

Systems Design and Documentation

Orchestrating your business for consistent, predictable results



SNAPSHOT

The E-Myth Mastery Program

Module 4: Foundations of E-Myth Management

Business Development Process: MG-0090

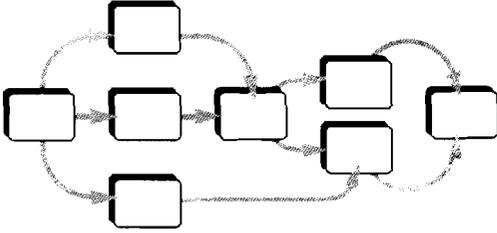
“The greater part of progress is the desire to progress.”

– Seneca the Younger, Latin philosopher

Key Points

The starting point for designing a business system is to define the exact result you want the system to produce.

Draft a box-and-arrow diagram to show the sequence and interdependency of the elements of the system:



Pay attention to the details of your business systems. Small errors in one system are magnified in subsequent "downstream" systems.

Do your system design work on-the-spot, where it takes place. It's not an academic exercise, it's real world.

A system isn't done until it's documented in a system action plan. Put it in writing!



The Business Systems Design Process

Specify result and name the system

Diagram the system

Write benchmarks

Assign accountabilities

Determine timing

Identify required resources

Design system quantification

Establish standards

Document the system

Test the System

Revise the System based on usage

Components of a System Action Plan

Title

Result statement

Accountable positions

System diagram (optional)

Benchmarks

Resource requirements (optional)

Quantification

Standards

Checklists (optional)

Forms (optional)

Scripts (optional)

Samples (optional)

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Putting the Pieces Together™

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How Do You Know Which Systems to Design?

As you develop your business to be less people dependent and more systems dependent, which systems do you need to design?

That’s easy. All of them.

And that’s actually the right answer. But it’s not an answer that helps you approach the challenge of systems design. So let’s look at this question a bit more systematically.

Determining which systems you need to design relies on the E-Myth Mastery Program™ and your Business Systems Development Plan developed earlier in this module. Remember? You first created a listing of business systems needed, then you prioritized them, and later you assigned accountabilities to your people and established target dates for their completion.

One approach, then, is to simply work on your systems in the priority order provided by Mastery.

But there’s a little more to it than that. Remember back in Module 1: Foundations of E-Myth Leadership, when you learned the Key Frustrations Process (LD-0060)? The Key Frustrations Process helps you look at issues that arise in the daily course of events and identify the system solutions that will eliminate particular frustrations in your business. So this is another way to determine which systems to design. You merely add these system solutions to your Business Systems Development Plan, according to the priority you assign to them using the same priority-setting scheme you used to develop the plan in the first place. That way you’ll always be working on the most important systems, your systems development effort won’t be constantly interrupted by the “frustration of the day,” and you’ll move progressively through the E-Myth Mastery Program.

When you make a strategic decision to do something new in your business – sell a new product, initiate a new advertising campaign, create a new organizational unit – again, think through the systems needed, prioritize them, and add them to your Business Systems Development Plan.

Your Business Systems Development Plan and Mastery Processes are your key development systems. Use them as the focal point of your systems development. They will keep you from creating your systems randomly or in reaction to the pressures of the day. They will keep you on track toward your Strategic Objective.

Start with the End in Mind and Pay Attention to the Details

The starting point for designing a new system, or improving an existing one, is to determine exactly what result you want the system to produce. Remember, output from one system is input for other systems. A sloppy system early in a production cycle, for instance, creates inconsistent, unreliable output. Every system downstream from the poorly functioning system then starts with inconsistent input, and can't be expected to produce high quality results. It's the business systems version of the old computer software truism, "garbage in, garbage out."

There's a multiplier effect in a careless approach to business systems. It's a negative multiplier that works to your disadvantage. A small flaw in a system early in the process is multiplied by other small flaws in downstream systems. Minor, sometimes almost undetectable flaws in your systems can and will create major problems and poor product and service quality in the end results. They show up in the form of work stoppages, excess scrap or rework, poor customer service, excessive product returns, late deliveries, high levels of frustration among employees, skinny profit margins (or worse, losses), and any number of other unwanted outcomes. So, don't document systems that don't work. Evaluate and innovate first!

Attention to detail in designing and improving your business systems pays off, and pays off well.

What If You're Uncertain about the Result You Want?

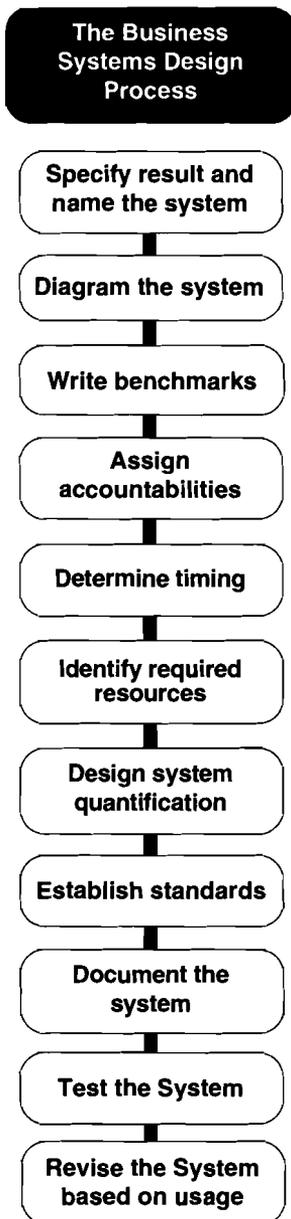
Sometimes, when in a developmental situation or when innovating products and services and the new systems to produce them, you may not be able to be as precise as you would like. After all, if it's a new idea, a new way of doing things, a new product, you may not know *exactly* what is possible and exactly what you can produce. You'll be using the system itself as a way to refine what is possible. It's a legitimate use of trial and error.

The E-Myth Point of View states three principle activities of business development: innovation, quantification, and orchestration. Well, this is innovation in action. Innovation isn't

just the invention of something new. It also includes creating new and improved ways of doing the things you already do – new and improved systems. And trial and error isn't simply random tinkering with a process or a product until finally you happen upon a satisfactory solution. It's the logical analysis of the process or the product, keeping in mind what you want the result to be, and keying in on the elements of the system – the leverage points – that determine the outcome.

Here's how it's done.

The Nine Steps of Business Systems Design



Here's an outline of the nine steps in the business systems design process. There's detailed discussion of some of the steps following the outline.

1 Specify the result and name the system. Write a clear, concise statement of the result the system is intended to accomplish, and give the system a brief, descriptive name (and a code number if you like). Start with the word "To"

2 Diagram the system. Optionally, diagram the steps in the system showing their sequence and how they relate to each other. Use a simple box and arrow diagram with brief captions to describe each step.

3 Write system steps in clearly-stated benchmarks. Each box in your system diagram is actually a work step – an action. When you identify each action in sequence, you're creating the benchmarks that make the process clear and unmistakable to anyone who will perform the work or supervise it. So in this step, you restate the work in a complete sentence that clearly communicates exactly the work or action to be taken. Start with an action verb.

4 Assign accountabilities. Identify by position, not by person, who will be accountable for the system as a whole and who will be accountable for each of its benchmarks. When you finish documenting the system, a copy of the systems action plan will go into the operations manual of each person in those positions.

5 Determine the timing. Knowing when each benchmark needs to be performed is a key element of getting the result you want. Establish the timing for each step, certain steps only, or for the system as a whole, as appropriate. This might be in terms of clock time (by 10 a.m.), project time (day 1, day 4), generic phrases (upon receipt, weekly), or a combination of these.

6 Identify required resources. Every system requires resources of the following types: staffing, work space, facilities, equipment, supplies, and information. When useful, list the specific resources and quantities of each needed to operate the system. Some systems won't have a lengthy list of resources; it may be just the individuals involved and their "everyday" work supplies and not require a list.

7 Determine how you will quantify the system. How will you know if you are getting the result you want from your system? How can you make decisions about your business without objective information about the performance of your systems? You need quantification to give you that objective view. Without it, you're operating blindly and subjectively. The best time to create the method for quantifying each system is at the time you first design and document it.

8 Establish standards. Set the standards for performance of the system and behavior of the staff operating the system. Standards are most easily stated in terms of: quantity, quality, and behavior. These could include measures of output, defects, cost per item, guidelines for staff behavior, dress codes, and even ethical standards. If it is key to producing a successful result, then you'll need to set standards for it. Use the words, "will be."

9 Document the system. Put it in writing. The format we recommend for documenting your systems is called a "system action plan." You can use the worksheets at the end of this process booklet, or a template of your own design, but *do* put it in writing. It's not done until it's documented.

It's Real World, not Academic

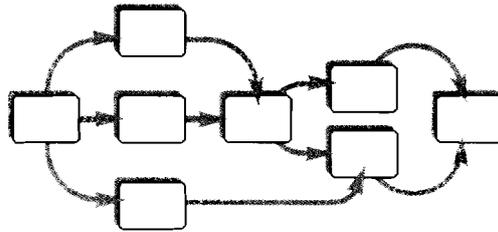
Don't treat systems design as an academic exercise. It's real world. Do your system design work on the spot – on the shop floor, in the kitchen, in the showroom, on the road, at the assembly line, on the trucks, at the drill press, at the telephone. Be where the work gets done and see what's happening and what needs to happen. Test alternate ways of doing what needs to be done. Involve the people who do the work. And always look for a better way.

Some Hints for Diagramming the System

Your "first pass" at designing the system can be a simple diagram showing the key steps and how they relate to each other, but do this only if it's useful. For simple systems you may not need to diagram. A box-and-arrow format works well. If you

are trained in work process flow charting, this will be a breeze for you; if not, it's still pretty simple.

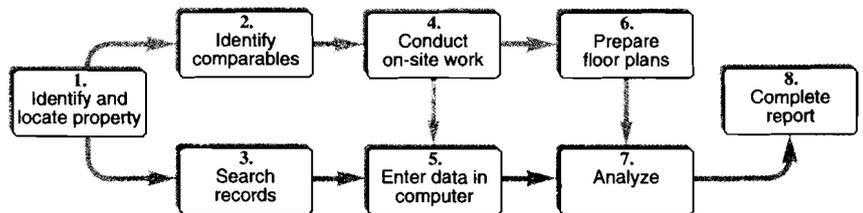
It works like this. Think through the system one step at a time, identifying each step and the sequence in which it takes place. Don't think about who will be doing the work, just what work has to get done, and in what order. Finally, draw a box for each step and connect the boxes in the correct sequence. For the moment, just label each box with a word or two – you'll be describing the details of each step later.



Let's walk through one for practice. Take the home mortgage lending business for example. Here, an important business system is appraising the value of the homes for which banks lend money.

The first thing you do is give the system an appropriate name and specify the result to be produced. We'll name it "Appraising Residential Property." The result produced by this system is "to determine the fair market value of single family residential properties."

Next you think through the steps of the process using the box and arrow diagram. We call the system's steps "benchmarks." Here's how it might look:

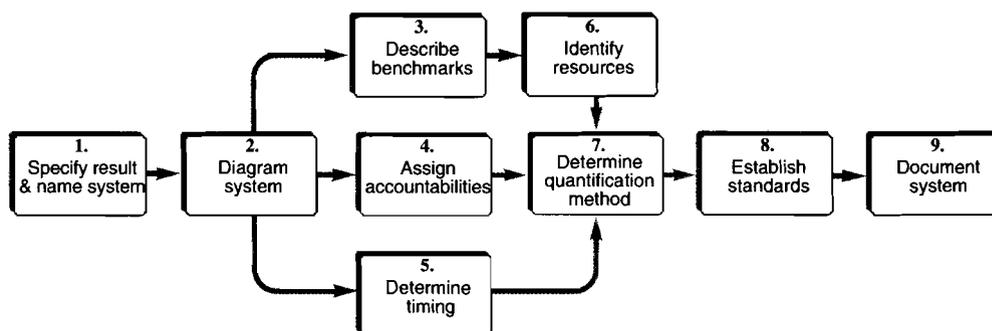


Notice that the benchmarks are shown in the sequence in which they must be done. The diagram shows not only the sequence, but also which benchmarks depend on other benchmarks. When one benchmark cannot be completed until another is done, we call it a "dependent" benchmark. If a benchmark doesn't require input from another benchmark, we call it "independent." It's an important idea because, while dependent benchmarks have to be completed in sequence, you have much more flexibility with independent benchmarks.

Keep in mind that each benchmark requires work, has to meet standards, and produces a result, although the standards and the results are not explicitly shown in the diagram. Does that sound familiar? It should. Position contracts contain the same components: the result of the position and the work and standards that will produce the result.

Remember, each benchmark in your diagram is part of the overall system, and each benchmark is itself a sub-system. The box and arrow diagram is just another way of looking at a part of your overall business system diagram.

In fact, if you look at the business systems design process you are now learning about, it is itself a system, and could be diagrammed as follows:



Here you can see that it doesn't matter in which order you do the steps of "describe benchmarks," "assign accountabilities," and "determine timing," as long as they're done *after* you follow steps 1 and 2 or choose to "pass through" 2 onto 3, 4, and 5. These three steps are independent of one another, but they are all dependent on step 2. It also shows that you can only establish the standards after you've determined how you'll quantify the system (step 8 is dependent on step 7). And you can only document the system after everything else has been done.

Fine-Tuning Your System

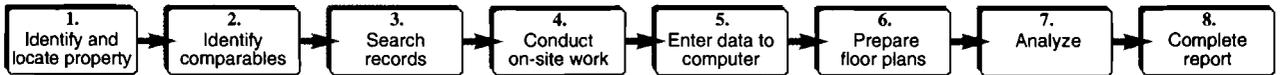
At certain times in the life cycle of your business, you and your people may use this process to document systems that currently exist. That's all well and good.

But the real development and improvement in your business will come as you use this process to actually design new systems and redesign existing ones. Here's where the diagramming benchmark we've been describing becomes even more valuable.

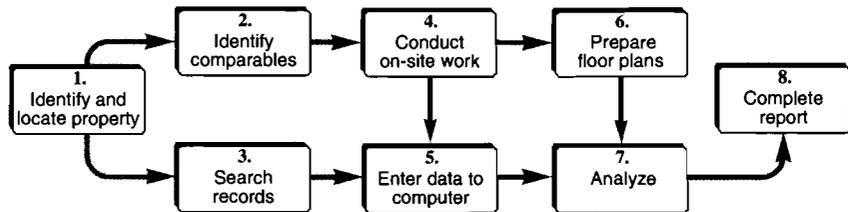
While the box and arrow method diagram is about as simple as it could possibly be, it's a powerful way to see and understand the

entire system at a glance. And it makes it easy to try different system configurations until you find the one that will make your system work best.

The appraisal system diagrammed above was originally operated by one person performing all the benchmarks, one at a time, in sequence, like this:



The appraisal manager thought she could improve both the quality and the turnaround time of her appraisals by redesigning the system so that independent benchmarks could be done simultaneously. When she looked closely at the existing system and diagrammed it, she found several ways to streamline the system. The new diagram reflects the streamlined system she designed.



It worked. With no increase of staff, she cut her delivery time for appraisals almost 50% from an average of 8 days to an average of less than 5 days. Later, she said, “The appraisal system seemed like it was working okay, but it seemed sort of slow and I didn’t know why. When I studied it and diagrammed it, I found out exactly what could be done differently. The diagram let me see the important pieces of the system and how they could be done better.”

It’s at the diagramming stage that you spend time “on location” seeing how the existing system works, or figuring out how a new system should work. The diagram is merely a reflection of that thinking and experimentation. But the diagram clarifies two things that aren’t immediately apparent. First, it makes you determine what the key benchmarks are; then you can look closely at what needs to be done to accomplish each one and see possible improvements. Second, it gives you the integrated overview of how all the benchmarks fit together, and helps you determine the best way to arrange or even eliminate some. In other words, the diagram gives you the big view of the overall system, and the smaller view of each of the system’s components, at the same time.

Use this diagramming phase of your systems design and documentation process to experiment with different benchmarks and different arrangements of benchmarks. Don't rush ahead with the first thing that comes to mind. Small changes can result in important innovations that will impact your business in a positive way!

The System Benchmarks – Keep it Simple

At this point, you've done most of the thinking and system design work. Now you have to decide how you'll record and communicate it in such a way that anyone can operate or supervise the system so it will produce the result you want. That requires a complete statement of each benchmark, or work step, for starters.

But what does "complete" mean? What do you have to include, what gets included in other parts of the system action plan, and what can you leave to the discretion of the people operating the system?

It's a judgment call. Theoretically, you want to leave as little to individual discretion as possible because discretion leads to inconsistency. And yet to do so can make your system action plan so difficult to follow that no one does! Leave room for common sense, and recall key frustrations of the past to help you strike the right balance in terms of detail and simplicity.

So you'll need enough detail in each benchmark to make it absolutely clear to anyone exactly what action needs to be taken, and how the important parts of the system have to operate. But, avoid the clutter of excess detail and wording where it's not needed. The thing to keep in mind is "What actions are essential to producing exactly the right result, and precisely what must be done to guarantee that result?"

If you write the benchmarks and find yourself thinking, "But these don't tell the whole story or give enough information," remember that missing pieces will probably appear in the "accountability," "timing," "resources," and "standards" sections of your system action plan. If you start to include all these areas of information in the benchmarks themselves, they can become too wordy, complicated, and hard to follow. Keeping each section clean, crisp, and "pure" will result in documentation that's easy to use and won't end up gathering dust.

You and your employees who do the work know your business best, so it's up to you to determine the essential information that will express each step and the correct sequence. We recommend starting each one with an action verb – the action that needs to be done. Benchmarks are what you *do* to get the result you want. Standards are *how* you must do it.

Here's an example showing how the appraisal manager wrote her benchmarks. They weren't very detailed, but they got the job done for her.

Appraising Residential Property – Benchmarks

1. Get the parcel identification and address of the property to be appraised; locate property on map.
2. Identify and select “comparable” homes that have recently been sold.
3. Search county records to obtain and verify critical information.
4. Conduct on-site appraisal work.
5. Enter the data into the appraisal software.
6. Draw floor plans.
7. Analyze data collected and estimate the property's market value.
8. Complete and submit Appraisal Report.

Notice that each of these eight benchmarks does, in fact, represent its own system. So, our appraisal manager should find herself writing systems for “selecting comparables,” “searching county records,” “drawing floor plans,” “estimating market value,” and so on. And all of these sub-systems together become the overall appraisal process.

Resources – What You Need to Get the Job Done

Every business system requires resources of one kind or another. It helps organize your thinking to categorize the resources needed for your business systems into the following:

Staffing: The amount and types of manpower needed to operate the system – how many people; what positions; necessary skills; how many hours; particular shifts, schedules; backups, if important.

Workspace and facilities: Amount of space needed (square footage and configuration), types of space needed, layout of the space, efficient placement of work groups and equipment, utilities (electric, telephone, water, heat, gas), environmental considerations.

Equipment: Machinery, tools, furniture, office equipment, vehicles, instruments, etc.

Supplies: “Consumables” such as office supplies, raw materials, ingredients, components, forms.

Information: Data bases, pricing schedules, information subscriptions, operating instructions, reference materials, etc.

The system action plan format provides space to accommodate all the relevant information about each of these types of resources. But don't fill them up needlessly, just for the sake of “completing the form.” Some systems will have little, if any, special resources. Use this section as appropriate.

Quantification – The Proof of the Pudding

Take some time in the design and documentation stage to think about how you will quantify the system. In other words, how will you objectively determine whether the system, as it's operating in your business, is giving you the result it's supposed to. This little bit of extra time spent now will pay you big dividends later. Starting to measure your systems' effectiveness early on, establishing a baseline for comparison, will put you ahead of the game in your efforts to have good, reliable, useful information – management information.

And it's not as difficult as you might think.

Take another look at the example of the system for appraising residential property. The method of quantification might be: Each month, the appraisal manager will prepare a report showing a list of each property appraised, the price we appraised it at, the actual sales price, and the variance. Our goal will be to have 90% of all our appraisals be within 10% of the actual sales price.

In your system action plan, you can include a simple description of the quantification method, like the one above. You can even expand this into its own action plan, with result, benchmarks, standards, and other components. You might even realize that the system is already being quantified in a financial or operating report that you routinely produce. Your approach might be simple or more complex. But don't neglect it.

Standards Mean Quality Results

Standards have to do with performance. Standards determine how well, or how poorly, your business systems accomplish their purposes. Standards answer questions like: How well? How much? How many? How fast? How attractive? How safe? How clean? How simple (or complex)? How helpful? How honest? How hot (or cold)? How cost-effective?

In process MG-0050, Position Contracts, we described standards as the requirements for achieving the result and performing the work, including quantity (how much), quality (how good), and behavior (the manner or conditions under which the work is done). The same definition of standards applies here, in designing and documenting your systems.

High performance requires high standards. And explicit, well-conceived standards help people know exactly what's expected of them and, therefore, make it much more likely that you will get the result you want – without your having to do it!

Here are examples of standards that correspond to the first four benchmarks of the system for appraising residential property:

Appraising Residential Property – Standards

1. The current year's edition of the Official County Parcel Maps will be used to locate property for appraisal.
2. Homes considered "comparable" will have closed escrow within the past three months, and will be within a half-mile radius of the subject property.
3. Exceptions must be approved by the appraisal manager.
4. Information from county records search will include at a minimum for all properties:
 - a. current title;
 - b. flood risk;
 - c. earthquake risk;
 - d. tornado/hurricane risk; and
 - e. zoning restrictions.

As shown in these examples, we recommend using the passive voice in writing standards, as we did in position contracts. This provides a consistent way for everyone to write systems documentation, and helps clearly distinguish standards from benchmarks. Use the words "will be," not "should be" because the latter might indicate discretion is allowed at times, and it's not!

Your standards do not have to correspond one-for-one with the benchmarks. Some benchmarks may have more than one related standard; some may not have any. And you may have standards that apply to several benchmarks at once (“all handwritten appraisal documents will be done with black, fine point pen”) or to the system as a whole (“all applicable county and state laws and regulations will be upheld”).

Standards have to do with perceptions as well as reality. Your business systems have to produce *real* results, but they also have to produce *perceptions* that lead to customer satisfaction.

Consider, for instance, a plumbing business. A plumber must “fix the pipes,” so it should be obvious to anyone that plumbing systems must have standards for quality materials, effective methods of repair, and testing to see that the repairs work properly. Less obvious, but equally important, are other aspects of plumbing repair, such as cleanliness, appearances, and the personal anxieties of the homemaker. A dirty, messy truck in the driveway creates a bad impression in the neighborhood, and can be an embarrassment for the homemaker. A sparkling clean, tastefully painted van in the driveway creates quite a different impression. A dirty, cigar-smoking plumber, with messy, dirty tools threatens the homemaker’s clean, homey environment. A plumber wearing freshly changed coveralls, with clean hands and fingernails, fresh breath, clean, neat tools, and drop cloths to protect the home, is a welcome sight. A sullen, unfriendly plumber can be perceived as an intimidating presence in the customer’s home. A gentle, soft-spoken, empathetic plumber can be an encouraging presence.

Clearly, the standards for your business systems must include customer perceptions as well as actual performance.

A System Isn’t Done until It’s Documented

Every business system must be documented or it’s not a completed system. Documentation forces you to think through the system thoroughly. It eliminates errors due to imperfect memory and reduces the likelihood that unproductive habits will creep into the system. A documented system is easy to learn. Otherwise, you just have another form of people dependency rather than system dependency.

The best way to document systems in your company is to have a consistent format that everyone can understand and use. An

example that captures all the elements we've described is the "system action plan." It's included in the worksheets section for you to modify or use "as is."

It's a Never-Ending Process

Systems development must be a never-ending activity for any company regardless of size, product, or market. You must test and continually revise your systems based on usage. Also customer needs and tastes are continually changing; your competition is always chasing you (or maybe you're chasing them); technology is always surprising you with new possibilities; and nobody knows what government regulations will do from year to year. Your markets are dynamic, so your business must also be dynamic.

Your commitment to the continuous development of your business systems is the way to catch up, move ahead, and maintain a leadership position for the life of your business.