

Managing like “Maverick” in today’s turbulent, dynamic environment

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**Business leaders can learn a lot about
problem-solving using rapid business development
from the approach of fighter pilots.**

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Last year saw the release of *Top Gun: Maverick*—an American action-drama film. This 2022 film saw the hero, Peter “Maverick” Mitchell, overcome obstacles and successfully achieve his objectives by relying on fast decision-making. For the world of combat involving jet fighters, such decision-making is necessary for survival. After all, you are operating in a world where airplanes are engaged in combat at speeds ranging between 1,000 mph to 1,600 mph (which means that they are closing with speeds double that). You must make decisions quickly; waiting to be sure often results in you being dead. These insights not only apply to the world of jet warfare; they are also relevant to the supply chain manager working in today’s highly dynamic and turbulent environment. This is a world in which data is ever increasing and pervasive; data is often incomplete and conflicting; uncertainty replaces risk. In such an environment, decision-makers, especially supply chain managers, must be prepared to act quickly and decisively. Like the jet fighter pilot, you cannot often afford to wait for things to clear up.



The return of Maverick

However, Maverick is important for other reasons. First, Maverick's actions are not ad hoc or taken from the hip. Rather, they are the result of a well-defined process that every jet fighter uses—the OODA (observe-orientate-decide-act) loop—a process first developed by Col. John R. Boyd. This process can be recast into a supply chain specific process referred to as the strategic response cycle (SRC). As will be shown in this article, it is this process that enables effective supply chain management decisions with a high degree of confidence in the actions decided upon. Next, Maverick's actions take place within an organizational structure and culture that recognizes the importance for risk taking, differentiates between “smart” and “dumb” failures, and that is highly robust (as opposed to being optimal).

The message communicated by this article is simple—today's supply chain demands quick, effective decision-making; today's supply chain manager has more in common with Maverick than they may be aware of. Furthermore, this is not a new message. In a previous article published in this journal (Melnyk, 2016), we talked about the emergence of the new strategic supply chain leader. A critical trait of this new leader was that of fast decision-making. That observation, made in 2016, has picked up more relevance and urgency in today's dynamic, turbulent, and uncertain business climate.

However, to understand the origins of this concept and this article, it is necessary to start at the beginning with a plant visit that took place in September 2015.

A visit

This issue was driven home to the authors in 2015, as part of the *Beyond the Horizon* research project that was jointly sponsored by APICS (now ASCM) and the Eli Broad College of Business, Michigan State University. During this project (which ran from 2013 to 2016), two of the authors visited a large warehouse located in Columbus, Ohio. As part of the visit, the authors were taken on a plant tour. During this visit, the senior executive leading the tour stopped and pointed out a new investment that had just come online. They pointed out that this investment had cost the company more than \$1.7 million. Then they asked us an interesting question—how long do you think it took us to go from being aware of the need for an investment to preparing the proposal, submitting it, getting approval, sourcing the buy, installing the equipment, and

getting the entire system up and running? We thought for a moment and answered that in most companies such a request would take between one to two years. The guide looked at us with a grin and responded, “seven months.” We were surprised. We asked: What if you had made the wrong decision?

The answer surprised us even more—the company could not afford NOT to make the investment. In a world where your competitors include companies such as Amazon (firms known to be aggressive and ever pushing the boundaries forward), waiting until you were sure of the need for the investment would have been too late. You would be dead in the water. The message that we took away was clear: decide fast, manage fast, or die.

Understanding rapid business development

To understand what fast decision-making or rapid business development (RBD) is, it is first important to understand what it is NOT. RBD is NOT making decisions and taking actions quickly, without much thought or analysis, with relatively little confidence in the resulting decisions or actions. Rather, rapid business development involves managers (or those people in direct contact with the issues and/or problems) making well-thought-out decisions quickly in ways that are consistent with overall corporate objectives and in which the decision-makers have a reasonable level of confidence. Rapid business development understands that uncertainty is ever-present, that data is often incomplete and conflicting, and that there is always a chance of making the wrong decision. However, the losses from waiting until you are sure of your facts are often greater than the costs of acting now in the presence of such gaps. It also recognizes that meaningful improvisation is needed—plans must change as conditions change. In a phrase that has been attributed to many military leaders (e.g., Eisenhower, Rommel, McArthur), Helmuth von Moltke (“The Elder” –1800-1891) once noted, “no plan survives the first contact of war.”

Furthermore, RBD is not simply another exercise in the application of big data, machine learning, advanced analytics, or artificial intelligence. These are important tools; however, they and their implementation are affected by several important considerations. First and foremost, these tools are backward looking. That is, they focus on the past and they excel at being able to uncover patterns and correlations in the data. In contrast, rapid business development is forward looking.

It recognizes that the past may be informative of the future but not always. When dealing with uncertainty or when dealing with points of inflection or change, it recognizes that the events of the past may not be indicative of developments in the future. Furthermore, based on the experiences of the authors, when such tools are taught to business students at both the undergraduate and graduate levels, they tend to favor slow decision-making. That is, students are intent on using every piece of data; they feel uncomfortable when faced by uncertainty, conflicting information, or incomplete data. They often delay their analysis or make requests for more data. Implicit in their activities is the assumption that if you want them to make an informed decision, then you must give them all the necessary data. More importantly, many business students are not purposely exposed to fast decision-making. They are not comfortable with uncertainty and the risk of making the wrong decision.

Nokia versus Ericsson: Rapid business development in action

One of the classic examples of the importance of fast business leadership can be seen in how Nokia Corp. of Finland responded to the March 2000 fire at Philips's Albuquerque, New Mexico, chip factory. This fire, that burned for only 10 minutes, affected the supply of chips for two of Europe's biggest electronics companies that provided cell phones—Nokia Corp. and Telefon AB L.L. Ericsson of Sweden. Nokia quickly noted a glitch in the supply of chips even before Philips informed its customers that there was a problem. While Ericsson waited, Nokia took action—flying out to the New Mexico plant, visiting potential suppliers, redesigning chips on the fly, and pushing its suppliers to increase production. The result—Ericsson suffered—coming up millions of chips short of what was needed and losing at least \$400 million in potential revenue, and ultimately, giving up its position as market leader to Nokia.

Why we need rapid business development

Previously, it has been emphasized that today's environment is characterized by rapid changes, high levels of uncertainty, and incomplete, incorrect, and often conflicting data. Yet, it can be argued that rapid business development is needed to deal with three major issues: threats, opportunities, and unexpected changes. RBD must act differently in each case, with the common thread being the need for speed.

Threats. Threats occur when there is evidence that the competition (either current or potential) is undertaking a course of action that could significantly impact the strategic position of your firm or the execution of its strategies. This situation is what we saw in the story about the \$1.7 million investment. The firm undertook this investment because it had evidence that one of its major competitors was planning to attack the firm's market segment by challenging its value proposition and what it offered customers. Ultimately this is a defensive/reactive approach.

When faced by a threat, rapid business development can focus on one of three options. First, it can seek to *defend*. This can be viewed as the least desirable because it is essentially highly defensive. That is, it seeks to defend what the firm currently has; it tries to minimize the negative impacts of the competitor's actions. Alternatively, the firm can seek to *sustain*. The firm has a strategic direction, and it can try to ensure that this direction is not compromised by the actions of the competition. Finally, the firm can strive to *disrupt*. That is, the firm and its management take actions aimed at thwarting the moves and investments made by the competition. The story about the \$1.7 million investment is an example of one such option in action.

Opportunities. While the prior option was primarily defensive, opportunistic describes strategies that are primarily offensive. That is, they intend to create strategic advantages for the firm by taking advantage of emerging market and/or supply chain opportunities. These actions may take the form of offering new services or products, changing existing technologies or production processes, or, in some cases, changing the market(s) being served.

Two good recent examples of this approach in action can be cited. The first involved a firm that manufactured equipment for the automotive industry. This firm, located in Michigan, had developed a real core capability around its abilities in this area. The firm became aware that the revenue and margin from its products with its traditional automotive customers was limited. However, there were real opportunities for its capabilities in the medical field. Since the internal constraints (i.e., percent of sales to the automotive customers, contracts, and asset specificity) were deemed to be less than the external opportunities found in the medical field, this company essentially fired its automotive customers and transitioned into this new market successfully. Alternately, we can look at the recent announcements coming out of Tesla regarding

the future of its battery technology and the proposed method of building cars. Even though Tesla is the market leader in the electric vehicle market, it is pioneering a new battery manufacturing technology—one that seeks to replace wet cell coatings with dry electrode coatings—thus reducing the size, weight, cost, energy consumption, and production cycle time of battery manufacturing plants while also increasing energy density and power of battery cells. At Tesla’s March 2023 investor day, participants were informed that it was seeking to replace the traditional assembly process for making its vehicles by a new modular approach. This approach threatened to not only reduce manufacturing costs and times but make obsolete the approaches being pursued by its competitors—companies such as Ford and Rivian.

Unexpected changes. In today’s world, Murphy not only lives but thrives and grows every day. In other words, unexpected changes occur almost every day. These are changes that most firms and their managers cannot predict. For example, who could have predicted that on March 23, 2021, a 400-meter-long container ship, the Ever Given, would pass through one of the narrowest parts of the Suez Canal and experience strong buffeting from winds that and

cause it to be wedged across the waterway. These events occur. Quick action is needed to deal with their impacts, hoping to minimize their impact on the firm.

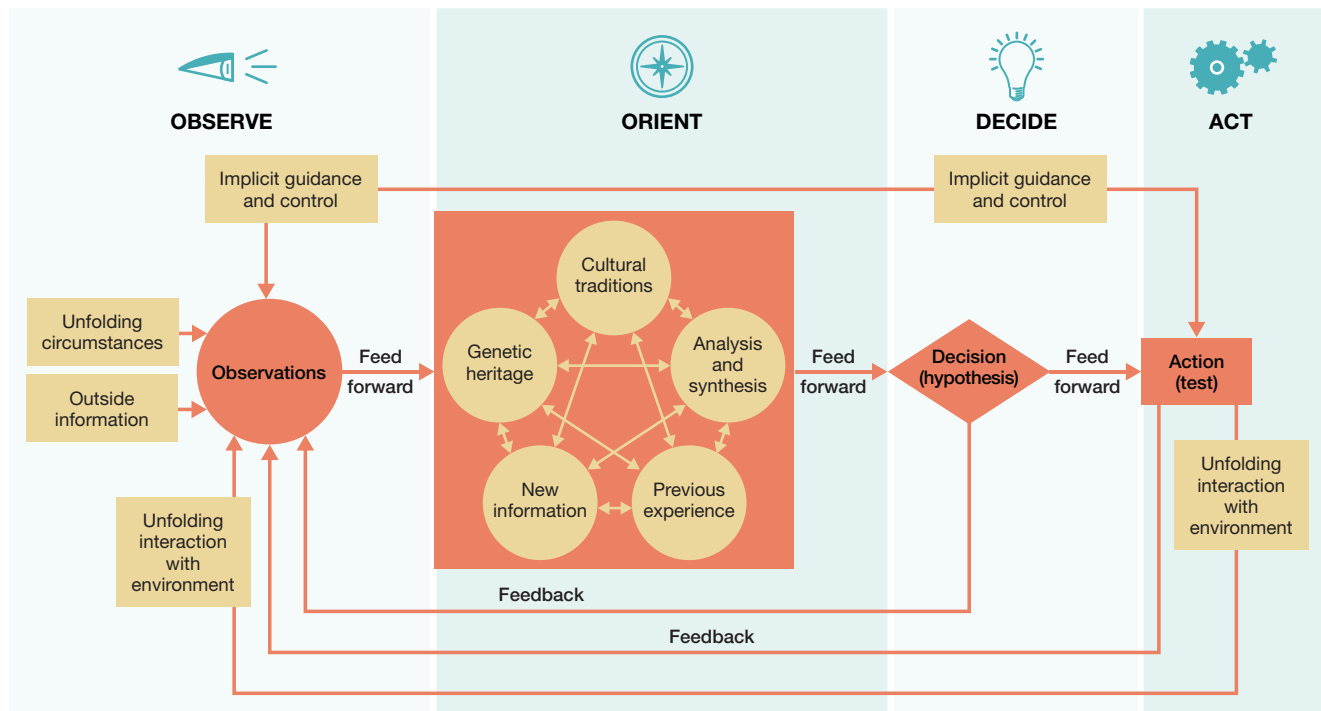
An example of this category in action was presented at the 2022 NextGen Supply Chain Management Conference held in Chicago. At this conference, Proctor and Gamble (P&G) described how it responded to a sudden shortfall in a critical shampoo ingredient. The response: P&G quickly brought together a team consisting of buyers, chemists, and others. They identified a prior formulation that was of acceptable quality and for which there was adequate, assured supply, and used that formula to deal with the problem.

Learning from fighter pilots and Col. John R. Boyd

Rapid business development, like Maverick, owes much to the work and thought process of a true “out of the box” American Air Force Colonel, military strategist, and maverick, John R. Boyd (1927-1997). Boyd’s work and thoughts were instrumental in changing how countries and their air forces evaluate airplane design and how they think about air combat (and how they train their pilots).

Boyd developed a new way of approaching combat in a world that was characterized by speed, uncertainty, and ambiguity (i.e.,

FIGURE 1
Boyd’s OODA loop



Source: Col. John R. Boyd

never with complete and perfect information). The result was an approach intended to help users shift their mental models or the way that they looked at and understood the world. The result was the OODA (observe-orientate-decide-act) loop, as summarized in Figure 1. This paper will not cover this concept in any detail because it is very comprehensive and complex. However, these four components can be envisioned as follows.

- Observe: Take in new information and data about the changing environment.
- Orientate: This is the critical step. Use the data from the prior step to create new mental models in the face of uncertainty.
- Decide: Take the best of the new models created in the prior step and move forward with it.
- Act: Test the model, evaluate, learn, and modify your approaches.

OODA loop has been found to be applicable to many fields of business, including strategy. However, it can be restated in a more detailed form—the strategic response cycle. It was this cycle that was observed in operation in many of the successful firms examined as part of the MSU-APICS Beyond the Horizon Study.

The strategic response cycle—the foundational process for rapid business development

The strategic response cycle is a process consisting of seven major elements: sense; assess; formulate; deploy; recalibrate; learn; and repeat—that are executed continuously and quickly. This is a process, as shown in Figure 2, that integrates planning and execution in a continuous method. It allows plans to be developed in advance and then modified as needed in the face of new or unanticipated conditions. It recognizes that fast decision-making cannot take place in the absence of some form of formal planning process. As Eisenhower, the allied commander of European forces in World War II and president of the United States, once so appropriately noted: “In preparing for battle, I have always found that plans are useless, but planning is indispensable.” It is only by studying each step that we can understand how they are deployed within firms by supply chain managers.

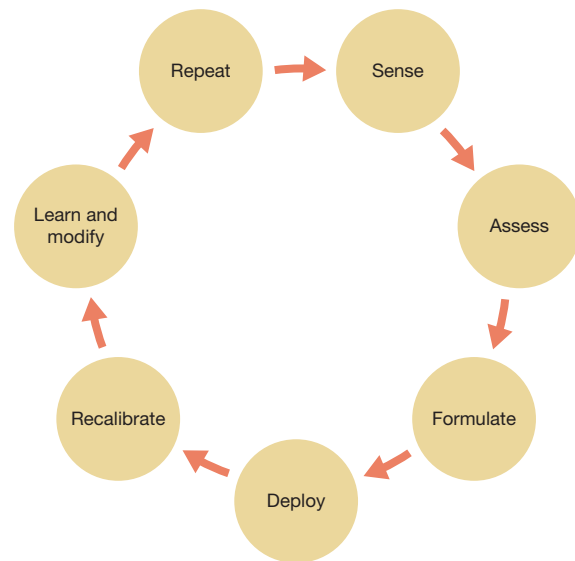
Sensing

Sensing is the act of purposefully gathering information about the environments and developments taking place there. We can gain this information in numerous ways—from governmental agencies, consulting groups, professional societies, or from marketing. However, one important and

often overlooked method is that of listening to our suppliers and customers (for this paper, we will focus on the supplier base). Our suppliers, for example, often work with different industries and customers. They know what is going on and who is doing what. In many cases, suppliers are often the ultimate fly on the wall—being able to observe

FIGURE 2

The strategic response cycle



Source: MSU-APICS, Beyond the Horizon Study

without being recognized as doing so. Before going any further, it is important to note that the focus here is on strategic information gathering; most organizations do a decent job of gathering and acting on tactical data and information (e.g., an order will be late, or there is a problem with specifications).

Gathering strategic information and data from our supplier base is a major stretch for many organizations for several reasons. First, buyers—the people who work most closely with the supplier base—are neither trained in strategic information gathering nor rewarded for doing so. Second, few organizations that we studied had any formal mechanism for collecting such data and for moving it up the organizational structure (when an important development was uncovered). Third, to gather such data, suppliers must be willing to share it with the buyer. As noted in Melnyk et al (2021), this sharing only occurs if the buying organization is seen as being a “good” customer. Recent research being carried out by the authors indicates that most buying organizations do not consider issues of whether or not they are really viewed as being “good” customers. Sensing often provides the firm with a form of early warning.

Assessing

Sensing provides data; assessing takes the data as input, and then processes and evaluates it. By processing, what we mean is the data is taken, vetted (assessed to determine if we are dealing with a systemic issue—signal—or randomness—noise) and then aggregated. Tools such as machine learning, artificial intelligence or analytics are applied to the data to identify and extract potential patterns and trends (with the increasing usage of social media, RFID, the internet of things (IoT), and continuous capturing of point-of-sale data, we are generating large quantities of data that often exceeds the human capabilities to assess and identify patterns). These patterns are then examined by management and assessed. Two critical questions are posed of the resulting data.

- How urgent are the patterns and/or developments uncovered? Is this something that we must act on now or is this something that is expected to materialize or develop in the future?
- How important/impactful are the patterns and/or developments uncovered? While the prior question asks when, this question asks so what. Here we are looking at how to respond. Are these developments something that should be acted upon, or are they developments that should be monitored? In some cases, these developments can be judged to be irrelevant with the result that they can be safely ignored.

Before leaving this discussion, it is important to understand that the organization must be aware of its own internal biases (or existing internal models). These biases may cause firms to overlook critical developments for which there is significant empirical evidence of their importance because these developments run counter to internally held beliefs. Kodak is the classic example here. Even though it was a pioneer in digital camera technology, it refused to commit itself to this new technology because its management believed in the unending dominance and importance of traditional camera film.

Formulate

The developments and patterns uncovered in the prior stage (along with their importance and urgency) become inputs into the third stage—formulate. It is here that the firm views these developments as denoting potential trends. The firm then develops potential plans for addressing or dealing with these trends. These plans are seldom executed as intended; they are modified. However, the development of these plans is important because they form the basis on which modifications

are made. It is here where scenario planning is becoming increasingly deployed as a way of helping firms and their management plan for and prepare for different conditions.

Not only are plans developed; there are also trial runs so that everyone is familiarized with what is expected. Doing such trial runs is not new; many companies have incorporated such trials as part of their risk management strategy. Running through these plans is a necessary part of training and education. You may not use them, but you know what to do.

Deploy

The moment has come; here is where we execute the plans. This is the culmination of everything that has taken place before. In the execution, it is expected that those in contact with the problem or issues will make modifications to the plans previously made so that the solutions better match the realities currently being encountered. Such modifications should not be expected but encouraged—the participants have been trained; they understand the major objectives driving their firms; they are encountering the problems. Risk taking is necessary, provided that the resulting errors are smart (as compared to dumb—more about this later).

Recalibrate

In the face of a changing environment and competitive actions, we may find that our prior objectives and goals are no longer appropriate. In some cases, we have shot past them; in other cases, these prior goals may no longer be either feasible or appropriate. It is in this stage that we rethink our objectives moving forward (and recalibrate our plans).

Learn

After every decision point, a postmortem needs to be carried out. This analysis is built around three questions: What went wrong? What went right? What was missing? It is here that we carry out the process of determining what should be learned (something new that we had not previously encountered but is necessary for moving forward), what should be unlearned (that approach is no longer relevant), and what should be relearned (something that we knew in the past but we have rediscovered its important). These lessons should be applied to the plans generated previously in this cycle.

Repeat

The final step is that of repeating the process quickly. It is here that the old adage comes into play: Decide fast; fail fast; learn fast; repeat quickly.

Having the right organizational environment

While the strategic response cycle is critical; it is not enough by itself. For it to be effective, it must be embedded within the right organizational environment. Specifically, this environment must offer the following capabilities.

First, the organization must be willing to invest in training. Training is demanded by the strategic response cycle; training is also demanded because of the changes that must take place in supply chain managers. These managers, whether they are in procurement, operations, or logistics, are no longer simply managing transactions (placing buys, tracking orders, evaluating whether the purchases met the necessary requirements). Rather, they must see themselves as managing relationships and using these relationships to gather information from suppliers regarding changes and developments taking place in the supply chain (as pointed out by Melnyk et al. (2021), suppliers will not willingly share such information with “bad” customers).

Second, organizations must recognize the value and importance of reasoned risk taking. Risk taking is critical to success; business research supports this point. However, what we are looking for is reasoned risk taking. This means the actions taken were appropriate and consistent with both the conditions faced and the overall objectives of the organization. It also means that when the decisions taken were wrong, they were “smart” failures as compared to “dumb” failures. A smart failure is where the decision-maker did everything right but something not previously considered during the formulation phases of the strategic response cycle took place. Dumb failures are ones where the decision-makers took actions that they should have known would not work. The rule is simple—learn from smart errors; punish the dumb errors. If you punish all failures irrespective of whether they were smart or dumb, your employees will not take risks, or they will take only safe risks. When this occurs, the firm will atrophy and, in many cases, fail.

Third, the organization must recognize the value of robustness over optimality. Business professors are fond of emphasizing the advantages of optimality, without recognizing that such systems are often fragile (consider the problems experienced by lean systems during the recent pandemic when faced by unanticipated, wide swings in variance). These systems have difficulties when exposed to shocks. Because rapid business development will result in errors and failures (when you take chances, not all actions work), it is important that the system, be it either the firm or its supply chain, must be able to absorb the effects of these errors. In other words,

the systems must be robust. This means accepting the need for buffers (e.g., safety stock or safety capacity) and the need for organizational slack (resources available but not used).

Fourth, the organization must be willing to trust its managers to make decisions. In rapid business development, as in air combat, decision-making is pushed down to the person who is active and has ongoing contact with the problem. That person is often the best positioned and, if properly trained and informed of corporate objectives and strategies, best able to deal with these issues.

Fifth, the organization must be aware of and guard against internal information biases. Organizations and their managers often have certain internal biases or mental models. These models influence how they respond to information generated during the sense, assess, formulate, deploy, recalibrate, and learn phases of the strategic response cycle. History is rife with failures that can be attributed to this inability to deal with internal information biases: on June 6, 1944, Hitler refused to deploy his armor to the Normandy landing site because he was convinced that the “real” landing was going to take place at the Pas de Calais; McArthur, the United Nations commander during the early stages of the Korean Police Action and Willoughby, his intelligence chief, were convinced that the Chinese Army would not attack if the United Nations force approached the Yalu River (a boundary between North Korea and China). In each case, these biases discredited the real data before the decision-makers; in each case, the decisions made were wrong.

Finally, the organization must recognize the importance and value of speed as a strategic weapon and as a power tool to be used in dealing with a turbulent and uncertain environment.

Final thoughts

Rapid business development is becoming increasingly important in today’s world of change and uncertainty. Yet, as this article has shown, developing this capability is itself a paradox. It is something that takes time to develop; it is a capability that takes place at both the personal and organizational levels. It recognizes that in a world of speed and change, all plans will be wrong, but planning is indispensable. It recognizes that firms and managers are in a constant state of learning, unlearning, and relearning. It acknowledges that in a world where information and data is incomplete, sometimes wrong, and often conflicting, waiting for resolution and clarity is often not the best course of action. As Dave Girouard, founder, and CEO of Upstart, noted: “Speed is the ultimate weapon in business. All else being equal, the fastest company in any market will win.” ☺☺