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Engineering Leadership Development

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Abstract

This is a description of a leadership development process created by the Mossville Engine Center of Caterpillar Inc. The program includes psychological and sociological components. A "360 degree" survey is used as feedback loop to bind the individual and group elements into a system.

ENGINEERING LEADERSHIP DEVELOPMENT

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Introduction

Human assets are a major competitive advantage for the Mossville Engine Center, an operating unit within the Large Power Systems Division of Caterpillar Inc. The ingenuity and creativity of the workforce provides competitive advantages that help insulate it from aggressive onslaughts in a tough marketplace.

The knowledge, skills and abilities of employees translate into efficient and effective processes that reflect themselves in the quality of their products. The coordinated action of the entire workforce ultimately evidences itself in the financial performance of the unit and ultimately benefits all Caterpillar stakeholders. Human assets at the Mossville Engine Center (MEC) are maintained, protected and developed, as are any other assets of the corporation.

MEC recognizes that the effective use of human assets is not "automatic." Like any asset, deploying and directing them toward an objective is what produces

value. Leadership is the vehicle that focuses and converts this raw human potential into tangible outcomes that benefit all involved. Like human assets themselves, leadership is not "automatic." It requires continuous investment and cultivation.

As with most other areas of business, leader development brings historical baggage. Executives who attended leadership classes 20 to 30 years ago carry memories of their "enlightenment." What worked for them in the pre-computer age may or may not apply to management development in the third millennium. However, their viewpoints must be taken into account in the design of a leadership development process.

Even without "voices from the past", the field of leadership is difficult to navigate. The Handbook of Leadership, a "bible" of the discipline, has 1261 pages (Bass and Stogdill, 1990). A search using the keywords "leadership program" on the Google search engine produces over 2.5 million hits. People like Tom Peters and Stephen Covey command fees that approach six figures per day—a price that many are willing to pay for what they hope is better insight into the subject. This mixture of advice makes identifying the "right" leadership development process difficult at best and impossible at worst. However, even this is not the end of the matter.

Other influences further compound the situation. For example, the Big Five theory of personality with its stress on conscientiousness, integrity and honesty, (Becker, 1998) is currently popular. Distinctions between leaders and managers occasionally circulate to add to the melee (Bennis and Nanus, 1985; Bennis 1990). Still other approaches such as values (Morrison, 2001), trust (Hosmer, 1995) and culture (Jung, 1999) have come to dominate in some arenas. With over 600 institutions offering courses in leadership there is a lot of motivation for product differentiation (Fortune, 1994). It is not surprising that leadership is a field that is replete with confusion.

Into this mix enters Caterpillar's MEC Organizational Effectiveness and Development Group. It carries a charter for improving the leadership capabilities of the organization. This charter meant that the delivery of a positive result was what mattered, not a justification of the tools chosen. If it works, it is good. If it does not, it is bad—regardless of what the academics say.

The Philosophy

Even without a need for academic purity, there was still a need for a basis on which to choose among the multitude of products, techniques, methods and programs available. The basis of this choice was founded on fundamental beliefs endorsed by MEC management. One of these is that:

There is no such thing as a "perfect" leader

Every leader has strengths and vulnerabilities. The objective of leadership development is to align strengths to issues and to offset individual vulnerabilities

MEC's approach is to anticipate that all leaders will require support. The kind of support that they might need may or may not be visible to them. Therefore, the first requirement was to help the leader assess his or her personal capabilities and preferences. In many cases, qualities that might be material in the conduct of an individual's personal life could be insignificant as applied to a leadership role, or vice versa.

For example, a person might not realize that what he or she deems prudent might appear overly cautious and hesitant to others. Similarly, a tendency to listen carefully may be interpreted by others as evidence that the individual lacks conviction. These and many other personal qualities could escape the attention of the leader even if they are relevant to a leadership role. Therefore, MEC's leadership development process had to identify personal qualities of individual leaders.

Another fundamental belief used in the design of the process was that:

Leaders are only half of the equation.

Successful leadership development requires that the group being led be addressed as well as the leader who is guiding the group.

This belief recognizes that it is the leader's mesh with a particular group that matters. Good leaders may work in some venues and not in others. For example, both Mahatma Gandhi and General George S. Patton of WWII fame were great leaders. However, it is unlikely that they would be interchangeable. It is the fit between the leader and the people being led that determines the likely success of the group as a whole.

The leadership development process needed a way to measure the "fit" in an operationally significant manner. In other words, it was not sufficient for the program to identify that a fit was good or bad. It had to be able to identify the exact nature of the fit and provide information on what the leader had to do to maximize the performance of the group.

A third belief guiding the creation of the leadership development process was that the world constantly changes and:

Feedback loops are always necessary

Even if everything is right the first time, there is no assurance that it will stay right forever. Constant reassessment is a permanent need.

In other words, there is no such thing as a permanent, perfect solution to anything in human organization. Things can and do change and the leadership development process must both anticipate and accommodate this condition.

For example, a leader can enter an organization during a period of relative stability. The primary focus might be the maintenance and preservation of what exists. A cautious,

measured leadership approach is probably near optimal. However, over time the environment can change. Competition can increase in a particular area, technology can change and markets can rise and fall. Without a feedback loop, organizational responses could be delayed until a situation grew to crisis proportions. Timing matters.

A final belief driving the creation of the leadership development process was that leadership training is not a "one size fits all" proposition. However, as a general principle:

The higher the level, the more specialized the training.

Entry level leaders can benefit from "little red schoolhouse" efforts. However as responsibilities rise, leadership training must become increasingly specialized.

The process had to be sensitive to the particular circumstances of each leader in the process. It is very unlikely that a single, universal training session will address the unique needs of the variety of leadership positions in a complex organization. The standing training that will be attractive is likely to be focused on creating and maintaining a common, consistent culture. Subjects like performance evaluation; compensation practices, diversity policies and similar items suggest themselves as potential standing, generally available programs.

A final driver for leadership development is not a belief but a practical reality. Executives can and do have training preferences. This must be recognized. The leadership process must anticipate that some of these initiatives will be necessary and act to minimize any negative impact that they might carry.

Applying these principles to the leadership development process suggests a multi-pronged strategy to address leadership development. The first prong of the process needed to address the individual leader's capabilities. The second prong needed to speak to the group capabilities and preferences in relation to those of the leader. A feedback loop was needed to constantly adjust both the individual and group alignments. Finally, perfection is not expected and suboptimal training interventions will need to be occasionally accommodated.

The Psychological Strategy

The first stage of the MEC leadership development process is to help the new leader complete a self-assessment. A psychological instrument is employed to form a basis of discussion and self-assessment. The instrument used provides a sufficient number of dimensions to fully engage the leader in self-reflection and examination.

The output of the instrument, while complex, serves to typify a person in a leadership role. It leaves room to explore the ramifications of qualities held by the leader.

During the feedback discussions with a certified "interpretator" (i.e., Organizational Effectiveness Consultant), subtle comparisons and evaluations are made. Agreement on interpretation is reached. The key issue is to provide a framework and a forum within which to discuss the leader's personal qualities.

The feedback discussion is to help the leaders understand the qualities they bring and how they apply to the role. Performance can be directly impacted by these qualities. For example, a person may come to find that he has strength in self-confidence and a willingness to take calculated risks.

The qualities a person brings are neither right nor wrong, good nor bad. The important point is that the person recognizes the impact this condition can have in a role or situation. In some cases, these qualities can be favorable. In others, they might create an exposure. By considering their qualities, people can begin to assess how they might best modify, condition or otherwise orchestrate their impact on the group to be led.

There is no attempt to "change" the individual at any time during the management development process. The presumption is that the individual is (or will be) a leader because of the strengths that they bring. Any "change" could inadvertently cause a decrease in the very capacity that gave rise to the person's success.

For example, "changing" a person to pay greater attention to detail will necessarily slow that person's response time. The tradeoff cannot be avoided. It takes time to process and consider detail. Yet the person's quickness of response may be the quality most responsible for the person's rise to leadership. There is simply no way of tracing these indirect effects and thus no way to alter any of the qualities without a risk of unconscious harm.

This posture does not mean that nothing can be done. Any exposure can be offset by pairing the leader with another person whose strength offsets the leader's vulnerability. The leader need not change. Rather, the leader only needs to recognize those qualities that may give rise to an exposure and to understand how that exposure can be managed.

The motive for reviewing psychological qualities with the leader is enlightenment. The insights gained help create a level of understanding. This awareness permits the leader to make use of favorable attributes while minimizing the effects of those that are not as constructive in a particular situation. The end-result of the discussion is the individual has a greater understanding of how they lead, what they do well, and what areas need support. From this analysis, a plan can be developed to assist the new leader in gaining command of the leadership role.

The Sociological Strategy

The team is the unit that produces value for MEC, Caterpillar and all stake-holders involved. The technology and scale on which we work requires the coordinated action of multiple people working in concert. A sociological tool is required to gauge the likely outcomes arising from the interaction of individual people acting in pursuit of a common goal.

The focus of sociology is the relationship between individuals. Any group offers a built in network of these associations. For example, who passes work to whom, who checks what, when are things to be passed between people, and on and on. The relationships involved in any group are endless.

This area offers the greatest opportunity for an immediate, high level return on investment. The cost of changing relationships is usually low. Group performance usually

responds quickly to these changes and provides a quick offset to the small costs. Finally, relationship changes are usually reversible, thus further minimizing any exposure.

The sociological part of leadership development is guided by Organizational Engineering technology. The foundational analytical tool of the strategy is the TeamAnalysis™. This tool describes the likely interaction of any group of people. In other words, it locates the points of the compass toward which the group will tend if unrestrained by authority relationships. The leadership program makes the results available to both the leader and the group. The idea is that both the leader and the group must make accommodations to optimize performance.

Making everyone aware of the strengths and vulnerabilities inherent in the team—and there are always both—begins with the alignment of leader and team. This is practical because the TeamAnalysis™ avoids assigning "blame" to any individual. Rather, the analysis shows that both strengths and vulnerabilities emerge from the natural interaction of people. The TeamAnalysis™ focuses on the control of strengths and weaknesses, not their source. This means that the report and its assessments can be shared with an entire group, as a group—an appropriate strategy for a sociological tool.

The second major sociological tool is the LeaderAnalysis™. This analysis looks at the team from the perspective of the leader. The report assesses the probability that the leader's objectives will be furthered or frustrated by the normal interactions of team members. It assesses the compatibility of the leader's approach to that of the group with points of strain and exposure clearly identified. Finally, the report prescribes potential strategies that might be used to align the leader and the team in order to realize higher levels of performance.

For example, a leader may be more inclined toward novel, creative solutions than are most team members. Similarly, leaders can simultaneously be inclined to move more quickly than is comfortable to the group. The combination of these postures can create an image of an irresponsible, somewhat "pushy" leader who is ignorant to the "right" way of doing things. If the leader applies these natural postures unknowingly, it is easy to see how strain might arise and performance might decline.

Of course, situations can arise where the leader is less inclined toward new methods and perhaps more deliberate in pace than is the group. This is equally likely to generate tension and performance decline. The issue is not a "right" or "wrong" leadership style. Rather, the issue is an unknown discrepancy between the leader's approach to issues and that of the group. With knowledge of this discrepancy, the appropriate adjustments by both the leader and the group can go far toward creating functional and effective groups.

The combination of the TeamAnalysis™ and the LeaderAnalysis™ provides a complete sociological analysis. It applies to the leader in relation to the specific group being led. The introduction or loss of a team member can change team dynamics. In other words, if any of the players change, the analysis can change.

The same situation arises on a football field. If you change the players, plays that were impossible suddenly become feasible. Others that were standard fare become difficult. The difference is that in football, the quarterback gets to practice. In business, money is

made or lost as the leader "learns." It is only prudent to give the leader continuing assessments so that the "making money" part of the learning equation dominates.

The ability to complete repeated analysis is practical for two reasons. First, the technology is available on an unlimited basis at no incremental cost. There is no need to balance the cost of an incremental analysis against its potential value. Analyses can be run and rerun so long as any value whatsoever is being provided to the leader.

The second basis of the practicality of the sociological analysis is that of speed and administrative ease. The "I Opt" Survey scores upon which the analysis are based are retained in a central database. This means that people can be switched in and out of teams with a mouse click. The actual analysis is available via the Internet, making a completed Team or LeaderAnalysis available almost instantly.

As with the psychological portion of the program, the new leader is "walked" through the analysis. The pluses and minuses of various relationships can be considered. The effects of strategic changes can be reviewed. Using these tools, the new leader begins to get a "feel" for the dynamics of the group that is being (or will be) led.

The Psychological-Sociological Link

MEC's interest in the psychological and sociological assessments is not the betterment of mankind, although it would be nice if that happened. Rather the interest centers upon producing value for MEC's stakeholders on a continuing basis. Just because things were done right the first time does not mean that they will stay that way.

A group's circumstances can change in many ways or for many reasons. For example, a group's charter may be altered, its resources can be enhanced or diminished, its position in the larger organizational structure might be shifted over time and so on. These factors can and do influence group performance, as well as the optimal posture of the leader of the group.

The MEC leadership development process monitors these changes through a "360 degree" assessment procedure. Like the psychological instrumentation, the assessment's purpose is to surface questions and provide an understanding to the leader as to what the group requires and how well he or she is providing it. It requires individual interpretation and personalized assessment. This means that it must be administered judiciously and its results interpreted with care.

For example, certain relationships produce results that can be predicted and which may be inevitable outcomes of particular structures. A strong Reactive Stimulator can be expected to be viewed as sloppy, inattentive, irresponsible and less than thoughtful by a strong Hypothetical Analyzer. If the recommendations of the HA were actually followed by the RS, it could very well cause a deterioration in results and a loss in value to the firm. Of course, the same situation could apply in reverse.

The point is that the results of the "360" will always be heavily influenced by the strategic styles of the people involved. If this is not recognized, the assessment might generate advice that is inappropriate or even damaging.

If, however, the strategic style differences are recognized, the "360" can provide ongoing feedback for both the leader and the group. The success of the leader in restraining a strong strategic style tendency or the willingness to offset a psychologically based vulnerability can be made visible. If the leader's strategy is not working, alternatives might be investigated. Unnoticed changes in the environment being filtered through the leader's psychological posture and strategic style profile may create opportunities as well as generating exposures.

Like the psychological assessment, the "360" is intended to provide more of a basis for discussion than a definitive roadmap. In the hands of a competent professional, the tool can be the "course correction" mechanism. Using it, ever more precise and effective adjustments can produce an increasingly powerful competitive advantage for MEC.

In essence, the "360" links the personal psychological attributes and strategic style profile of the individual. It becomes a basis to continually test the "fit" of the leader's psychological and sociological profiles to the issues at hand.

Conclusion

The MEC leadership development process can be seen as forming a solid developmental foundation for the leaders of today and tomorrow. The process considers both the individual (psychology) and the group (sociology). It has a feedback loop that links these qualities back to actual field performance. These three elements (psychology, sociology, and the feedback loop) form a solid, three-legged framework on which championship leaders can be developed.

The program does not search for the "silver bullet" or a simplistic formula that will solve all leadership problems. Rather, it sees leaders as strong individuals each of whom brings a particular mix of talents and challenges to the table. These leadership qualities are put into play in a complex organization, producing a sophisticated product and competing in a highly competitive market. Organizational Effectiveness' task is to recognize each leader as an individual and each group as a unique asset. The tools and methodology outlined in this article provide a strong framework for an effective and efficient leadership development process.

Author

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BIBLIOGRAPHY

- Becker, Thomas E, Integrity in organizations: beyond honesty and conscientiousness. *Academy of Management Review*, 01-01-1998.
- Bass, Bernard M.. Bass and Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications. 3rd ed, The Free Press, 1990, 1216pp.
- Bennis, W. (1990). Why leaders can't lead. San Francisco: Jossey- Bass.
- Bennis, W., & Nanus, B. (1985). Leaders: Strategies for taking charge. New York: Harper & Row.
- Covey, Stephen R., The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change. Simon & Shuster, 1990.
- Jung, Dong I., Effects of Leadership Style and Followers' Cultural Orientation on Performance in Group and Individual Task Conditions. *Academy of Management Journal*, 04-01-1999
- Hosmer, L. T. (1995). Trust: The connecting link between organizational theory and philosophical ethics. *Academy of Management Review*, 20: 379-403.
- Morrison, James L, Identity Is Destiny: Leadership and the Roots of Value Creation. *Journal of Education for Business*; 01-01-2001
- Salton, Gary J. (1996). Organizational Engineering: A new method of creating high performance human structures. Ann Arbor: Professional Communications.
- Salton, Gary J. (2000) Managers Guide to Organizational Engineering. Amherst: HRD Press.
- Soltysik, Robert (2000). Validation of Organizational Engineering Instrumentation and Methodology. Amherst: HRD Press.
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