

PLANNING AMIDST CHANGE

By A. Brent Strong, Brigham Young University

Predicting the future

As Yogi Berra said, "Predictions are hard, especially when they are about the future."

Yogi's statement is especially true in a time, like now, when change is no longer slow or evolutionary. Change today is **episodic** and **random**. These times defy predictions.

Let's take just a moment to put the nature of change as we see it today into historical and logical perspective. Just to give you an example of how dramatic and unanticipated change is today, we can quote a few sentences from *Timeline*, a best seller by Michael Crichton. In his introduction he says, "A hundred years ago, as the nineteenth century drew to a close, scientist around the world were satisfied that they had arrived at an accurate picture of the physical world... Indeed, many scientists said that the study of physics was nearly completed: no big discoveries remained to be made, only details and finishing touches..."

"If you were to say to a physicist in 1899 that in 1999, a hundred years later, moving images would be transmitted into homes all over the world from satellites in the sky; that bombs of unimaginable power would threaten the species; that antibiotics would abolish infectious disease but that disease would fight back; that women would have the vote, and pills to control reproduction; that millions of people would take to the air every hour in aircraft capable of taking off and landing without human touch; that you could cross the Atlantic at two thousand miles an hour; that humankind would travel to the moon, and then lose interest; that microscopes

would be able to see individual atoms; that people would carry telephones weighing a few ounces, and speak anywhere in the world without wires; or that most of these miracles depended on devices the size of a postage stamp, which utilized a new theory called quantum mechanics—if you said all this, the physicist would almost certainly pronounce you mad...

"Most of these developments could not have been predicted in 1899, because prevailing scientific theory said they were impossible. And for the few developments that were not impossible, such as airplanes, the sheer scale of their eventual use would have defied comprehension. One might have imagined an airplane—but ten thousand airplanes in the air at the same time would have been beyond imagining.

"So it is fair to say that even the most informed scientists, standing on the threshold of the twentieth century, had no idea what was to come."

I think Michael Crichton is right. In fact, the scientist in 1899 might have looked back through all of recorded history and seen a more or less even development of knowledge (allowing for some periods of little advancement because of social problems like those that occurred to cause the Dark Ages). In 1899 most education still focused on the Greek and Roman classics which were written about two millennia previously. Mathematics education was still based on Euclid's *Elements*, written in 300BC. As late as 1830, transportation speeds were mostly dictated by the physical abilities of animals. This gradual increase in knowledge is shown graphically in Figure 1 where some major periods of history are plotted against the increase in knowledge that occurred during each period.

Certainly the evolution of knowledge up to the twentieth century would be considered gradual and logical, even predictable. Not today! We live in a exponential period of knowledge

expansion. Not only is knowledge expanding tremendously in the traditional disciplines, but new areas of knowledge are breaking out on all sides and these are quite unpredictable.

Together, the summation of knowledge in traditional and totally new areas is **explosive**. By the time we adjust to the changes, the world has already changed again. Obviously, to predict the future in such times some major rethinking is required; or perhaps, should we just give up on trying to predict the future?

Is it possible to plan effectively in today's chaotic world?

How can you plan for the future at a time when change occurs so quickly? Isn't planning futile because our current view of the future is likely to be different from the real future when it arrives?

In a strange, almost surrealistic way, the leader who can plan properly in these times will achieve a dramatic competitive advantage. But, the old methods of planning will probably not work today. We must, therefore, adapt our planning methods to the new reality of rapid and dramatic change.

Types of decisions in running a company—operational, structural, strategic

To practice the new planning method, we must understand that three types of decisions are required in a business. The first type of decision is **operational**—deciding what to do **right now** to run the business. These are simply decisions that refer to "doing the job." They include making the sales call, getting the order, making the product, shipping the product, purchasing, and scheduling. These are the day-to-day (maybe hour-by-hour) decisions of normal operations. Operational decisions are easily made, of low consequence (individually), straight forward, frequent, and self-forcing (that is, they must be made to continue the business). These decisions

are often delegated to middle managers or operators and controlled by standard operating procedures.

The second type of decision is **structural**. These are **periodic decisions** which provide **limited guidelines** for daily activities. In other words, these are decisions that are made on an occasional basis that have to do with the way the business is organized. Typical structural decisions include company organizational charts and reporting relationships, pricing policy, work flows, operating procedures, and the like. Structural decisions are intermittent, somewhat complex, of moderate consequence, relatively easy to make, and self-forcing.

Structural decisions are usually made by middle and upper management. In fact, the essence of the role of managers is to formulate and then implement structural decisions. The usual purposes of structural decisions are related to developing the systems that will give **efficiency** and **productivity**.

The third type of decision is **strategic**—related to what the company is fundamentally about. Another way of saying this is that strategic decisions are related to the **values** of the company and the **underlying principles** on which all other decisions are made. Strategic decisions are made infrequently, are extremely complex, have severe consequences, and are not self-forcing.

- The nature of strategic decision-making means that they do not typically come up in the normal running of a company. The founders of the company probably did strategic planning when they established the original purposes and nature of the company. After that, strategic planning sessions were likely done only as major changes occurred which forced the senior managers to reexamine

the company and its overall direction. Therefore, to be most effective in strategic planning, senior management should schedule the times when strategic planning should be done. During these planning times, a formal procedure for analyzing the basics of the company can be very useful. Those basics might include the following:

- What does the company want to be?

- How should the company get to its desired position?

Notice that these questions really focus on how the company will change. If you take a moment to think about the nature of change, you will realize that **management is not about change**. In fact, management is about maintaining the status quo or, at best, moving forward along predictable and logical paths of improvement.

The process of **change is about leadership**. Change occurs because a leader sees the new position and then influences others to adopt the new way of thinking (paradigm) so that the entire organization can move to the position that is envisioned. This must be accomplished by repeated reinforcing of the desirability of moving to the new position and the benefits that can accrue from that change. Furthermore, the leader must not only instill a vision of the new position, he/she must also instill a deep understanding of (perhaps even an adoption of) the basic principles of the company so that when new situations arise during the transition, the employees of the company will know the guidelines that must be used in meeting the new situations.

The leader must make sure that all facets of the company are **aligned** with the basic principles. Alignment means that procedures and practices reflect the basic values of the company. If some aspect of the company is not aligned, then confusion occurs in the minds of the employees.

For instance, suppose that the leadership has articulated that a basic value of the company is that it will be the foremost composite manufacturer in the area of corrosion resistant pipes and that this position will be achieved by giving full design, installation, and maintenance assistance to the user companies who buy the pipes. However, non-alignment might occur when the CFO of the company refuses to allow an emergency maintenance trip to a customer's plant because of a budget crunch that month. Another mis-alignment might occur if the company drastically reduces their design department because they are having trouble getting a sales price high enough to pay for this service. If these non-aligned moves are required, the company should revise its basic strategic position so that consistency can be preserved. To do otherwise is to create confusion in the company and in the marketplace and to destroy the trust of the employees in the leaders of the company.

Strategy is often about winning or losing and must, therefore, consider the competition. As a result, the best strategy planning should be done in an environment in which data on the competition and the marketplace are readily available. This will, of course, require some effort to assemble this data. Strategic thinking can be stimulated by thinking in terms of strength against weakness, often by using analogies to sports, games and even war. (Some of histories best leaders have been in the military.)

We can summarize strategic decision making as follows:

Strategic decisions concern the **future**.

Strategic decisions concern **change**.

Strategic decisions are the realm of **leadership**.

Strategic decisions are based on **basic values**.

Strategic Mapping—A method of strategic thinking fitted to the twenty-first century

We have discussed the basic types of planning but have not, as yet, talked about the actual **process** of making those decisions, especially strategic decisions. Traditionally strategic decisions have been made by senior management who sequester themselves in some nice resort location and spend a few days focusing on the basics of the company, where the company is, how it got there, and its possible new direction. They brainstorm, develop budgets (usually based on previous experience), and discuss the competitive position of the company. The process they use for all of this is based upon the assumption that the future can be logically predicted as an extension of the past. In other words, they assume that they can predict the path to be taken and control how they will take that path. They are, in a word, **planning**. The process is all very logical and scientific. (See sidebar on the Scientific Basis of Predictions.)

Usually, however, they fail to consider the critical fact that **the world is changing so quickly that accurate predictions about the future are not possible** (as we discussed at the beginning of this article). Therefore, a new way of thinking about the future is needed. That new thinking method is called **strategic mapping**.

In times like these, strategic decisions should be made according to a strategic mapping process rather than a strategic planning process. It is important to understand the difference. The **planning process** seeks to work out the details, answer the questions, and give the complete view of the path that must be followed for success. For instance, a CEO would try to work out all the details of the strategy to introduce a new product so that the operational and structural decisions can be made by the middle managers within the framework envisioned by the CEO. Similarly, business plans are expected to answer the questions of venture capitalists so that the

investors will have confidence that the company management has "thought through" the details and really "done their homework". In today's rapidly changing world, this method of detailed planning is probably fruitless. In its place, I recommend strategic mapping.

Strategic mapping, as described by William Easum in his book *Dancing With Dinosaurs*, is not a linear extrapolation of the past into the future. We should be little concerned about where we have been. The past has only a secondary relevance to the future. It is useful in thinking about the corporate culture and values, but has little value for predicting the future. The focus of strategic mapping is, therefore, almost exclusively on the future and where the company is going.

The specific methods of strategic mapping include:

- 1) Be willing to let go of the past and the present and **creatively look to the future**.
- 2) Assemble a team of like-minded individuals who, in essence, know that because of the uncertainty of the future they will eventually become **lost in the wilderness** and are willing to think new ideas to get to their destination.
- 3) Develop a set of **clues to the future**. These are not predictions but, rather, insinuations of what the future will be like.
- 4) Using the clues as signposts, develop a map, with **many possible paths**, that will guide your way to the future.
- 5) **Don't let the process get too detailed** or drawn out. Working for total details will eventually lead to planning and that, as indicated before, is just not appropriate in the mapping process.

Figure 3 is a diagram that illustrates strategic mapping. As shown in Figure 2 you would move from your Current Position (where you have created the map) along path 1 to position A. Position A (and all other positions) are desired competitive positions. They might represent, for instance, the position of the company after you have opened up a new territory, or the position after a new product launch, or the position after a new competitive strategy is introduced, etc.

Continuing with an examination of Figure 2, you are at position A and see three different paths that could be pursued (paths 2, 3, and 4). These lead to different positions B, C, and D. Position B might represent the development of a new product. Position C might represent the a restructuring of the price structure. Position D might be the opening of another new territory.

The choice of which path to take (2, 3, or 4) must be decided by an assessment of the situation at position A. Notice that position A is not the same as the original Current Position where the mapping process was done. This situation implies that time and circumstances have changed. The future is, hopefully, more clear from position A than from the original Current Position. You will have developed some clues to the future that would assist you in making the choice of pathway from position A. Based on all of this evidence, you decide to take path 2 and move on to position B.

From position B (which is the development of a new product) you can still get to position C by moving along path 5. This might even be very logical because the restructuring of pricing is often appropriate after the introduction of a new product. You can also get to position D from B along path 7 or by going through C. This allows you to open the territory associated with D either with or without a price increase.

However, you can also bypass C and D by taking paths 8 or 9. These lead to positions E and G, respectively. E might represent merging with a competitor while G might be introduction of yet another new product. Each of these positions will have alternate paths that can lead to other positions.

The decision of which path to take will be made based on the clues to the future that were developed in the original mapping process. It is these clues and a pre-establishment of alternate paths that allows your company to move between positions with **agility and surety** even though the situation is not clearly defined until you get there.

This mapping process and the ensuing movements may be difficult to envision initially . Therefore, let me give you an analogy. I recently took a trip to Europe with my wife. We knew that we were going to fly to Munich and return from Paris two weeks later but all other stops were left undecided. However, we knew that we wanted to visit Leipzig Germany to see the church where Bach spent most of his working life, and we also wanted to see Berlin, Amsterdam, several sites in Belgium, Normandy in France, the Loire Valley in France, and Paris. We rented a car in Munich and started off on our trip. We drove toward Leipzig.

We found that we had to start making deviations from the idealized plan quite early in the trip. We found that all of the hotels in Amsterdam were filled and so we had to travel to Utrecht and stay one night. Later, we realized that we were going to be in Normandy on June 6, the anniversary day of D-Day. We thought that things would be much too crowded and so we decided to visit the Loire Valley of France first and then circle back to Normandy. We also had a car accident that required some changes in schedule. In two different cities, we saw signs suggesting some interesting sites that we were not familiar with, and we took the detour to see

them. We also found the Bayeux tapestry to be wonderful and we spent much more time seeing it than we had originally thought.

As you can tell, we had a wonderful trip, but it was a trip that we adjusted for the particular events that we encountered along the way. However, with good maps and some general indications of what we wanted to accomplish overall, we were able to change our plans as we progressed and have a great experience. To me, it was a great way to explore Europe.

This method is also a great way to explore the future. As you can tell, strategic mapping requires considerable work and preparation. It also requires that the leadership of the company have considered the basic purposes and benefits of the trip which are, of course, the basic values of the company. (For instance, the values I had for the trip to Europe were that the trip would be principally for education, that I would enjoy the time with my wife, that travel would be by car so that the greatest flexibility in travel could be maintained, and that all hotels will be at least 4-star.) Thinking about the future requires study of the world in a broad sense and some consultation with others who may have experience in specific areas that you might want to be prepared to explore.

The overriding concepts are these:

- Decide on the basics that control the journey.
- Think ahead to envision logical alternative pathways.
- Be creative in developing non-logical pathways to increase the number of alternatives.
- Develop a set of clues to the future that might be suggested at each position of the company and can assist in deciding which pathway to take.

- Be aware of the appropriate timing for taking alternate paths because of changes in the world.
- Be agile in responding to the signals for change.
- Document the process so that it becomes as concrete as possible.
- Don't take too much time planning initially but, rather, consider a good variety of options and then, when you have traveled for a while, pause and redo the mapping

Caution–Getting stuck because of planning

Just a word of caution about the process of making strategic decisions. Too often companies get into a mode of planning and forget to move forward and actually operate the company. Although extremely important for long-term viability of a company, the decision-making process does **not** create immediate business. Therefore, the intelligent company CEO will remember that strategic decision making is done infrequently and that the company needs to **move ahead** to implement the actual running of the business.

The business makes money because of **sales and production**. These should be guided by the decisions that are made previously in planning sessions, but no amount of planning can take the place of **action** in these two areas.

Acknowledgments

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methods that must be used in today's world. Further thanks to Dixon Abell of Poly Processing Company for his insightful discussions.

Some good books on planning and change

Easum, William M., *Dancing With Dinosaurs*, Nashville: Abingdon, 1993.

Senge, Peter M., *The Fifth Discipline*, New York: Doubleday, 1990.

Wheatley, Margaret J., *Leadership and the New Science*, San Francisco: Berrett-Koehler Publishers, 1992.

Sidebar–The Scientific Basis of Predictions

Just a note about extrapolating the past into the future from the scientific viewpoint. One of the fundamentals of science is that the natural processes of the universe as we see them today, are the same as they have always existed and will continue to exist. For instance, science believes that radioactive elements have always decayed at the rate that we see today and that they will continue to decay at that rate in the future. This belief is, of course, the basis of carbon dating technology and also of predictions of the period of time that radioactive materials will be dangerous. However, we really don't have any reliable data (from the far distant past) to confirm that the decay rate has always been the same as it is today. Therefore, we cannot really predict the decay rate into the future. But, we usually make the assumption of linear extrapolation.

Unless we make the assumption of linear extrapolation of the past into the present and future, we are left with no capability to scientifically predict the future. Hence, science insists on linear extrapolation in the absence of any other mathematical model. I might suggest, however, that very few phenomena in nature are truly linear. When looking at the phenomena over a long period of time, the common linear model is really the flat part of an asymptote. (An asymptote is the shape of a figure like that in Figure 1 that is nearly linear for a long period of time and then deviates greatly from linearity.) Other non-linear shapes that often occur in nature are parabolas and ellipses. But in the absence of specific data, as with radioactive decay, the simplest assumption is the linear one, and that is the assumption that science most often takes.

The planning process, which takes its cues from science, is also, therefore, based on the idea of extrapolating the past into the future. However, just as science was unable to predict the events of the twentieth century, so too we might not be able to predict the future of our

companies into the twenty-first century. A possible way to guide our progress is strategic mapping.

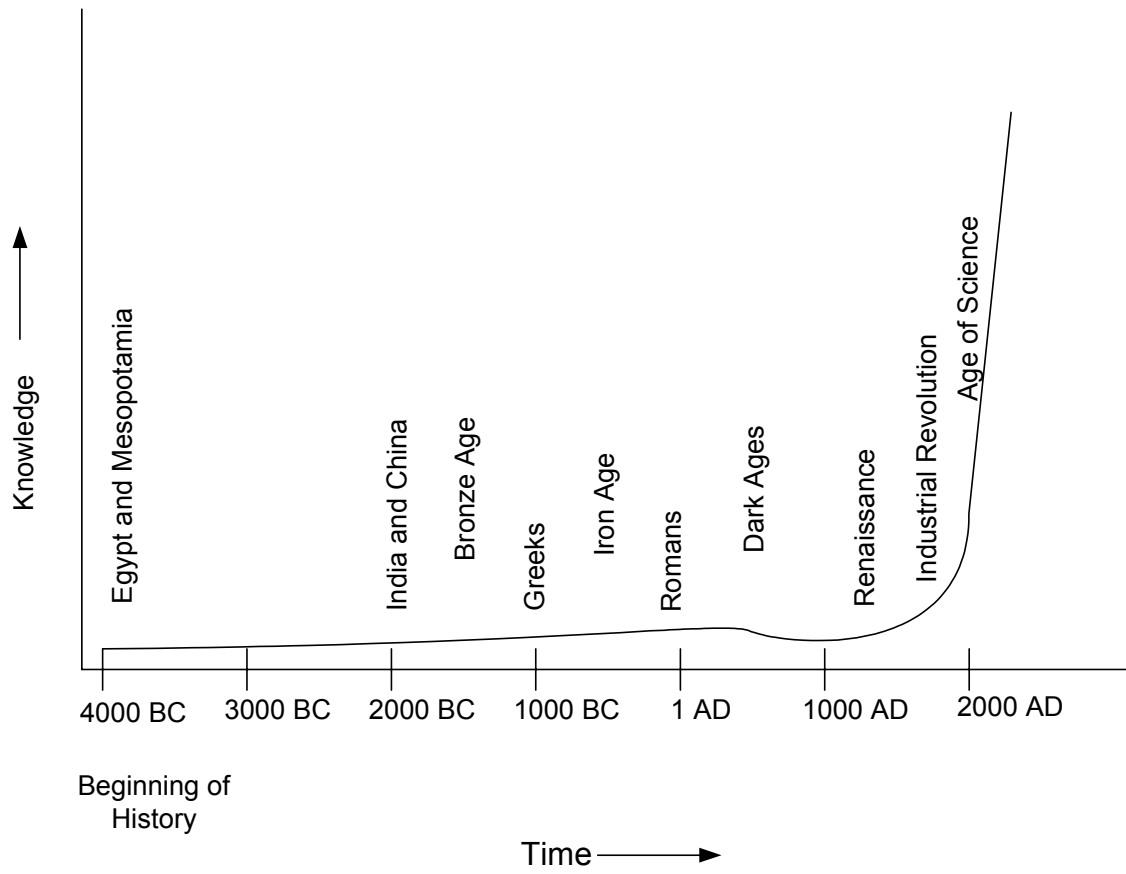


Figure 1 Historical knowledge growth

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Figure 2–Understanding strategic decisions

[Note to Andy: I would put a picture of a person thinking here and have them imagining (in a thought balloon) something that represents the future and change. The person should be dressed like a corporate president to indicate that he is the leader. You might also have in the background some great leaders of the past (such as Julius Caesar or Alexander the Great, George Washington, Abraham Lincoln, etc. who are in similar poses and are also thinking about the future.]

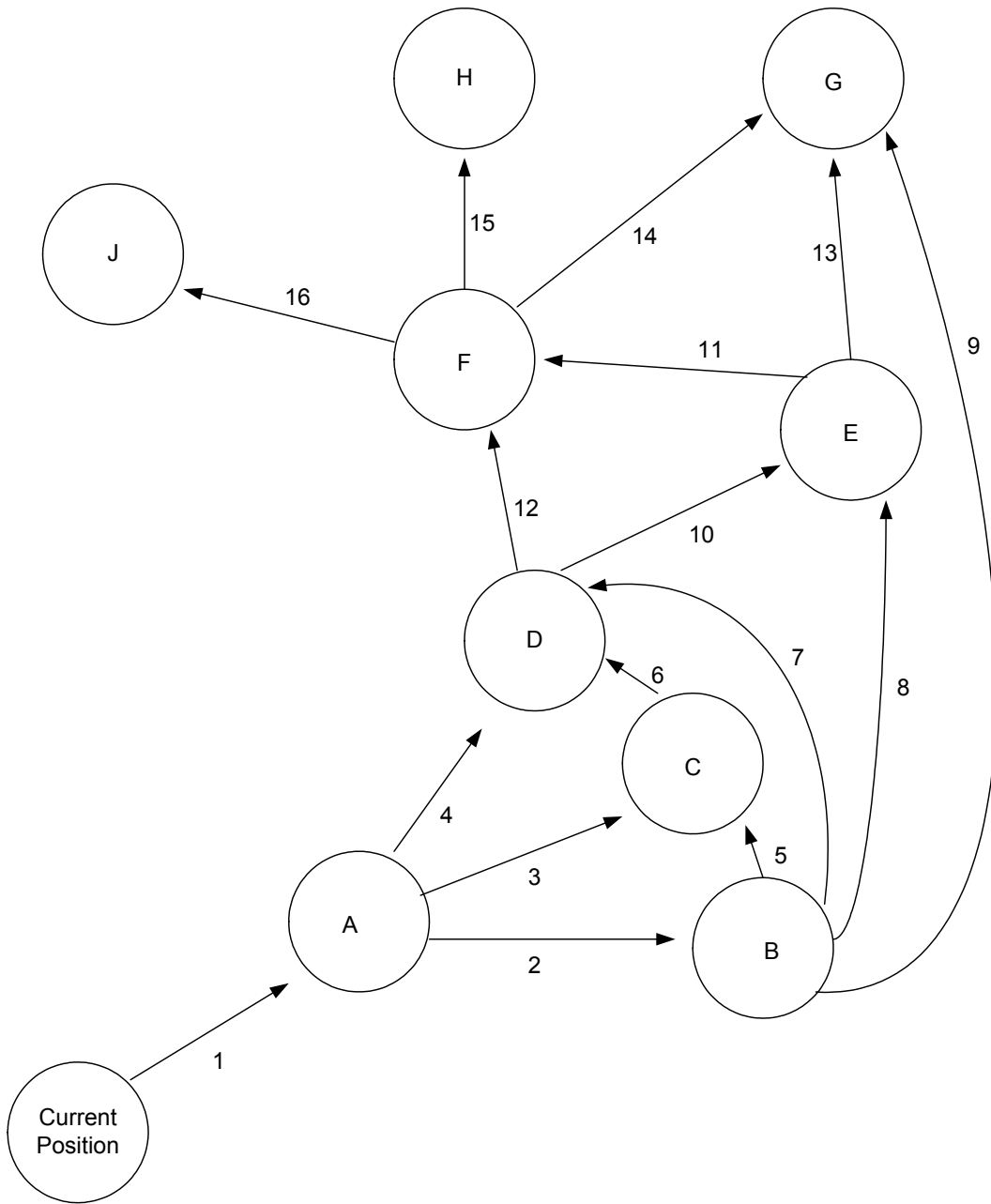


Figure 3 Strategic Mapping Diagram
 The lettered positions represent desired or acceptable competitive positions and the arrows represent alternate paths.