Using Adaptive Problem Solving To Make Better Decisions

 Author: Milton Jack . July 2020

The ongoing COVID - 19 pandemics has made it tough for businesses to make decisions. This because so much uncertainty surrounds the business-operating environment. Decision-making is the thought process of selecting a logical choice from the available options. When trying to make a good decision, a person must weigh the positives and negatives of each option, and consider all the alternatives. For effective decision making, a person must be able to forecast the outcome of each option as well and based on all these items, determine which option is the best for that particular situation. Decision-making variables can either be external to the decision system-that is, as exogenous variables- or overlooks important inputs to the system from sources internal to the decision, endogenous variables. Thus, one of the best ways businesses can use to make decisions is to use the adaptive problem-solving approach.

Problem Solving

Problem-solving refers to cognitive processing directed at achieving a goal when the problem solver does not initially know a solution method. A problem exists when someone has a goal but does not know how to achieve it. Problems can be classified as routine or non-routine, and as well defined or ill-defined. The major cognitive processes in problem-solving are representing, planning, executing, and monitoring. The major kinds of knowledge required for problem-solving are facts, concepts, procedures, strategies, and beliefs.

Adaptive Problem Solving

The adaptive problem-solving technique is a twenty-first-century skill that requires the mental preparation an individual needs to establish and sustain competent performance in a complex and unpredictable environment. Adaptive techniques for solving problems are a combination of logic and common sense. Adaptive problem solving is considered a crucial 21st-century skill that combines cognitive and meta-cognitive processes. Mayer's in his definition of adaptive problem solving says, "Adaptive problem solving involves the ability to invent solutions to problems that the problem solver has not encountered before (Steward Bank – Kwenga). In adaptive problem solving, problem solvers must adapt their existing knowledge to fit the requirements of a novel problem '.

There are three major factors involved. First, the essence of the concept is behavior change. Obstinately continuing a course of action despite significant changes in the circumstances is not adaptive even if it is effective. Second, whatever responses are employed must be effective. It makes no sense if they make things more difficult. Lastly, any response must be in reaction to a change of circumstances. Change for its own sake is not adaptive.

Whether leaders are adaptable and to what extent can be attributed nearly entirely to three factors, all of

which are present in every instance. The first involves the personal traits and characteristics of a particular leader. Every leader has a unique and infinitesimal combination of knowledge, experience, education, courage, skills, imagination, intuition, ingenuity, and other attributes. These work singly and in combination to inhibit or foster effective reactions. The second is the organizational rules, norms, and culture that encourage or discourage adaptive behavior.

Organizations that dogmatically punish failure are not conducive to experimentation or exploration. Understandably, leaders that emerge from this type of environment are reluctant to deviate from norms. The third is the extent that a person is trained to recognize and adjust to changing circumstances (Verizon has an in house school). This last factor is particularly important because of the implied potential for increasing creativity, ingenuity, and effectiveness by preparing people to lead in chaotic and ever-changing situations. Effective adaptive decision-makers can be best understood to have thought the problem through further than others have.

It appears, however, that training in organizations can enhance abilities to adapt, both individually and organizationally. The most critical aspect of enhancing organizational adaptability is with a nurturing environment. Organizations that routinely encourage and reward creativity, ingenuity, and innovation not only encourage such practices among those assigned but serve to attract those who desire to work in such an environment. To prepare employees an organization can develop a training program for adaptive decision-making, and these have proven especially beneficial. The first is to expose students to challenging scenarios simulating those expected to be encountered and which are designed to incorporate a need to recognize and adapt to a change in the situation. These are normally done in one of four ways: moderated discussions, practical applications, decision-making exercises, and free-play exercises.

Conceptual model of adaptive problem solving

Source: *Gick, 1998*

Adaptive problem solving involves three major stages, namely, defining a problem, searching for a solution, and applying a solution (Gick, 1998; Newell and Simon, 2002) -depicted from left to right in the diagram above. Each of the stages can be characterized by different cognitive (upper part of the figure) and meta-cognitive processes (lower part of the figure). This augmentation is necessary to account for the adaptive nature of problem-solving in today's digitalized world, where a problem solver has to continuously monitor any changes that will occur in the external world and regulate his/her problem-solving actions accordingly.

TECHNIQUES FOR ADAPTIVE PROBLEM SOLVING

1. *Decision staggering*

Make incremental decisions to achieve an objective and avoid total commitment to a decision you cannot change.

Example: Before installing air-conditioning, try screens, shades, and fans. These alone may do the job. If not, these improvements will still have helped cool the building and increase air-conditioning efficiency if later installed.

1. *Exploration*

Use the information available to probe for a solution. Exploring is a modified trial-and-error strategy to manage risk. Unlike a throw of dice, however, it requires a firm sense of purpose and direction. Use this technique to move cautiously in small steps toward a solution.

Example: Doctors avoid committing to a single, incomplete diagnosis of an illness. Through tentative but precise exploration, they determine the cause of an illness and its cure.

1. *Hedging*

Spread the risk by avoiding decisions that lock you into a single choice if you are not prepared to commit.

Example: astute investors do not "put all their eggs in one basket." They spread risks with a balanced portfolio of stocks, bonds, and cash.

1. *Intuition*

Create options based on your experience, values, and emotions (your gut feelings and your heart)! While often able to arrive at the truth through intuition, do not rely on it exclusively. It can trigger snap judgments and rash decisions. Use logic first, then your intuition to make the decision "feel" right.

1. *Delay*

Go slow and/or postpone committing yourself to a course of action if an immediate decision is not necessary and there is time to develop options. Sometimes doing nothing is the best decision; the problem will either go away, conditions will change, the path may become clearer as you reflect on it, or events will change the problem itself.

1. *Delegating decision-making or action to another person or group*

Sometimes we take on problems that are not ours, or that someone else can solve the problem better. One strategy towards delegation is to identify stakeholders of the problem. A stakeholder is a person or group that interest in or will be affected by, resolution of the problem. (This is a good practice for all decision-making!)Another consideration for "out-sourcing" a problem resolves to consider if your resources will be adequate to the task. Resources are time, money, skills, confidence, etc.

1. *Visioning*

Visioning is focusing on the future to uncover hidden opportunities and options that may resolve the problem. With options, we make better decisions. Without them, decisions become forced choices. By finding tomorrow's opportunities and developing options, you can make enduring, quality decisions.

In conclusion, during this COVID – 19 period and even the immediate post COVID era the tactical leaders most readily able to adapt should not only be agile in thought but also deeply immersed in the supporting science. They should be fully aware of human limitations and possess domain-specific knowledge that enables them to more quickly identify problems. They should have developed a wide repertoire of experience from both actual incidents and training to enable them to steer their businesses to safe waters where profitability is a possibility.

Milton Jack is a Business Consultant at Industrial Psychology Consultants (Pvt) Ltd, a business management and human resources consulting firm.

LinkedIn: linkedin.com/in/milton-jack-9798b966

Phone: +263 242 481946-48/481950

Mobile: +263 774 730 913

Email: milton@ipcconsultants.com

Main Website: www.ipcconsultants.com

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