Zeo, Inc.

The more you know, the better you sleep.™

Newton, Massachusetts

As students at Brown University in 2003, Eric Shashoua, Jason Donahue, and Ben Rubin shared a problem common to students of every generation: sleep deprivation. Each tried to pack as much as possible into every day with the *least* possible amount of sleep. The result was predictable: They had trouble getting up in the morning and staying alert in class.

One of the three had, through his coursework, become aware of a study commissioned by NASA during the 1960s. That study focused on the human sleep cycle. It identified points in the cycle at which a person would be most alert if awakened. For the three friends, NASA's findings seemed to have practical utility. If they could wake up at the right point in their sleep cycles, they would be less groggy and more effective in the classroom. They could continue cheating the gods of sleep, but with fewer negative consequences. Reasoning that an effective solution would benefit the millions of people who, like them, were burning their candles at both ends, the three set out to build a company around that solution. "We saw ourselves as the target market," recalls Jason. "That market had to be large since companies were pushing caffeine products and special drinks, like Red Bull, to help people stay alert."

Six years on, the college friends were still together, but now as founding executives of Zeo, a business dedicated to a somewhat larger mission: to help people get a better night's sleep. During those years they had raised $14 million, invented a way to track sleep comfortably, and developed and launched a consumer product that was gaining nationwide awareness. And although they were sleeping better than they had in college, they were now dealing with other issues. Zeo was no longer a three guys' college project. It was now a fast-growing enterprise with an increasing number of employees with specialized skills, experiences, and reporting relationships. An older, seasoned CEO was at the helm, and the focus of the enterprise's energy had shifted from developing and launching a product to expanding sales and satisfying customers.

Unsurprisingly, this evolution in the company's life was affecting the founders and their roles in the company. To evolve with the company's needs and contribute as leaders, they had to continue to grow professionally, learn new skills, and step up to new challenges. How would the founders evolve and grow to meet the different needs of the company?

The Sleep Problem/Opportunity

Most people take sleep for granted. Yet 30–50% of the adult U.S. population reports difficulty in sleeping.[47] In a 2005 poll of adult Americans, 24% of respondents reported getting "a good night's sleep" only a few nights *per week*, and 13% reported getting that good night's sleep

---

This case was written by Professor Edward Marram and case writer Richard Luecke as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

only a few nights *per month*. Another 13% told pollsters that they *rarely or never* had a good night's sleep.[48]

Sleep problems can have detrimental effects on a person's attentiveness, work and academic performance, and even relationships. Even so, only 8% of people speak with their primary care physicians about their sleep problems. And few doctors bother to ask. By one estimate, less than 20% of doctors ask patients how well they are sleeping as part of their annual physical exams. This "don't ask, don't tell" situation results in millions of people living with their sleep problems for years and years without relief.

For a minority of sleep-deprivation sufferers, the underlying cause can be traced to one or another medical condition.[49] The medical establishment has responded to these with various forms of clinical diagnoses and therapy. Its primary diagnostic tool is the sleep laboratory, a specially equipped room in which individual patients are observed and monitored by means of polysomnography (PSG)—the gold standard of sleep diagnosis. In the United States, a small number of board-certified sleep specialists (approximately 5,000) attend to the millions who suffer from medical conditions that interfere with normal sleep.

The majority of people with sleep problems, however, have no underlying medical issues. Their difficulties often stem from work or lifestyle choices. These individuals include students, hospital physicians and nurses, shift-workers, people struggling to meet deadlines, long-haul truck drivers, hard-driving professionals, and heavy consumers of caffeinated products and alcohol. Sleep deprivation for them often results in drowsiness and reduced cognitive performance, and a greater susceptibility to accidents at work and on the highway.

It was this market, estimated at 70 million people in the United States alone, that Zeo aimed to serve. From the beginning, the company has made it clear that its product is not intended for the diagnosis or treatment of sleep disorders and warned customers that "If you suspect that you may have a sleep disorder, consult your physician." Zeo did not intend to compete with medical devices, sleep laboratories, or medical practitioners.

Building the Company

When they formed Zeo in December 2003, Eric, Jason, and Ben knew little about sleep science or sleep medicine. Eric, a senior, was studying computer science and French; Jason, then a junior, was majoring in business and Chinese. Ben, a junior majoring in computer engineering, was recruited later through a campus job posting. Brown University, however, was a leading center for the study of sleep and sleep medicine, so the team worked hard to build relationships with the University's sleep experts and to learn from them and from other campus resources. In time they would expand their relationships and learning to a broader network.

Initially, the business opportunity was narrowly defined around the concept of SmartWake™, a technology used to track sleep and identify the optimal times for awakening someone refreshed and alert. To accomplish this, they would have to build a device capable of accurately monitoring and recording a person's sleep stages (wake, light sleep, REM, and deep sleep). They would do this by developing a comfortable, wireless sensing device that the customer would wear on his or her forehead during the night. The technical breakthrough that made this possible was a dry fabric sensor material developed by the team. The device itself would detect and transmit vital data to a bedside receiver/monitor, which would store and later array the information in a manner that a lay person could easily interpret. Ben initially estimated that he could develop a testable prototype over the school's Christmas break. In fact, the job took over two-and-a-half years.