Geary Rummler: Contributions & Conflicting Ideologies in the Field of Performance Improvement

Olajiwon K. McCadney

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Abstract

Geary Rummler worked with clients in both the public and private sectors to improve organizational results. Some of the important concepts Rummler revolutionized into a comprehensive framework that this paper will concentrate on include: the human performance system, levels of performance, the nine performance variables, managing the organizational white space, the systems approach to training, performance analysis and consulting. This research paper will focus on three major contributions by Rummler to the performance improvement field as well as mentioning performance practitioners who are either advocates of his methodologies or conflict with his principles.

Introduction

Geary Rummler can be seen as a pioneer and innovator in the field of performance improvement. Rummler can be seen as a pioneer in the application of instructional and performance technologies to organizations as well as an innovator in the analysis and improvement of human performance (Rummler & Brache, 1990). He received his MBA and Ph.D. from the University of Michigan. His research/consulting took him to Europe, Japan, Korea, Malaysia, China and Mexico as well as allowed him the ability to work with such federal agencies as the Internal Revenue Service along with the Social Security Administration (Rummler & Brache, 1990). Furthermore, Rummler worked with clients in both the public and private sectors in order to improve organizational results. He was also the founder or founding partner of such firms as the Praxi Corporation, the Rummler-Brache Group, and the Performance Design Lab (Galagan, 2008).

In addition, Rummler was the president of Kepner-Tregoe Strategy Group, and co-founder, with George Odiorne, of the University of Michigan’s Center for Programmed
Instruction (Galagan, 2008). Rummler was also a past president of the International Society for Performance Improvement (ISPI), a Member for Life, and a recipient of the Honorary Life Member and Distinguished Professional Achievement Award, now known as the Thomas F. Gilbert Distinguished Professional Achievement Award (Addison, 2009). Furthermore, Rummler also has authored a variety of books, notably, *Improving Performance: How to Manage the White Space on the Organization Chart* which was highly influential in the late 80's and 90's and *White Space Revisited: Creating Value through Process* (Rummler, 2007a). Unfortunately he passed away in 2008, but his ideas live on. This research paper will focus on three major contributions by Rummler to the performance improvement field as well as mentioning performance practitioners who are either advocates of his methodologies or conflict with his principles.

Some of the important concepts, Rummler revolutionized into a comprehensive framework that this paper will concentrate will include: the human performance system, levels of performance, the nine performance variables, managing the organizational white space, the systems approach to training, performance analysis and consulting. As previously mentioned this paper will also discuss performance practitioners that support or refute aspects of Rummler’s concepts about performance improvement within organizations. The first, will be from Klaus Wittkuhn, “Make the World a Better Place: How to Set up a State Education Inspectorate in an Emerging Nation,” because it samples Geary’s methodology for designing organizations that deliver desired performance.

The second, will be from Michiel Bloem, “Rummler’s Swim Lanes in a Dutch Swimming Pool,” because he describes how Rummler’s work changed the way the Top Swimming Amsterdam (TSA) thinks/acts as performance professionals in order to yield desired
results for TSA. The third, will be from Alan Ramias and Richard Rummler’s, “The Evolution of the Effective Process Framework: A Model for Redesigning Business Processes,” because it illustrates one of Geary Rummler’s best known model’s ability to evolve over 25 years in the field of organizational performance improvement. Lastly, this research paper will mention two well-known performance improvement specialists, Roger Kaufman and Thomas Gilbert who had conflicting viewpoints for solving performance issues within organizations.

Closing Gap in Human Performance

Most organizations are often unsuccessful when solving performance problems. Part of the lack of success is due to the lack of the ability to effectively and efficiently analyze the human element as it relates to poor performance. Rummler attributes this to managers within organizations reacting to biases/assumptions about human nature as well as assuming that cause and solution of the problem involves the individual without addressing potential problems that arise within the environment (Rummler, 1972). Furthermore, he believes managers need to take another approach that focuses on the dynamic relationship between the performer and their environment. Before managers can concentrate on this relationship, they need to determine the type of performance deficiency within the organization.

According to Rummler (1972), human performance deficiencies can be categorized as deficiencies of knowledge (D/k), which results from an employee not “knowing what to do, how to do it, or when to do it”; or as deficiencies of execution (D/e), which can result from an employee failing to perform due to factors in the work environment (p.3). Rummler cites that it crucial to differentiate between deficiencies of knowledge and execution when addressing human performance problems because time and money could be wasted when attempting to solve a knowledge problem that is in fact an execution problem (vice versa). In addition, issues with
performance caused by D/k are typically feasible to solve, but solving D/e are often ineffective due to the fact that managers do not go beyond labeling the issue as being attributed to attitude, motivation or communication.

Deficiencies of execution should be classified as resulting from lack of feedback, task interference, and punishment or unfavorable consequences (Rummler, 1972). Lack of feedback can develop when the individual performing behavior considers it to be unimportant or that they are failing to perform to the organizational standard, which can be solved by creating a feedback system for the organization (Rummler, 1972). Task interference involves the individual lacking the ability to perform because they either lack the tools or structure of the organization, which causes the job to interfere with performance (Rummler, 1972). Lastly, punishment or unfavorable consequences involve the individual having no incentive to perform, which can be solved by changing the consequences so that it yields proper performance (Rummler, 1972).

Rummler describes this feedback/ task-interference /consequences framework as being crucial component to solving as well as analyzing exiting problems, which further illustrates that poor performance is usually caused by the performance environment.

Performance is not an isolated concept nor should it be assumed that it solely rests with the individual, but also the environment because the performance environment can greatly impact the way the individual performs their job as well as the result it produces for the organization. Often at times, the cause of poor performance is not the human part of the system, but a component within the performance environment (resources, inputs, consequences and feedback); instruction (via training) alone cannot improve performance if task interference, lack of performance feedback or consequences have not been identified as well as addressed
(Rummler, 1996). Before an organization can address issues within the work environment, it needs to understand the key elements in the work environment.

The key elements in the work environment affect performance and productivity in which Bolt & Rummler (1982) describes the characteristics as making sure within the environment:

1) The task/job is clear. They [employees] know what is expected of them.
2) The resources required to do the job are readily available, including information, time, money, and the proper tools.
3) The individual has the capacity, skills, and knowledge required to do the job.
4) The individual receives frequent feedback about how well he or she is doing vis-à-vis the job expectations.
5) The individual is satisfied by the consequences or rewards that follow successful performance of the job. (Bolt & Rummler, 1982, p. 40)

Bolt & Rummler (1982) describe the above characteristics as factors included in the performance chain (See Appendix I). The links within the chain are interdependent of each other and performance is weak if there is an issue with one component of the chain. For instance, if the task is clear, resources are available, and consequences are acceptable, performance will be subpar if the individual is not properly trained (Bolt & Rummler, 1982). Performance is determined by the efficiency as well as the effectiveness of the balance between the individual performer and their work environment.

In other words, human performance will be improved through changes in the performance chain. The individual is just one component in the chain and that desired performance results in all links being present as well as effective in the chain. With that in mind, a weak link in the performance chain can be corrected by troubleshooting or closing the gap
between expected and actual performance (Bolt & Rummler, 1982). Furthermore, this notion of considering the complexities and uniqueness of individual as an important component to improving performance is often overlooked when improving systems within organizations.

The human element in an organizational system is often unnoticed due to the fact that organizations don’t consider how ‘people’ relate to the system; the human performer is the most important component to the system, so understanding them as they relate to performing at optimal levels for the organization is crucial for that organization’s success (Cowen, & Rummler, 1974). The organization needs to be viewed as a system (See Appendix II) in order to address the human element. Traditionally, organizations are viewed as vertical systems; the vertical functional model uses a hierarchical structure with a strong concept of subordination. The vertical view encompasses management span of control, reporting relationships and a centralized management staff that holds the position of power. Rummler, believes that organizations are more effective if the view their organizations horizontally (See Appendix III).

A Horizontal Organization is one of decentralization of power and or control, at least within specific departments; where an emphasis is placed on horizontal collaboration. Rather than conceiving of leadership as one person always being firmly in charge, leadership is often shared among team leaders and members shifting to the person with the most knowledge or expertise in the matter at hand (G.Rummler, Ramias, & R.Rummler, 2009). The horizontal view includes the missing ingredients from the vertical view (the customer, the product, and the flow of work).

In the horizontal model, the organizational can be viewed as an adaptive system which is a processing system that converts various resource inputs into product/service outputs.
(G.Rummler, Ramias, & R.Rummler, 2009). Here are Rummler’s thoughts on the organization as an adaptive system:

Every business is an adaptive system. You adapt to your competition, your marketplace, and your geopolitical environment or you die. To be able, you need major forms of feedback. One is feedback your internal specs. The other is feedback about customer expectations… The feedback must be continuous or you will be history…Anything that touches the customer is the result of a myriad of complex cross-functional processes (Galagan, 1992, p.27).

As Rummler mentions above, the organization is guided by its own internal criteria and feedback but it is ultimately driven by the feedback from its market. When you combine the horizontal view of an organization with the human element with performance, organization has the ability to manage what Rummler cites at the “white-space” of the organization.

**Managing the White Space**

Researchers have described managing the white space as a method bridging the gap between organizational strategy and individual performance. Geary Rummler and Alan Brache had a book published in 1990 entitled, *Improving Performance: How to Manage the White Space on the Organization Chart*, which has sold over 100,000 and is published in at least two different languages as well as being a book that was considered the launch of the process improvement revolution. In this book, Geary Rummler and Alan Brache argue that true performance improvement demands a systematic view of the entire organization. Furthermore, in the book the “white space” referred to in the title is the space between the organizational silos one finds on any organization chart and the way one manages them is by defining business processes that
flow across the various silos to produce and ultimately sell the organization’s products and services (Rummler & Brache, 1990).

Organizational silos develop when individual people, departments, or companies, conduct business in a vacuum without taking into consideration the impact their actions have on the entire organization. Traditional (vertical view) organizations lead to silos built around departments, which make it difficult to alleviate interdepartmental issues at low or middle levels because the organization is not paying attention to other aspects or the cause/effect of various activities within the organization (Rummler & Brache, 1990). To solve this, Rummler & Brache (1990) developed a holistic view of improving performance by offering a framework for implementing performance improvement efforts at three levels: the organization level, the process level, and the job/performer level.

The organizational level deals with the organization as a whole; its strategy, its overall goals and measures. If the organization was a human body, this frame of the organization would be the skeleton (Rummler & Brache, 1990). Next, is the process level in which the main work of the organization takes place; if the organization level is the skeleton, then the process level is the muscles. If muscles connect different bones then, processes involve more than one functional area of the organization (Rummler & Brache, 1990). Lastly, the job/performer level is where individuals perform. An individual’s job is like a cell of the organization. The individual works in relation to other individuals, and often finds himself part of more than one process (Rummler & Brache, 1990). Furthermore, organizations have their own needs, so Rummler and Brache hold that each of the organizational levels has its own needs: its goals, its structure, and its management tasks.
As a result, when you’ve got a performance problem it might result from one or more of nine possible areas; the three organizational levels and the three needs. With that in mind, Wimbiscus (1995) mentions the fact that Rummler and Brache offer a three-by-three matrix of three levels of performance (organization, process, and job/performer) and three levels of performance needs (goals, design, and management) from which Rummler and Brache have identified as the Nine-Performance Variable Model (See Appendix IV). The Nine-Performance Model can be considered as a checklist for managers because it ensures that all aspects in the organizational system have been examined in order to make structure, goals as well as management are in congruence with each other and the organizational strategy (Rummler & Brache, 1990). Overall, the Improving Performance book by Rummler and Brache has laid the foundation for the performance improvement field because it led to the introduction on the concepts of process analysis, process management and organizational performance. These concepts have evolved over years, which eventually led Rummler to “revisit the white space.”

**White Space Revisited**

About Two decades later, *White Space Revisited: Creating Value through Process* (G. Rummler, Ramias, & R. Rummler, 2010) picked up where the *Improving Performance* book left off. The authors cite that the purpose of this book was to “review the past, assess the current state, and pose a model for the future” in order to refocus organizations on their purpose; create and sustain value (G. Rummler, Ramis, & R. Rummler, 2010, p. 2). This book updates the concept “white space” and proposes that organizations make an attempt to rethink process so that includes value. Rummler and Ramias believe that every organization exists “in order to create something (goods, services) of value to a market, and in order to create and deliver value, it needs an internal system of processes and resources to make good on its promises (Rummler &
Ramias, 2008, p. 2).” To address this, *White Space Revisited* introduces and describes a concept/model called the Value Creation Hierarchy (See Appendix V).

The Value Creation Hierarchy (VCH) is a top-to-bottom framework used for structuring the value-adding work in a business due to its five levels and every level is a work system structure that signifies key judgments about work design (G. Rummler, Ramias, & R. Rummler, 2010). As previously mentioned, the VCH contains five levels: the enterprise level, the value creation level, the primary processing systems level, the process level and the sub-process/task/sub-task level. Furthermore, inside the business is the first level of the model, where the viewer can see the value creation system that enables processes and management systems; the second level shows the three primary process systems in any value creation system (product/service launched, sold, deliverer); then the third level illustrates the high-level business processing systems; the fourth level is the processes and sub-processes that convey the various inputs/outputs in the value chain; lastly the fifth level is comprised of the tasks and subtasks that connect to the (human or system) performers of the tasks (Rummler & Ramias, 2008).

Overall, the VCH is an important component within the *White Space Revisited* book. *White Space Revisited* is a wide-ranging resource that offers a conceptual foundation to the performance improvement field. It is essential to analyze every angle within an organization in order to be effective and efficient at improving poor performance. An organization’s view of performance will determine the goal of its training, how it goes about identifying training needs, the processes it will undergo for the development of training as well as how much impact this training will on have improving the organization’s performance (Rummler & Brache, 1988). This viewpoint of performance will dictate the improvement initiatives the organization will take; an example of improving performance is utilizing the concept of programmed instruction.
Programmed Instruction, Performance Auditing & Consulting

Programmed instruction was introduced in 1954 by B. F. Skinner of Harvard and much of the system is based on his theory of the nature of learning, which is based on the principles of small steps, self-pacing, and immediate feedback (Skinner, 1954). Programmed instruction enables learners to work individually, calling for active participation of the learner (Kurbanoglu, Taskesenligil, & Sozbilir, 2006). According to Rummler (1970), programmed instruction provides “training people with a set of principles and a process which is basic to all effective training” (p.31). When there is a human performance problem to solve, programmed instruction should be seen as an “accomplished fact rather than a proposed solution” (Rummler, 1970, p. 31).

Rummler recommends programmed learning to solve training problems in organizations and he provides various rationales for in-house programming as a possible solution to performance issues within an organization. For example, in-plant programming can cost less than contracting out, it can be started sooner and it has the ability to develop staff capability in the sense that participation in an in-plant project can a good “training of trainers” for future instructional design projects (Rummler, Yaney, & Schrader, 1967, p.157). Even though, in-plant programming can be advantageous for organizations, Rummler also mentions disadvantages. These include, having a small budget or staff that may limit any effective commitment to the project as well as having internal organizational conflicts that could cause havoc to programming effort; both disadvantage can be remedied with paying serious thought to the selection and training of key programmed personnel (Rummler, Yaney, & Schrader, 1967).

Furthermore, before creating training program like programmed instruction it is important conduct a performance audit of the organization. A performance audit can be
considered an independent evaluation of the measures implemented by management to ensure the efficient, effective and economic use of resources. Performance audits offer management vital insights into their organization’s operations by assessing how successfully objectives are being met. These observations in turn enable management to refine systems and further improve performance. With that in mind, Odiorne & Rummler (1988) believed that a performance audit was the basic tool for planning the training effort as it relates to performance and it should answer three major questions:

1. Is there a performance problem or a performance opportunity and if so what is it?
2. What is causing the problem, and is it worth bothering to solve it? And
3. What the solution from among the various alternatives

(Odiorne & Rummler, 1988, p.94).

In essence, the performance audit has the purpose of sorting out training problems for the non-training problems, locating the training need, then transforming that into a designed curricula, then an instructional design, and lastly into a specific course which will be delivered to the learners because often at times to close a performance gap, a training problem may need to be fixed (Odiorne, & Rummler, 1988). To close this performance gap due to a training problem often at times organizations hire a performance consultant who will develop a holistic plan to modify performance so that is conducive the organization’s goals.

Performance consultants bring the neutrality and an alternative viewpoint to the organization in order to detect, recognize issues and problems, facilitate discussions of possible solutions, and provide the training (when necessary) to support organizational performance.

Rummler was considered a performance consultant who published a book in 2007 entitled:
Serious Performance Consulting: According to Rummler which focused on the analysis of organization performance problems and on the management as well as the measurement of business processes. According to Rummler (2007b), performance consulting is a flow of steps with an entry and an exit; is a systematic and data-driven process that helps consultants and business managers make sound decisions about people and their performance in the organization (p.117).

In addition, the book is organized into two parts: Part One (chapters one through four) focuses on a case study that illustrates the concept of serious performance consulting (SPC) in action for a parts company in the automotive industry; In Part Two (chapters five and six), Rummler recognizes and discovers the limitations and constrictions confronting internal consultants regarding the practice of serious performance consulting and then lays out his thoughts about the path one must follow to become an serious performance consulting practitioner (Rummler, 2007b). On the whole, Rummler offered many contributions to the field of human performance improvement/human performance technology. Many researchers/theorists have sampled Rummler’s methodologies in their work, thereby supporting his influences to the performance improvement domain and with many advocates for his methodologies; Rummler’s viewpoints often conflicted with the ideals of other performance improvement specialists.

Advocates & Conflicting Ideologies about Geary Rummler’s Methodologies

Klaus Wittkuhn (2009) sampled Rummler’s methodology when designing a performance improvement solution to the State Education Inspectorate of a Southeastern European country, Macedonia. The State Education Inspectorate (SEI) had the responsibility to conduct legal compliance inspections in education organizations such as schools and universities. They eventually were held responsible for conducting quality inspections in schools, which made the
central organization charged with driving the quality of education in a country that has identified education as one of the keys to a better life (Wittkuhn, 2009). Wittkuhn as part of the Performance Design International used Rummler’s performance models to structure the core of their work and ensure that they followed a systematic approach when assessing the SEI. Rummler’s methodologies taught them (Performance Design International) that people should not be trained to compensate for organization deficiencies; instead, organizations should be designed to support people and make full use of their potential (Wittkuhn, 2009). Another performance improvement specialist by the name of Michiel Bloem also sampled Rummler’s work in the design of an organization.

Michiel Bloem (2009) used Rummler’s three levels of performance/ Nine Performance Variable methodology when designing the organization, Top Swimming Amsterdam, which was created to improve the performance of elite swimmers to the Olympic level. Top Swimming Amsterdam (TSA) analyzed performance at Rummler’s three levels of performance by meeting with athletes, members of the Dutch Olympic Committee, the Dutch Swimming Federation and Team Van den Hoogenband (a two-time gold medal winner in the Sydney 2000 Olympics) in which they discovered barriers at all three levels of performance (Bloem, 2009). Furthermore, the TSA used this information to design a performance system to address these barriers. Eventually this new design allowed four TSA athletes to qualify for the 2004 Olympics in Athens; three of them reached the Olympic finals and won an Olympic Medal (Bloem, 2009). The effectiveness of this new system allowed the TSA design to be chosen as the national standard because the Dutch Olympic Committee wanted to use the design as a blueprint for all Dutch Olympic Sports, thereby launching the National Swim Center with Amsterdam (NSA) (Bloem, 2009).
Additionally, Rummler’s performance improvement models have revolutionized business/organizational processes due to Rummler’s ability to evolve with the changing times.

Alan Ramias and Richard Rummler (2009) wrote an article that describes the basis, the use and growth of performance improvement models by Geary Rummler. Both authors agree that Geary Rummler was a leader in the field of improving process within organizations due his ability to evolve his view of linkages between process activity flow and the total performance system (Ramias & R. Rummler, 2009). An example of this evolution is Geary Rummler’s creation of the Effective Process Framework (EPF) which includes technology as an enabler of human performance (See Appendix VI). The Effective Process Framework (EPF) looks at the total performance system through a process lens and it is a good example of Geary Rummler’s endless efforts at redefining and enhancing a concept, model, or tool to make it better or more suitable to changing circumstances due to the fact that is main objective is to always to make an impact on the total system of an organizations (Ramias & R. Rummler, 2009). Furthermore, those in the performance improvement field have developed unique ways to analyze and solve performance problems that differ from Geary Rummler.

There are different ways of examining and revolving performance problems from defining “need” as a gap between current and desired results, not as a “lack of” resources or as a subjective “want” (Kaufman & English, 1979); or considering just the individual, job-level factors versus processes and societal context (Gilbert, 1978). Rummler’s notion of managing the white space mentions that their invisible gaps within the organization that are immeasurable and often overlooked which conflicts with Kaufman’s notion that everything that is important is measurable and if it is not then something went wrong in the development, design, implementation or evaluation phase (Kaufman, 2002). Furthermore, Gilbert, Rummler and
Kaufman all conflict in their stance on the ideal performance model for businesses/organizations, which can be categories as individual performance models, organizational performance models and societal performance models.

Individual performance models such as Gilbert’s Behavior Engineering Model (BEM) (See Appendix VII) which is useful in understanding and optimizing performance at the job level; the level of the individual worker (Stolovitch, & Keeps, 2004). In organizational models, the entire approach to performance analysis and improvement several steps further in the systemic direction, noticing that using Gilbert’s BEM model frequently led to optimize individual workers’ performance at the expense of process and organizational performance. In Rummler’s, Anatomy of Performance (AOP) (See Appendix VII) model visualizes three levels of performance and at three levels of performance needs (Rummler, 2007b). Although Rummler’s model includes references to the societal context it does not pay attention to societal performance as Roger Kaufman’s Organizational Elements Model (OEM) (See Appendix VII). Kaufman’s OEM model focuses on establishing vertical alignment between strategic, tactical as well as operational results, which is the only way to guarantee delivering actual value to external stakeholders, keeping the organization useful and focused according to Kaufman (Kaufman Oakley-Brown, Watkins, & Leigh, 2003). Though there are differing methodologies in the area of performance improvement, they each offer unique contributions to organization and it is up to the organization to determine which technique is the most effective as well as the most efficient in solving their performance problem.

Conclusion

In closing, Geary Rummler was a leading thinker, researcher and practitioner in the area performance improvement. His approaches have assisted many performance practitioners in
their quest to redesigning process and enhancing performance in organizations. Rummler has allowed practitioners and managers the ability to understand work as well as the management of it and it being the key to the success or failure of any organization. He was considered a founding father in the field of performance improvement and as a pioneer in the field; he brought this experience to the issue of organization effectiveness. Rummler was all about the organizational system and as he would famously say, “If you pit a good performer against a bad system, the system will win every time.” All in all, some would say that business world lost one of performance improvement’s finest contributors because he shared his expertise via insightful articles, books, presentations, workshops as well as consulting thereby making him a revolutionary figure in the field.
Appendix I

Figure I
The Performance Chain

THE TASK CLARITY
- Clear "when" to perform.
- Clear "what" is expected.
- Performance standards exist.
- Seen as attainable by the individual.
- Few or no other tasks that compete/interfere.

RESOURCES
- Data, tools, materials, manpower.

FEEDBACK
- Critical requirements assessed in relation to job-task expectations.
- Relevant, immediate, frequent.

THE INDIVIDUAL
- Physical, mental capacity.
- Capability - knowledge/skill.
- Willingness to perform.

CONSEQUENCES
- Positive for performing as expected.
- Negative or neutral for not performing.
- Not positive for nonperformance.
- Not negative for performing.
Appendix II

FIGURE 2. THE ORGANIZATION AS A SYSTEMS LENS
Appendix III

Sample Horizontal Organizational Structure

Top Management Team

Finance
Human Resources
Other

Team [Lead]  Team [Lead]
Planning/ Analysis  Research /Design  Building  Testing
New Product Development Process

Product [Manager]

Team [Lead]  Team [Lead]
Planning/ Analysis  Research /Design  Building  Testing
New Product Development Process

Product [Manager]

Process [Owner]

Step 1  Step 2  Step 3  Step 4
[Name of Process]
Customer
Customer
Customer
Appendix IV

<table>
<thead>
<tr>
<th>THE THREE LEVELS OF PERFORMANCE</th>
<th>Organization Level</th>
<th>Process Level</th>
<th>Job/Performer Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organization Goals</td>
<td>Process Goals</td>
<td>Job Goals</td>
</tr>
<tr>
<td></td>
<td>Organization Design</td>
<td>Process Design</td>
<td>Job Design</td>
</tr>
<tr>
<td></td>
<td>Organization Management</td>
<td>Process Management</td>
<td>Job Management</td>
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</table>
Appendix V

Figure 1: Value Creation Hierarchy
Appendix VII

Behavior Engineering Model

<table>
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<tr>
<th>Environment</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Relevant and frequent feedback about the adequacy of performance</td>
</tr>
<tr>
<td></td>
<td>2. Descriptions of what is expected of performance</td>
</tr>
<tr>
<td></td>
<td>3. Clear and relevant guides to adequate performance</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Knowledge</th>
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<tr>
<td>1. Systematically designed training that matches the requirements of exemplary performance</td>
</tr>
<tr>
<td>2. Placement</td>
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<table>
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<tr>
<th>Incentives</th>
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<tbody>
<tr>
<td>1. Adequate financial incentives made contingent upon performance</td>
</tr>
<tr>
<td>2. Non-monetary incentives made available</td>
</tr>
<tr>
<td>3. Career-development opportunities</td>
</tr>
<tr>
<td>4. Clear consequences for poor performance</td>
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<table>
<thead>
<tr>
<th>Resources</th>
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</thead>
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<tr>
<td>1. Tools, resources, time and materials of work designed to match performance needs</td>
</tr>
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<table>
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<tr>
<th>Motives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assessment of people’s motives to work</td>
</tr>
<tr>
<td>2. Recruitment of people to match the realities of situation</td>
</tr>
</tbody>
</table>

Anatomy of Performance

Organizational Elements Model

FIGURE 2. ANATOMY OF PERFORMANCE
References


