

BUSINESS ENVIRONMENT ANALYTICS

PART

I

Do not copy, post, or distribute

Copyright © 2025 by Sage Publications, Inc.

This work may not be reproduced or distributed in any form or by any means without express written permission of the publisher.

Do not copy, post, or distribute

1

THE EXTERNAL ENVIRONMENT OF A BUSINESS

CONTENTS

- 1.1 What Is a Business?
- 1.2 Internal and External Environment of a Business
 - 1.2.1 Macroeconomic Environment
 - 1.2.2 Competitive Environment
 - 1.2.3 Political Environment
 - 1.2.4 Technological Environment
 - 1.2.5 Sociocultural Environment
- 1.3 Using Analytics to Understand the Business Environment

LEARNING OBJECTIVES

- 1. Understand the importance of internal and external business environments
- 2. Be aware of the external business environment
- 3. Learn the macroeconomic, competitive, political, technological, sociocultural business environment
- 4. Use algorithms to understand the influence of external environment on a business

1.1 WHAT IS A BUSINESS?

What is common to Walmart, Amazon, Godiva, FedEx, and Unilever? They all appear very different, but they are the same on one dimension: They are all businesses. However, if we ask what exactly is a business, what is its main aim, and what are its functions, we may hesitate because a business seems to mean many different things. Since this book is about how analytics affect and improve business decisions, it is important to first know what constitutes a business. Then we can learn the different business decisions and how we can improve them with statistical and machine learning methods. So let's begin by finding out what a business is: A business

produces and sells products and services to customers. Products can be goods like toothpaste, chocolate, backpacks, or cars, while services are more intangible such as financial advice, airline transportation, and appliance repair.

The main aim of a business is to create value for its many stakeholders. Value can be thought of in terms of profits for shareholders if the business is a publicly traded company or profits for its owners if it is a simple mom-and-pop business such as a restaurant. Value for employees can take the form of good working conditions and fair remuneration. For consumers, value lies in the quality of products or services that a business offers. If consumers spend money to buy a product, they should be happy—the word commonly used in business is *satisfied*—with the product. We hear the term *value for money* in a business setting because it is used by firms to find out whether its consumers are satisfied with what they have received.

In order to provide value to their stakeholders, businesses separate their functions broadly into five divisions. Marketing handles developing products, setting the right price, finding the right location online or offline to offer the product, and finally persuading consumers to buy. The financial division deals with all financial decisions ranging from forecasting, to controlling, to evaluating the long-term performance of the business. Accounting is closely aligned with finance because it audits the financial decisions made by a business, including keeping track of the day-to-day flow of money, complying with tax laws, and creating periodic financial reports. Human resource management ranges from hiring, motivating, and firing decisions to determining the organizational structure of a business. The supply chain (or operations) is concerned with setting up and maintaining the optimal production and distribution system to get products from the business to consumers.

1.2 INTERNAL AND EXTERNAL ENVIRONMENT OF A BUSINESS

A business has multiple functions, and one can become very involved with factors that are internal to the business. It is easy to focus on designing a new product or introducing a product in a different country in order to create value. However, it is also important for a business to keep a close watch on factors that are external to it. Businesses do not exist in isolation; they are affected by several factors that are not in their control.

Walmart's experience in India highlights how changes in the global marketplace can affect decisions. Walmart enjoyed much success in the Indian market and had an optimistic forecast, given its joint venture with online retailer Flipkart and the growing number of consumers buying online. However, the Indian government imposed regulations that restricted brands from selling exclusively on any specific online site—for example, Flipkart. This created concerns for Walmart because it had in the past negotiated for such exclusive selling rights with certain brands. Hence, political and legal forces can impact the profit potential of a business that operates globally. What Walmart experienced in India is one among myriad factors that make up the external environment of a business firm. These include macroeconomic, competitive, political, technological, and sociocultural factors that can significantly influence business decisions. A firm needs to monitor the external environment to see how it can affect the firm's ability to create value for all its stakeholders. In this section, we will briefly go over some of the important factors that can alter the external environment of a business.

1.2.1 Macroeconomic Environment

Macroeconomic conditions such as levels of employment, minimum wages, interest rates, and inflation rates can all help or hurt the growth of a business. Economic boom times are characterized by increases in business activity, resulting in greater buying and selling, less competition among firms, and consumers with greater disposable income. The stock market does well during boom times, and people have more money to spend, which in turn helps the economy grow. More companies come into existence to cater to growing consumer demands, and an upturn in one business can even fuel upturns in other businesses. For instance, a boom in oil extraction in southeastern New Mexico led to positive effects on the railroad industry starting in 2017. Oil and potash needed to be delivered quickly to oil-extraction areas, and railway cars were the most efficient for this task, resulting in railroad activity nearly tripling in the area. The increased railroad activity in turn resulted in several miles of rails being replaced and maintained, which meant the creation of more jobs.

Conversely, recessions are caused by contracting business activities and greater competition among firms, resulting in businesses becoming less profitable. Recessions also cause shrinking job prospects for people, which translate into higher rates of unemployment. The lack of jobs results in a surplus of skilled employees, which in turn shrinks wages. Many of the macroeconomic factors tend to rely on each other. For instance, the stock market can rise when the monthly job market report indicates a low unemployment rate, showing that the economy is doing well and is able to employ people well.

1.2.2 Competitive Environment

Competition is part and parcel of any business endeavor. If there is enough demand for a product, very soon there will be many firms offering similar products. An important objective of a firm is to compare its performance with that of its competitors. A growth rate of 7% is phenomenal if competitors are on average growing only at 2% but is disappointing if competitors are growing at 15%.

Competitors help provide a firm benchmark on multiple dimensions. They help determine how to price the product—a product with a higher price should offer significant advantages over similar products in the marketplace; where to sell the product—a strong offline competitive presence can help a business establish itself online; and whom to target—recruiting customers who are not loyal will result in low retention.

Consider how the competitive environment is changing for the packaged food industry. We are seeing a current trend of increased sales of packaged foods online. Packaged, as opposed to fresh, food is less perishable and has a longer expiration date, which makes it an attractive buy online. In brick-and-mortar stores, brands from Mondelēz, McCormick, and Smucker's are considered to be leaders. When these brands compete online, their competitive landscape is different because of companies like Amazon. Not only does Amazon have a huge online presence, but it also has its own private-label brands. Of course, Mondelēz and Smucker's are competing offline with private labels such as Costco's Kirkland label and Walmart's Great Value label, but several factors are likely to be different online. Amazon doesn't share the same type of store

brand image as Walmart, so the tactics that Mondelēz and Smucker's need to use online must be very different from those they use in Walmart stores; this includes how they target consumers, how they advertise their products, and how they determine what type of promotions to use.

1.2.3 Political Environment

The basic way the political landscape can affect a business is by whether or not there is political stability in a nation. Political instability results in major upheavals that disrupt business functions, consumer spending, taxes, and policies. For instance, a change in the political leadership can result in tax increases for certain industries but lower taxes for others. If we consider the example of governments trying to reduce the level of pollution, we see some nations giving major tax breaks for electric vehicles while other nations seem less motivated to do so. Google and other internet providers face financial, legal, and ethical issues when they operate in countries that may want to have more control over the flow of information among citizens. In such countries, internet providers need to navigate political entities, often in times of change, in order to function successfully without running into trouble.

1.2.4 Technological Environment

The technological environment can influence many business functions because of the introduction of new technology. Some changes in the technological environment can fundamentally alter a business. An interesting example is BlackBerry. It was the pioneer in the smartphone industry and in 2008 was soaring high, with a net worth of \$75 billion. However, the iPhone, introduced in 2007 and criticized for not having many safety features, took over the market rapidly—so rapidly that by 2015 BlackBerry's valuation had fallen to less than \$7 billion. The reason was that BlackBerry underestimated the user experience that the iPhone provided with its touchscreen, better browser, camera, apps via Apple iTunes, and virtual keyboard. Uber and Airbnb—which revolutionized the transportation and hotel industries, respectively—are classic examples of how new companies can affect markets. In 2010, Uber picked up its first passenger in San Francisco and successfully used smartphone technology to leverage its business. In 2019, it was uncommon not to find an Uber or Lyft (its competitor starting in 2012) app on people's smartphones.

In the automobile industry, we are witnessing a unique example of how technological change can alter an entire industry. While self-driving cars are still some time away from being widely available, there is a heated race going on among automobile companies. Many are acquiring smaller self-driving startups or opening their own research and development facilities in Silicon Valley. The goal is to ride the wave of technological change and not miss it.

1.2.5 Sociocultural Environment

Most of the time, a firm offers its products and services to people. Since people live in a society, their choices reflect the social norms and values that are prominent in their cultures. For instance, what factors should Starbucks consider when entering a tea-drinking market like China? Should McDonald's reconsider its menu options in India, where the majority of the population would never consider beef burgers?

In order to respect the cultural norms of the Indian market, McDonald's separated sections in its kitchen to prepare vegetarian versus meat-based meals. The company even has vegetarian-only restaurants near pilgrimage destinations to cater to people's needs. This is a big change from the way meals have been prepared in previous McDonald's outlets and shows the power of social forces in the marketplace.

Social factors like health consciousness have also changed many product-line decisions in the United States. Why did McDonald's introduce its line of healthy meals? People like fast food because it is tasty. But movies like *Super Size Me* have depicted the harmful effects of eating unhealthy foods, especially fast foods that may have a greater percentage of calories from fats and higher sodium content. The discussion of health effects—such as obesity-causing diabetes, heart problems, and even some forms of cancer—has made healthy eating both a medical issue and a social issue. Healthy eating started affecting people's lifestyles because people realized that the food they were eating and the outlets they were buying from could determine their well-being. McDonald's aims to make its Happy Meals no more than 600 calories, which makes them less calorie rich and more nutritious. The company is reducing the sugar in its chocolate milk and making bottled water, rather than only sodas, one of the featured beverages on its Happy Meal menu list. The introduction of healthy menu options by McDonald's and the popularity of Subway reflect a social factor that has wrought changes in business activity.

1.3 USING ANALYTICS TO UNDERSTAND THE BUSINESS ENVIRONMENT

Analytic methods can help a business better understand the influence of factors that are external to it. For instance, methods can forecast what businesses can do during recession and boom times by having an accurate idea of their cash flows, anticipating how much cash reserve they have and how much they will need, and which business activities they can grow and which they can trim down. For many businesses, taking a look at past data gives them accurate forecasts of what they need to do in the future. They can create what are commonly known as counterfactuals—that is, examining different scenarios by changing macroeconomic variables and looking at the outcomes.

Another area where we see greater use of analytics is on social media platforms such as Facebook, X (previously Twitter), and LinkedIn. These forums have revolutionized how people interact with businesses. Activities such as advertising and publicity that used to be more firm controlled have become more people controlled. Before the advent of the internet, it was said that happy customers tell only three others about their experience or recommend the product, but unhappy customers tell at least ten customers about their bad experience. In a socially connected world, one customer can influence the choices of hundreds of other customers. A *like* endorsement from a friend on Facebook can be a more powerful persuader than firm-sponsored advertisements or promotions. Businesses can leverage the millions of texts produced on social media sites to gather insights into what people are saying about their brand, product, or services and how customers perceive a brand vis-à-vis its competitors.

In the next three chapters, we will discuss how specific analytic methods can help businesses understand the impact of environmental factors that are not in their control.

Do not copy, post, or distribute