were calculated.

Finally, it is worth observing that the models of each domain must reflect the nature of its structure. For instance, the financial domain has a mathematical structure. Models of this domain must reflect the arithmetic nature of its structure. The operational domain has a physical structure; it is concerned with stocks and flows and processes. Models of this domain must reflect these flows and processes. The human domain has a psychological structure. Consequently, variables and relationships depicted in models of this domain must reflect that structure.

HPT professionals, then, are well served by asking these three questions whenever tackling a problem in an organizational setting:

- What does the relevant portion of the financial domain for this problem look like?
- What does the relevant operational domain look like?
- What does the human domain look like (i.e., what are the relevant target variables, perceptions, goals, actions and complicating conditions)?

In all cases, if the models reflect the structure of the situations in which you are intervening, you will have roadmaps to results.

PCT Readings

1. Powers, W. T. (1973). *Behavior: The Control of Perception*. Chicago: Aldine-deGruyter.
2. Powers, W. T. (1989). *Living Control Systems*. Gravel Switch, KY: The Control Systems Group, Inc.
3. Powers, W. T. (1998). *Making Sense of Behavior: The Meaning of Control*. New Caanan, CT: Benchmark Publications, Inc.

About the Author

Fred Nickols is a widely-published writer and experienced consultant. He maintains a web site at www.skullworks.com and he can be reached via email at fred@nickols.us.

