

Root Cause Analysis Questions

Root Cause Analysis may arguably be the most critical step in the Human Performance Improvement (HPI) process because it forces us to resist jumping straight to a solution recommendation. It is the diagnosis that leads to recommending the *correct* intervention to close the identified performance gap(s).

Outputs of a Root Cause Analysis include:

- A list of possible root causes (with supporting data)
- Hypotheses for each plausible root cause (with supporting data)

The following steps are recommended when conducting a root cause analysis:

1. **Select** the analytical model you want to use and follow its process. There are numerous analytical models from which to choose, e.g., Cause & Effect (fishbone or Ishikawa) Diagram, Gilbert's Behavioral Engineering Model, The Six Boxes™, the 5 Why's, etc.
2. **Gather** supporting data to test your hypothesis for the root cause.
3. **Analyze** the data to determine the root cause.

It is more important to follow a systematic approach to determine root causes than it is to recommend a specific method.

Adaptation of the Gilbert Behavior Engineering Model.

Performance Drivers (or Causes)	Performance Questions	Performance Deficiency Examples
Data, information, feedback	<ul style="list-style-type: none"> • How well are people given data, information, and feedback to perform when they are needed? 	<ul style="list-style-type: none"> • Information not given on a timely basis • Lack of feedback mechanisms • Little documentation • Performance standards are nonexistent • Data is not tied to performance
Environment support, resources, tools	<ul style="list-style-type: none"> • How well are people supported with resources, tools, and equipment? 	<ul style="list-style-type: none"> • Ergonomic deficiencies • Inadequate working conditions • Tools unavailable or not optimally arranged • Insufficient time to get things done
Consequences, incentives, rewards	<ul style="list-style-type: none"> • How well do performers see the results or consequences of what they do? • How well are they rewarded or provided with incentives? 	<ul style="list-style-type: none"> • Work unrelated to organization's mission and needs • Rewards not performance-based • Competing incentives • Poor performance rewarded
Skills and knowledge	<ul style="list-style-type: none"> • How well do performers' knowledge and skills match performance requirements? 	<ul style="list-style-type: none"> • Lack of knowledge, skills, training, education
Individual capacity	<ul style="list-style-type: none"> • How well can people perform? 	<ul style="list-style-type: none"> • Lack of aptitude, ability, physical or manual dexterity • Inadequate job analysis
Motivation and expectation	<ul style="list-style-type: none"> • How well are people motivated to perform? Are expectations realistic? 	<ul style="list-style-type: none"> • Boring and punishing performance system • Unrealistic payoffs • Groupthink

		<ul style="list-style-type: none"> • Poor job design • Poor Job-Person Fit
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Similar to the Gilbert Behavior Engineering Model, Wedman & Graham's **Performance Pyramid** provides a framework for classifying various barriers or enhancers of individual performance. The causes can be categorized into any of six categories. These categories assist the analyst in selecting solutions that match the appropriate cause type. The six components of the pyramid are as follows.

- **Knowledge & Skills:** critical job knowledge requirements and/or necessary on-the-job skills.
- **Motivation & Self-Concept:** (also referred to as Desire to Perform) the self-motivation or drive of the performer to accomplish his/her job duties and buy-in to the expected performance requirements.
- **Performance Capacity:** the physical ability, mental aptitude, and cognitive style of the performer required to do the job.
- **Expectations & Feedback:** the organization's effort to set clear job requirements and communicate to performers if they are meeting those requirements.
- **Tools & Processes:** the organization's effort to provide resources, tools, operational processes, and a work climate that support excellent performance.
- **Rewards, Recognition & Incentives:** the organization's effort to support desirable performance with monetary and non-monetary rewards and incentives.

The following questions were derived by combining the Gilbert Behavior Engineering Model and the Wedman & Graham Performance Pyramid.

Expectations, Data, Information & Feedback: Has Management set clear job requirements and communicated to performers whether they are meeting those requirements?

- Is information given on a timely basis?
- Is there a lack of feedback mechanisms?
- Is there little documentation?
- Do performance standards exist?
- Is data tied to performance?

Environment Support, Resources, Tools & Processes: Has Management provided adequate resources, tools, operational processes, and a work climate that support excellent performance?

- Are tools available and optimally arranged?
- Is there sufficient time to get things done?
- Do performers suffer inadequate working conditions?
- Do performers encounter ergonomic deficiencies in their workspace?

Consequences, Rewards, Recognition & Incentives: Has Management supported desirable performance with monetary and non-monetary rewards and incentives?

- Do performers see the results or consequences of what they do?
- Are performers rewarded or provided with incentives?

- Is the current workload related to the organization's mission and needs?
- Are there currently any performance-based rewards?
- Is poor performance rewarded?
- Are there competing incentives?

Knowledge & Skills: Do personnel sufficiently meet the critical job knowledge requirements and have the necessary on-the-job skills?

- Do performers' knowledge and skills adequately match current performance requirements?
- Is there a lack of knowledge, skills, training, and education among performers?

Individual Performance Capacity: Do personnel have the physical ability, mental aptitude, and cognitive style required to do the job?

- Do performers have the mental capacity to perform under the current circumstances?
- Do performers have the aptitude, ability, and physical or manual dexterity to perform?

Motivation, Expectation & Self-Concept: Given the current organization climate, do personnel sufficiently exhibit the self-motivation or drive to accomplish their job duties? Do they fully buy-in to the expected performance requirements?

- Do performers have the proper orientation, training, guidance, and feedback in place to be motivated to perform? Do performers feel expectations are unrealistic?
- Is the performance system boring and punishing?
- Are payoffs difficult to gauge?