

PEST ANALYSIS OF THE ENVIRONMENT

Another tool, the PEST analysis, helps you examine conditions much more broadly than does the five forces analysis. *PEST* stands for *political, economic, social, and technological*, the four perspectives from which the process examines the environment. (Some authors have added *environmental* and *legal* to form the acronym *PESTEL*; for our purposes, however, environmental and legal matters fall under the political, because both areas tend to be politically charged and regulated in healthcare.) The purpose of a PEST analysis is to look at the macroenvironment that affects the industry in which the organization competes.

The timing and success of particular strategies can be influenced positively or negatively by political, economic, social, and technological factors within the industry. The strategic analyst studies the macroenvironment both as an input to strategy and as a limiting factor on strategy. Strategic inputs may involve issues identified in an environmental analysis that lead to opportunities for an organization (e.g., a huge influx of China's rural population into urban areas, leading to an increased need for modern urban medical services). Other findings may limit opportunities for an organization's strategy (e.g., low disposable per capita income in Zimbabwe limits the ability of residents to afford advanced medical services). Imagine you are considering building a plastic and reconstructive surgery center in a small, rural Alabama community. A PEST analysis might show that, though some people in the area have sufficient resources to pay for reconstructive surgery, such people are not the norm; therefore, that area might not be a suitable place for such a facility. The environment can be analyzed at multiple levels depending on business need. One could perform a PEST analysis on a single state (California), country (Colombia), trading block (European Union), or region of the world (South America).

For example, an organization considering the acquisition of a California healthcare business might perform a PEST analysis of the state. The organization would want to understand all the political implications of doing business in California. Such implications might include a high minimum wage, an excessive tax structure on both individuals and organizations, state Occupational Safety and Health Administration (OSHA) requirements that exceed federal OSHA requirements, environmental regulations, a legislature less friendly to business, and so on. These factors need to be analyzed and included in the decision regarding whether to buy the business. Some of these issues will increase the cost of doing business in California; as a result, the acquirer would need to adjust its break-even point on the acquisition and develop strategies to compensate. Other PEST factors may help offset the political concerns, such as ease of access to new technology partners in Silicon Valley.

To perform a PEST analysis, the analyst considers each PEST factor one at a time. The analyst identifies the macroenvironmental issues that influence each factor, how

EXHIBIT 7.1**Questions to Consider in a PEST Analysis****Political**

1. How stable is the political environment you are analyzing?
2. How will government policy influence your ability to do business and make a profit?
3. What is the risk of war, conflict, civil unrest, or trade wars?
4. How favorable are the existing tax laws regarding your industry and, potentially, your business?
5. What is the government's position on financial reporting and corporate transparency?
6. What is the government's economic policy?
7. What impact does religion have on government and law?
8. Does the location belong to international trade agreements such as the United States-Mexico-Canada Agreement, European Union, the Association of Southeast Asian Nations, or the Southern Common Market in South America?
9. Will tax policy encourage or discourage business? Is it stable?
10. What kind of employment laws are in place?
11. What are the existing environmental regulations, and how are they trending?
12. What is the dominant political ideology?
13. What are the trade restrictions and tariffs?

Economic

1. What are the short-, middle-, and long-term prospects for the economy?
2. What is the average disposable income, and how is income distributed?
3. What are the interest rates?
4. What is the rate of inflation?
5. What employment trends have appeared in recent years?
6. What are the exchange rates?
7. What is the gross domestic product per capita?
8. Is the economy predicted to be in a state of growth, stagnation, or recession?
9. What is the weather trend and impact on work, people, and economics?

Social

1. What are the cultural aspects of the area you are analyzing?
2. What are the roles of men and women in the society?
3. What is the demographic distribution of the population?
4. What are the population growth trends?
5. What is the dominant religion?
6. What is the social and religious view of healthcare? Does this change according to age or geography?
7. What are the work ethics and career attitudes of the area?
8. How is education valued?
9. How much time do residents have for leisure?
10. What is the role of the media, and what is the level of freedom of the press?
11. What attitudes exist toward foreign companies and products?
12. How does language affect such things as employment and advertising?
13. What is the influence of tradition, and who are the keepers of tradition?
14. Which individuals are regarded as role models, and what are the society's ideals?
15. What is the popular view of the environmental impact of industry?
16. What are the major lifestyle trends?

Technological

1. Does the location have available technology infrastructure?
2. Does the location have available technological resources?
3. Does the area have reliable access to the internet?
4. What is the area's overall research and development investment rate?
5. How advanced is the manufacturing capability?
6. Can products or services be produced more cheaply there because of technology?
7. Is technology available to produce high-quality products and services?
8. Do consumers and businesses take advantage of, and demand, technology?
9. Is technology sufficient to allow for effective distribution systems?
10. Does technology give consumers the ability to shop suppliers?
11. What is the rate of technological change?
12. How advanced is the educational capability?



each issue affects the organization, and the implication of each issue relative to strategy. Implications for strategy answers the question, “What should I be thinking about when I develop strategy?” You have identified an issue and the impact of the issue on the company; next, you need to identify the implications of that issue for developing strategy. Does the issue limit your strategic options? Expand them? Will the issue cause the company to spend huge amounts of cash dealing with it?

As discussed in Chapter 6, the key here is to avoid making specific strategic recommendations in the implications for strategy section. If you write a specific strategy, you shut out all other possible strategies (i.e., you limit your strategic options). Exhibit 7.1 lists some questions to consider when performing a PEST analysis.

Exhibit 7.2 provides an example of an analysis focusing on technical factors in the healthcare industry. Note again that “implication for strategy” is different from “strategy.”

Environmental Issue Affecting the Industry	Impact on Organization	Implication for Strategy (What We Should Think About When Developing Strategy)
Robots are entering the operating department and are capable of performing precision work (Landro 2018).	Utilization of robots is improving our patient outcomes, leading to higher reimbursement.	Competitors are adopting and utilizing robots more rapidly than we are.
Children are experiencing increased social isolation because of high technology use, which is causing a rise in psychological problems (Blumenthal 2018).	Our psychiatric unit is experiencing higher than historical levels of admittances.	Our psychiatric unit might provide revenue that could be reallocated to fund other strategies.
Magenta Therapeutics and other startups are embracing stem cell transplant technology such as MGTA-456 treatment, which boosts cord blood stem cell numbers by more than 300 times (Winslow 2018).	None, as we have not availed ourselves of this advanced technology.	Advanced stem cell therapies hold significant competitive advantage opportunities.
Artificial intelligence (AI) developments are being aimed at assisting the blind (Kornelis 2018).	The cost of this technology is prohibitive so our patients are going elsewhere.	The market for AI is expanding rapidly, thus providing us with many strategic opportunities.
Chatbots, robots, and digital assistants such as Alexa and Siri are helping the elderly stay healthy (Moise 2018).	None, as we don't have the equivalent of an Alexa app.	Opportunities are expanding for healthcare apps within products such as Alexa.
Sensors, tablets, and other devices are extending the lives of patients with dementia (Wang 2018).	We are not in this space.	Opportunities exist to incorporate device technology into long-term treatments.

EXHIBIT 7.2
PEST Factor Analysis
Example:
Technical



EXHIBIT 7.2

PEST Factor
Analysis
Example:
Technical
(continued)

Environmental Issue Affecting the Industry	Impact on Organization	Implication for Strategy (What We Should Think About When Developing Strategy)
Crowd-funding platforms such as Kickstarter are opening to healthcare entrepreneurs (Constable 2018).	We are not in this space.	Cutting-edge technology may be available to us before our competitors through crowd funding.
Higher-quality video conferencing technology is leading to an increase in diagnosis over cell phones (Evans 2018).	Our broadband access points are slowing because of increased use of video conferencing that is using up our bandwidth.	Must be aware that the general population is shifting away from use of computers and toward cell phones.
Data breaches at major corporations suggest that hackers may target healthcare facilities soon (Harris 2018).	Increased expenditures to protect patient financial and personal data.	Any strategy must take into consideration exposure to technology hacking.
Detailed technological surveillance of physicians is decreasing human errors and reducing preventable mistakes (Ward 2018).	We have not used this technology and the cost to do so could drain money from other projects.	Potential strategies can include adding physician surveillance.
New technology for DNA sequencing is speedier and enabling diagnoses and treatments that can save sick babies' lives (Linden 2018).	Our patients are beginning to request DNA testing.	Our patients are beginning to request DNA testing.
Technology is saving the lives of patients who, in the past, would have been declared dead (Marcus 2018).	We have had three lawsuits over the determination of death in the past year.	Any strategy should take into consideration the fact that patients' families may use technology to overrule our determinations.
Bitcoin block chain digital ledger technology is being used to organize healthcare records (Geron 2018).	Our accounts receivable department has been struggling with collecting payments from self-pay patients, and this technology could improve our collections.	Leveraging Bitcoin technology can help reduce the administrative burden in future strategies.
Technology is enabling nurses to meet with patients online (Holland 2018).	Our efficiency and patient throughput could be improved by shifting nurse-patient contact online.	Technology to meet with patients online can make future strategies more efficient and productive.

An implication for strategy identifies a broad possibility and allows for future brainstorming of many strategies that could be used to respond to that possibility. By contrast, identifying a particular strategy at this point ends the discussion and shuts out other possible strategies.

Analysts often think of the PEST technology issue as referring to high technology, as exemplified earlier, but keep in mind that technology can also refer to low-technology issues. For example, consider this: The lack of interstate road structure in rural America makes it difficult for rural patients to access distant specialty healthcare. In this example, interstate road structure is a low-technology issue but, nonetheless, falls in the technical category.

Case Study Example

Consider the following scenario, drawn from *The Wall Street Journal* (2018):

On March 23, 2010, Congress passed and President Obama signed into law the Patient Protection and Affordable Care Act (also known as the ACA). One aspect of this law is that it changed the income thresholds for Medicaid eligibility to extend to people who make up to 133 percent of the poverty line, which resulted in the addition of many Americans to the Medicaid rolls. Each state manages its own Medicaid program, and each state has extensive authority to determine who qualifies for it. After the Supreme Court issued its ruling in *National Federation of Independent Business v. Sebelius*, states no longer had to conform to this 133 percent level and could instead continue with their pre-ACA requirements.

Many of Ohio's residents live in rural communities. Their average income is low, and as a result of the Medicaid income threshold's being set at 133 percent of the poverty line, 21.4 percent of Ohio's population qualifies for Medicaid. In these rural areas, Medicaid is the primary insurer. Ohio outsources its Medicaid prescription drug benefit management to five managed care organizations (MCOs). Four of these five MCOs outsource their drug benefits management to CVS Caremark, which happens to operate a pharmaceutical benefit manager (PBM) business that acts as a middleman between drug manufacturers, pharmacies, and insurers. The PBMs decide which drugs are listed on a formulary, how much money pharmacies are reimbursed, and how much insurers will pay.

Rural Ohio has few big box chain pharmacies. Instead, there are many small, independent, and family run drug stores. Medicaid is the primary insurer. *The Wall Street Journal* spoke with eight current or former independent pharmacists in Ohio who complained that CVS has used its PBM ability to set drug prices at a level below the pharmacists' wholesale drug costs. Thus, these independent pharmacies lose money on each of the prescriptions they fill for the majority of their customers. For so many of these local drug stores, the only options appear to be filing for bankruptcy or selling out to CVS, which then closes the drug store, forcing customers to choose between skipping their medications and, if they are able, driving long distances to purchase them.

The Wall Street Journal interviewed Dominic Bartone, a pharmacist for 41 years. He operated two pharmacies in Lebanon, Ohio. After CVS cut payment rates, these pharmacies began taking a loss on between 40 and 50 prescriptions a day. Eventually, Bartone sold the stores to CVS. Between May 2015 and May 2018, Ohio lost 164 independent pharmacies while CVS has added 68.

Now, reconsider the same article from a PEST analysis perspective (where P = political, E = economic, S = social, and T = technical):

On March 23, 2010, Congress passed and President Obama signed into law the Patient Protection and Affordable Care Act (also known as the ACA) (P). One aspect of this law is that it changed the income thresholds for Medicaid eligibility to extend to people who make up to 133 percent of the poverty line (E), which resulted in the addition of many Americans to the Medicaid rolls (S). Each state manages its own Medicaid program, and each state has extensive authority to determine who qualifies for it (P). After the Supreme Court issued its ruling in *National Federation of Independent Business v. Sebelius*, states no longer had to conform to this 133 percent level and could instead continue with their pre-ACA requirements (P).

Many of Ohio's residents live in rural communities (S). Their average income is low (E), and as a result of the Medicaid income threshold's being set at 133 percent of the poverty line, 21.4 percent of Ohio's population qualifies for Medicaid (S). In these rural areas, Medicaid is the primary insurer (E). Ohio outsources its Medicaid prescription drug benefit management to five managed care organizations (MCOs) (P). Four of these five MCOs outsource their drug benefits management to CVS Caremark (E), which happens to operate a pharmaceutical benefit manager (PBM) business that acts as a middleman between drug manufacturers, pharmacies, and insurers. The PBMs decide which drugs are listed on a formulary, how much money pharmacies are reimbursed, and how much insurers will pay (E).

Rural Ohio has few big box chain pharmacies. Instead, there are many small, independent, and family run drug stores (E). Medicaid is the primary insurer. *The Wall Street Journal* spoke with eight current or former independent pharmacists in Ohio who complained that CVS has used its PBM ability to set drug prices at a level below the pharmacists' wholesale drug costs (E). Thus, these independent pharmacies lose money on each of the prescriptions they fill for the majority of their customers (P). For so many of these local drug stores, the only options appear to be filing for bankruptcy or selling out to CVS, which then closes the drug store, forcing customers to choose between skipping their medications and, if they are able, driving long distances (T) to purchase them (S).

The Wall Street Journal interviewed Dominic Bartone, a pharmacist for 41 years. He operated two pharmacies in Lebanon, Ohio. After CVS cut payment rates, these pharmacies began taking a loss on between 40 and 50 prescriptions a day. Eventually, Bartone sold the stores to CVS. Between May 2015 and May 2018, Ohio lost 164 independent pharmacies while CVS has added 68 (E).

Clearly, political, economic, social, and technological issues exist in all industries. One must look closely to extract the information. When considering a PEST analysis, keep in mind that the PEST factors in an industry are multifaceted. They can be obvious or obscure, customer focused or inwardly focused, high tech or low tech.

Consider the breadth of the technological factor (T) in the aerospace manufacturing industry, using the recent case of the Boeing 737 MAX as an example. Boeing manufactures airplanes for the commercial airline industry. In 2017, Boeing released an updated version of the widely flown 737 model called the 737 MAX.

In October 2018, Lion Air Flight 610, a 737 MAX, crashed, killing all aboard. In March 2019, a second 737 MAX crashed in Ethiopia, also killing all aboard. Aviation experts found similarities between the crashes. The technology involved in designing the airplane, and more specifically the software that runs and monitors the flight control system, seemed to be a probable cause.

From a human factors technology perspective, one "senior Boeing official said the company had decided against disclosing details about the [flight control technol-

ogy] system that it felt would inundate the average pilot with too much information *and significantly more technical data* than he or she needed or could realistically digest,” according to an article by Pasztor and colleagues (2019).

The consumer response, enabled by technology, was swift. Twitter was ablaze with anti-Boeing and anti-737 MAX tweets and #737MAX8 hashtags demanding the immediate grounding of this airplane model. Soon thereafter, the Federal Aviation Administration grounded all 737 MAXs in the United States. As of May 2020, the airplanes were still grounded.

On March 24, 2019, American Airlines, like other airlines, posted a statement on its website:

American continues to await information from the Federal Aviation Administration (FAA), Department of Transportation (DOT), National Transportation Safety Board (NTSB), other regulatory authorities, and Boeing, that would permit the 24 Boeing 737 MAX aircraft in our fleet to resume flying.

In an effort to provide more certainty and avoid last minute flight disruptions, American has extended cancellations through April 24. This will result in the cancellation of approximately 90 flights each day based on our April schedule. By proactively canceling these flights, we are able to provide better service to our customers with availability and rebooking options.

American’s Reservations team will contact affected customers directly by email or telephone. We know these cancellations and changes may affect some of our customers, and we are working to limit the impact to the smallest number of customers.

While the PEST analysis is *industry* focused, not company focused, the Boeing incident demonstrates how different dimensions of technology can play a role in the aviation manufacturing industry. Technology in this industry affects the design, development, manufacturing, flight, customer, corporate response, and consumer response to name a few issues. The Boeing accidents demonstrate the impact of technology not just for Boeing but for the industry as a whole, a factor that, in this situation, was literally a matter of life and death for stakeholders from airline passengers to medical freight transportation companies.

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Use the PEST table below to list the issues, impacts, and strategic implications for your industry.

PEST	Environmental Issue Affecting the Industry	Impact on the Organization	Implication for Strategy (What We Should Think About When Developing Strategy)
Political	1.		
	2.		
	3.		
	4.		
	5.		
Economic	1.		
	2.		
	3.		
	4.		
	5.		

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PEST	Environmental Issue Affecting the Industry	Impact on the Organization	Implication for Strategy (What We Should Think About When Developing Strategy)
Social	1.		
	2.		
	3.		
	4.		
	5.		
Technological	1.		
	2.		
	3.		
	4.		
	5.		