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# Teaching Strategic Environmental Analysis Using Numbers 13 & 14: The first 2X2 Strategy Matrix in Scripture?

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TEACHING STRATEGIC ENVIRONMENTAL ANALYSIS USING NUMBERS 13 &  
14: The first 2 X 2 strategy matrix in Scripture?

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Point Loma Nazarene University  
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**ABSTRACT**

The author provides a summary of the literature on the use of the 2X2 matrix in strategic management especially environmental scanning, explore the historical context of Numbers 13, 14 and Deuteronomy 1, consider passages relevant to strategic environmental analysis, examine two of the 2X2 matrices that can be constructed from the passage along with the strategic implications of each. Finally, some of the teaching potential of this passage from both theological and strategic management points of view is explored.

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## INTRODUCTION

The purpose of this paper is to examine the teaching potential of Numbers 13, 14, and Deuteronomy 1 as a Biblical example of strategic environmental scanning. To accomplish this the author provides a summary of the literature on the use of the 2X2 matrix in strategic management, explore the historical context of Numbers 13, 14 and Deuteronomy 1, consider passages relevant to strategic environmental analysis, examine two of the 2X2 matrices that can be constructed from the passage along with the strategic implications of each. Finally, some of the teaching potential of this passage from both theological and strategic management points of view is explored.

## TEACHING ENVIRONMENTAL ANALYSIS AND THE 2X2 MATRIX

It is in the context of the task environment where strategy formulation takes place (Downey and Slocum, 1975). Thus, we expect that it is the task environment to which executives pay close attention when formulating strategy. Elements of the task

environment are compared and contrasted for their potential for helping (opportunities) or hurting (threats) the organization's ability to pursue its mission.

Teaching environmental analysis in the context of Organization Theory, Business Strategy or Business Policy courses has been standard practice in schools of business for many years (cf. the textbook by Andrews, 1971 and many others) and usually includes addressing the analysis of both the general environment and the task environment (e.g., Thompson, Gamble and Strickland's text). Porter's Five-forces Framework is often used as a method for analyzing the industry competitive forces. SWOT analysis, the weighted industry matrix and other devices are employed as tools of analysis.

In addition to learning the commonly used tools of analysis, students may be introduced to issues of environmental uncertainty as studied by scholars such as Daft et al. (1988), Downey and Slocum (1975) and Milliken (1987). The dimensions of the task environment also can be studied in terms of three dimensions (Aldrich, 1978; Dess and Beard, 1984): Munificence (capacity), dynamism (stability) and complexity (homogeneity, concentration). (Cf. the work by Child, 1972; Emery and Trist, 1965).

Environmental scanning behaviors and the value of environmental scanning may depend on one's view of the environment. Aguilar (1967) was the first to comprehensively address both the significance and the problems of environmental scanning during the strategy formulation process. Lenz and Engledow (1986) provide a helpful review of environmental analysis theory where they discuss environmental scanning in terms of each of the five environmental models that are most commonly used by scholars. Similar to this is the work of Aldrich and Pfeffer (1976) who consider various environmental models.

As a tool for promoting strategic thinking the 2X2 matrix has been used in strategic management on two levels. At one level, the matrix has been used as a tool to depict the tensions between and tradeoffs of one strategy compared with another. Illustrative of this are Ansoff's Product Market Matrix, the Boston Consulting Group's market share, industry growth matrix, the SWOT analysis and Porter's generic strategies. Lowy and Hood (2004) present several 2X2 matrices related to strategy.

At another level the 2X2 matrix has been used in strategy research. Daft and Weick (1984) illustrate the 2X2 matrix to show how an organization's assumptions about its environment (to what degree the environment is believed to be analyzable or unanalyzable) and the organization's degree of intrusiveness into the environment (active or passive) influence the modes of environmental interpretation during strategy formulation.

The 2X2 matrix offers two characteristics that make it a powerful tool for problem solving: simplicity and limits (Lowy and Hood, 2004). With simplicity comes ease of communication and intuitive application. With limits come focus and dialectical tension from irresolvable contradictions. With these two characteristics the 2X2 matrix can be adapted to many decision making situations, scalable for either the individual level or the macro-environmental level. At the end of the day, the 2X2 matrix is merely a tool to bring to the surface core conflicting issues "ensuring that attention is directed toward the areas needing understanding and management."

Lowy and Hood (2004) say that the ingredients of a 2 X 2 matrix must be knowledge-intensive and derive from "hard-fought lessons of experience" that guide us in making difficult choices. One assumption the author had of the Scripture passage

considered here is that Moses, if not others among Israel's leaders, had such knowledge from his experience. The passage considered here illustrates, however, that intuitive thinking can be made more clear by creating dichotomies that support analysis of the complexity of a situation rather than going quickly to a single right or wrong answer.

Environmental scanning is inseparable from the strategic management process. Whether the planning school or the learning school of strategy is adopted, environmental scanning still informs strategic decision makers. 2X2 matrices provide the manager with a tool for thinking through complex issues that require intuition and wisdom based on experience rather than simple rational decision making. The matrices from the Biblical passage are presented and discussed as an illustration of how managers can manage complexity as well as the dialectical tensions that go unresolved in a manager's experience.

## HISTORICAL CONTEXT

If you review any standard Introduction to the Old Testament book in the section devoted to the book of Numbers, you will find that the author is likely to be obsessed with the issues surrounding the "documentary hypothesis." Discussion of the source documents of the text dominate the pages. In terms of the book of Numbers, little space typically is devoted in Introductions to the theological issues raised by the narrative. Only in the popular Bible commentaries do we find a treatment of the story on its own terms.

The English title of this Biblical book is derived from the Latin and Greek versions of the Hebrew text which appears to come from the focus of the first few

chapters, i.e., the census and organization of Israel. The Hebrew title (“in the wilderness”) appears to be more consistent with the entire message of the book, i.e., the wilderness and Israel’s sojourn therein. Most of the rest of the book is the story of the wanderings in the Wilderness, the failed attempt at conquest and the testing of the people’s faith. Kuntz’s comments on this are helpful:

“The book reveals that Israel’s sojourn in the wilderness constituted a period of supreme trial. Yahweh, Moses, and the people themselves were all put to the test. The people’s faith was frequently challenged, but so was Yahweh’s patience. The people might trust in Yahweh’s ability to provide for them, or they might fret over the lively possibilities of imminent annihilation. They might endure the adversities of desert existence and thereby acquire new strength, or they might into despondency. Numbers is less a record of sequential wilderness history than it is a work that advances significant theological questions. In particular, it attests to the extraordinary vitality of that ongoing relation between God and people.” (Kuntz, 1974)

It had been about two years since the children of Israel had come out of the land of Egypt (Num. 1:1). They had spent some time under the shadow of Mt. Horeb (Mt. Sinai) learning a new culture, new expectations. It is an eleven day journey from Mt. Horeb to Kadesh Barnea (Deut. 1:2). [Note: maps of ancient Palestine are available on the World Wide Web at: <http://www.bible-history.com/maps/> .]

The nation was clearly organized by tribes. The mobile tabernacle had been constructed and was being managed and protected by the tribe of Levi. At this time, there were over 22,000 first-born males ages one month and older. We might conclude from this that there were over 40,000 families in the camp. There were 22,000 adult male Levites in the congregation (Numbers 3:39). In addition to the tribe of Levi (Numbers 2:47), there were 603,550 adult males age twenty and above. While we don’t know the birth rates for Israel we can estimate that the sojourning nation numbered well over one

million people. Add to this the “mixed multitude” of Egyptians who had escaped Egypt with Israel. With an army of over 600,000 this would have been considered a formidable foe in any battle.

On their way from Mt. Horeb they traveled through a “great and terrible wilderness” (Deut. 1:19) as they went north. This journey must have been very difficult in terms of food and water for such a large group of people for in Chapter 11 of Numbers we have the story of the complaints about manna, the giving of the meat in response to the complaining and the resulting plague of illness. Not only is God’s power questioned but God’s appointed agent, Moses, becomes the target of discontent. Miriam and Aaron (Numbers 12) criticize Moses’ choice of a Cushite wife, a bit late in the process one could argue. Because of Miriam’s sin of insubordination, she was cast out of the camp for seven days. Following her reinstatement to camp the people moved from Hazeroth and camped in the Wilderness of Paran (Numbers 12:15 – 16) at Kadesh Barnea (Deut. 1:19). (cf. Kuntz, 1974)

At Kadesh God sent an encouraging message. “You have come to the mountains of the Amorites, which the Lord our God is giving us. Look, the Lord your God has set the land before you; go up and possess it, as the Lord God of your fathers has spoken to you; do not fear or be discouraged.” (Deut. 1:20, 21) It was at this point that the people requested that men be sent before the congregation to “search out the land for us, and bring back word to us of the way by which we should go up, and of the cities into which we shall come.” (Deut. 1:22) We might conclude that although the promise of possession and encouragement to accomplish this were given, there were questions about



which was the best route to take and what the cities were like that they would be inhabiting.

One question relevant to the issues of environmental scanning is the question of whether this spy mission was military in nature or peaceful and even commercial in nature. Traditionally this has been considered from a military perspective. However, as is seen in the table below, one could argue that the commercial interests were just as important and perhaps dominated the interests of the people as they anticipated taking possession of the land.

MILITARY CONQUEST PERSPECTIVE	PEACEFUL (COMMERCIAL?) CONQUEST PERSPECTIVE
<p>1:2 – 3 Take a census of all the congregation...from twenty years old and above – all who are able to go to war in Israel.” “Moses then charged the spies to bring back detailed information that would be useful in military operations to conquer the land, and, beyond that, in settling in it. Whether the people were strong enough to defend their cities, whether the land would support the invading armies of Israel, whether the dwellings of the inhabitants of Canaan were in unfortified camps or in walled cities, all these facts would be important in drawing plans for the forthcoming conquest.” (Ashley, 1993)</p>	<p>“The primary meaning of the word (“spy out”) is not the act of spying for the purpose of conquest. It is used in wisdom literature to describe how one searches for wisdom (Eccl 1:13; 2:3; 7:25) and how the righteous give advice to friends (Prov 12:26). Persons who embody this action during the reign of Solomon are described as ‘traders’ (1 Kings 10:15; 2 Chron 9:14). In fact, only once is this verb used to describe the activity of spying with an aim toward invasion (Judg 1:23), and there no object of the activity is clearly a city. Neither people nor cities are ever the object of the verb in Numbers 13 – 15.” “Some commentators translate the verb in Numbers 13 – 15 as ‘to scout out’ and underscore that such activity need not be of a military nature, but the translation ‘to explore’ may be even closer to the intended meaning.” (Keck, 1998)</p>
<p>Nation organizes into tribes of armies (Numbers 1 and 2)</p>	<p>It was at Kadesh Barnea that the people requested that men be sent before the congregation to “search out the land for us, and bring back word to us of the way by which we should go up, and of the cities into which we shall come.” (Deut. 1:22)</p>

	No explicitly military concerns are stated at this point.
Army commanders are appointed and instructions given for issuing signals for movement (Numbers 10).	The only tangible evidence brought back from the land of Canaan is not military in nature but rather, commercial in nature. The intangible reports of the spies incited the people to think that the possession of the land could take place in no other way than by battle.
Following the rebellion, Israel attempts a military conquest (they failed). This signifies that war was what they had in mind. Later battles were fought in the process of possession of the land.	Nothing in the promise is predicted in terms of a battle victory. Instead, the promise is simply that the land would be given to them and they would simply have to take possession of it. Though there were battles (cf. Battle of Ai), God's plan was for a more peaceful possession of the land (cf. the taking of Jericho).
	"The narrative about spying out the land is the first indication of the conquest theme." (Noth, 1968) Keil and Delitzch (1949) state that the purpose of the visit was "To explore the way by which they could enter into Canaan, and also the nature of the land, of its cities, and of its population."
	They were to see the land. (Keil and Delitzch, 1949) Emphasis on evaluating the defensive positions and the strength of the people is counterbalanced by instruction on evaluating the potential of the land itself.

There may be other passages of Scripture that will inform this discussion. One way to resolve these two perspectives is to consider them two sides of the same purpose for Israel's entry into the land. To enter the land, they might have to do so in military fashion. Once they had gained possession of the land, the commercial interests would become increasingly important. Regardless of the view taken, it appears that the people were concerned about their safety as they continued north into the territory of the Amalekites, Hittites, Jebusites, Amorites and Canaanites (Kuntz, 1974; Keil and Delitzch, 1949).

## COMMENTARY ON THE PASSAGE

All of Numbers 13, 14 and Deuteronomy 1 are relevant to the larger story, the context and its potential value for teaching the 2X2 matrix. Nevertheless, selected passages are presented here for discussion.

Numbers 13: 1 The LORD said to Moses, 2 "Send men to spy out the land of Canaan, which I give to the people of Israel; from each tribe of their fathers shall you send a man, every one a leader among them."

Comparing this verse with Deuteronomy 1 reveals that the idea of sending spies may have come from the people themselves. Consistent with the early chapters in Numbers is the idea of going about the task in an organized manner by sending a representative of each tribe on the mission.

Budd (1984) suggests that the scope of the mission signifies the scope of God's purpose in bringing them to the land of promise. "Since the gift is the whole land it is artistically appropriate that the whole be surveyed and appreciated."

17 Moses sent them to spy out the land of Canaan, and said to them, "Go up into the Negeb yonder, and go up into the hill country, 18 and see what the land is, and whether the people who dwell in it are strong or weak, whether they are few or many, 19 and whether the land that they dwell in is good or bad, and whether the cities that they dwell in are camps or strongholds, 20 and whether the land is rich or poor, and whether there is wood in it or not. Be of good courage, and bring some of the fruit of the land." Now the time was the season of the first ripe grapes.

At the time of this story Israel had been traveling from Mt. Horeb at the southern end of the Sinai Peninsula. They were heading north approaching the southern end of the land of Canaan. For two years they had trod the desert path toward the land of promise and now at the doorstep their courage falters (Maclaren, 1952).

The southern border proved not to be the place where Israel ultimately entered. Years later after the long period of wandering, a punishment for their lack of faith demonstrated in this story, Israel entered Canaan from the east and captured the city of Jericho.

The passage in verses 17 - 20 is the heart of the material on which several 2X2 matrices can be built for analysis purposes. Moses identifies in Numbers 13:17 - 20 six critical success factors that would influence what and how Israel would approach the problem of conquest in Canaan:

- Strength of the Canaanite peoples (strong or weak)
- Number of people (many or few)
- Resources of the land (good or bad)
- Resources of the land (rich or poor)
- Resources of the land (wooded or not)
- Nature of Canaanite defenses (camps or strongholds)

From this data several 2 X 2 matrices can be developed related to formulating a strategy. The following are two examples of how the environmental factors might translate into strategy:

	Strength of the People		
		Strong	Weak
Where they live	Camps	Prepare for possible vigorous battle and mobile pursuit if military operations are needed	Prepare for quick capture and immediate occupation

	Strongholds	Prepare for siege	The key: break through the strongholds if defended
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Knowing this information means a great difference in terms of the tactics that need to be employed to be successful in a military campaign as well as caring for their families until the campaign is successful.

	Quality of the Land		
		Rich	Poor
Presence of Trees	Wooded	High motivation for conquest; plan for using all resources	Use the strength of the resources and minimize the weak
	Not Wooded	Use the strength of the resources and minimize the weak	Low motivation for conquest; plan for importing resources

Knowing the quality of the natural resources can help them determine the attractiveness of the territory as well as the availability of resources for building defensive positions. Knowing information about the resources, the inhabitants and the likely conditions they would face upon entering the land means a great difference in terms of the tactics that need to be employed to be successful in a military campaign as well as caring for their families until the campaign is successful. The quality of the natural resources can help them determine the attractiveness of inhabiting the territory. Knowing the quality of the land, the presence (or lack) of trees can help them determine the degree of motivation for military conquest as well as some of the strengths and limitations of actually living in that region after settlement.

There are other possibilities, too, which might be explored revealing possible strategies. In addition, these and other 2X2 matrices may reveal the key points of focus for managing the process of conquest.

The exploration of the land was not merely for strategic purposes. There were operational concerns and theological concerns in the sending of the spies. Political implications of environmental scanning reports are important. The selection of the spies is important for the purpose of this mission. The Israelite spies' report (self contradictory and false), the resulting reception by the people (mutiny and arrogant revolt) and the consequences that followed (punishment of death and a forty-year delayed conquest) demonstrate the enormous impact that honest and dishonest strategic reports can have on organizations. Just as important as falsely reporting conditions in Canaan, the spies failed to report items that could be an encouragement to the people.

The central theological issues of the passage are: (1) faith in an Almighty God who would be their ultimate source of victory; (2) the scope of God's purpose for the nation in the plan for fulfillment of the Abrahamic covenant. But the theological significance should not diminish the practical value of gathering the information. Movements of God's people have always involved a blending of Divine power and human action. Executive leaders have a responsibility to understand their environment and plan accordingly.

26 And they came to Moses and Aaron and to all the congregation of the people of Israel in the wilderness of Paran, at Kadesh; they brought back word to them and to all the congregation, and showed them the fruit of the land. 27 And they told him, "We came to the land to which you sent us; it flows with milk and honey, and this is its fruit. 28 Yet the people who dwell in the land are strong, and the cities are fortified and very large; and besides, we saw the descendants of Anak there. 29 The Amal'ekites dwell in the land of the Negeb; the Hittites, the

Jeb'usites, and the Amorites dwell in the hill country; and the Canaanites dwell by the sea, and along the Jordan." 30 But Caleb quieted the people before Moses, and said, "Let us go up at once, and occupy it; for we are well able to overcome it." 31 Then the men who had gone up with him said, "We are not able to go up against the people; for they are stronger than we." 32 So they brought to the people of Israel an evil report of the land which they had spied out, saying, "The land, through which we have gone, to spy it out, is a land that devours its inhabitants; and all the people that we saw in it are men of great stature. 33 And there we saw the Nephilim (the sons of Anak, who come from the Nephilim); and we seemed to ourselves like grasshoppers, and so we seemed to them."

“What is strange in the spies’ interest in the city of Hebron is what they do not mention. This is the burial place of Abraham and Sarah, Isaac and Rebekah, Jacob and Leah. Why would they not have said, ‘Here we arrived at the place where our fathers and mothers are buried. Where they lie, soon we shall live.’ Instead, they notice sizes of buildings and statures of persons.” (Gaebelein and Polcyn, 1990)

Lange (1879) was one of the first to point out the inconsistencies in the spies’ reports. He refers to two exaggerations: “eateth up its inhabitants. The strange expression would say: they so press one another for its possession that they grind each other up. A second exaggeration: all the people that we saw in it were men of great stature. And still further they contradict themselves: we also saw giants there. . . In the last exaggeration was manifested the extravagance of the cowards: we were in our own sight as grasshoppers...”

In response to their evil report and their strong-willed defiance of God’s message through Moses, the people received a punishment which was to keep them in the desert for many years.

**TEACHING POTENTIAL**

This passage offers several points that can be achieved during teaching of the 2X2 matrix and environmental scanning:

- Using a passage such as this provides the instructor with a wonderful opportunity to focus on the theological intent of the passage. The central issue of the passage turns out to be faith in an Almighty God who would be their ultimate source of victory. Here the instructor can focus on the what appears to be an integration of God's presence with every aspect life during ancient times. This can be contrasted with a more segmented view of life in contemporary society. "From first to last, the authors of the Hebrew Bible sought to advance a fundamentally theological view of reality. Biblical literature constantly juxtaposes God and man. It attests that Hebrew man felt keenly the impact of God on his life and that the deity was himself strongly affected by the ways of this people, Israel, whom he had called." (Kuntz, 1974) Ironically, as this story shows, even in an ancient society that values the presence of God active in all of life, the people still had difficulty integrating faith and life (as we might define it today).
- While six critical success factors are listed in the passage, the passage does not say that Moses constructed a 2X2 matrix to use in decision making. This is, after all, an illustration of the kinds of strategic management issues that lend themselves to 2X2 matrix thinking.
- Knowledge of the critical success factors related to invasion of Canaan is built on other strategically relevant knowledge: "bring some of the fruit of the land. Now the time was the season of the first ripe grapes." (v. 20) It is not just any two bits of strategically relevant information that can be meaningfully combined into a



matrix that will automatically lead to a strategic decision. Rather, it is wisdom born of years of experience, that informs the leader which issues are truly strategically relevant.

- Using a 2X2 matrix is not a mechanical method to get at the one right strategy. Rather it is a mental device to sort through strategically relevant issues that are either in direct, either-or opposition or are in complementary opposition where each element of the matrix is qualitatively different yet interdependent in a strategically relevant way (Lowy and Hood, 2004).
- This passage illustrates the importance of focusing on strategically relevant features of the environment. The number and strength of rivals has long been considered an important industry feature that will affect what a company does in terms of strategic management (Porter, 1980). Identifying key strategically relevant features “promotes an understanding of the kinds of strategic moves that industry members are likely to employ.” (Thompson, Gamble and Strickland, 2004)
- This passage is an interesting illustration of 2X2 intuition if seen through the eyes of Western strategic thinking. To get to this illustration, one must take a degree of license with interpretation of Scripture that some will find less than satisfying. Although the Bible contains many references to business related topics, at this time I do not see it as a business handbook per se. Rather, it is primarily a theological in nature.
- The belief that God is the ultimate source of conquest victory should not diminish the value of gathering the environmental information. Movements of God’s

people have always involved a blending of Divine power and human action.

Executive leaders have a responsibility to understand their environment and plan accordingly.

- As Kuntz (1974) points out in terms of the arts, “Western culture has been informed by the Bible in many ways.” He adds to this his belief that
- Questions about who is the best person to lead the organization naturally arise during serious discussions of strategy (cf. Miriam and Aaron’s insubordination).
- While elements of the external environment are objective, it is perception of the environment that is the dominant influence in strategy formulation. (Cf. Downey and Slocum, 1975)

## CONCLUSION

Teaching environmental scanning at the undergraduate level is integral to the study of business strategy and organizational theory. The 2X2 matrix is a tool that can be used to help students understand strategy- and organizational-related concepts. Having a passage such as Numbers 13, 14 and Deuteronomy 1 is an interesting illustration of the power of the 2X2 thinking patterns that can be employed when scanning the environment.

What is missing from the environmental analysis in the Kadesh experience is the tension between the two poles of whether or not God is leading Israel to conquer Canaan at that time and in that manner.

Numbers 13 and 14 is the first example this author could find where clear elements of environmental analysis are laid out in a fashion conducive to 2X2 matrix

thinking and problem solving. This is not to suggest that this passage's intent was to teach this point about environmental scanning as a business activity. Rather, it is simply illustrative of the fact that the intuitive wisdom of Moses includes the same type of strategic thinking patterns that might be used today when considering a major marketplace action.

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