

Sustainability Initiatives at Taylor Guitars

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Abstract. This case study is based on Taylor Guitars' decisions about whether to invest in two sustainability projects presented in 2018. Since acquiring an ebony mill in Cameroon in 2011, the company established a strong reputation for ethical sourcing through conservation and replantation efforts for ebony wood. The first project involved sourcing wood that was planted and was abundant in local municipalities across the state of California. The second project under consideration involved acquiring land on Hawaii Island for forest regeneration, with the goal of providing a plentiful supply of Hawaiian koa in 30 years. The accompanying teaching note includes guidance for instructors leading discussions, discussion questions, and potential answers to provide a thorough understanding of the opportunities and challenges for companies pursuing ethical sourcing.

Keywords: sustainability, ethical sourcing, supply chain management, natural resources.

1. Introduction

An average acoustic guitar was made of four or five different types of wood sourced from both tropical and temperate regions around the world. As the Director of Natural Resource Sustainability at Taylor Guitars, Scott Paul was responsible for ensuring the company's long-term, sustainable supply of high-quality woods for premium acoustic guitars. However, wood supplies worldwide were facing increasing sustainability challenges because hundreds of years of unsustainable practices had taken their toll on the global forest estate. As a result, new policies and restrictions at the national and international level would likely govern forest management and put additional stress on the global trade in forest products in the near future.

To secure a reliable supply and help safeguard ebony, a traditional tonewood, Taylor Guitars initiated a large sustainability project in Cameroon. Due to its efforts in Cameroon, Taylor Guitars received the prestigious Award

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for Corporate Excellences (ACE) from the U.S. State Department in 2014. The project's success has been chronicled in outlets such as National Geographic, Forbes, and the BBC World News, and now provided the company with a consistent supply of ethically sourced ebony. Following this success, Taylor Guitars felt that it must work to find additional opportunities to secure reliable supplies of key tonewoods and maintain its reputation as a leader in sustainability. The company was considering two new potential sustainability programs: (1) sourcing wood from a local urban waste stream in California and (2) establishing a koa forest on former cattle pastureland in Hawaii. Each program had its own benefits and challenges, and the company had to evaluate the time and cost commitments as well as the potential risks and rewards. Within the next month, Scott needed to carefully analyze all of the information available about each program and then make recommendations about how Taylor Guitars should proceed.

2. Taylor Guitars

Taylor Guitars, established in 1974, had grown into one of the world's leading acoustic guitar manufacturers. The El Cajon, California based, employee-owned company was co-founded by Bob Taylor and Kurt Listug and employed over 1,500 people in 2022. They produced hundreds of guitars a day in their state-of-the-art factory and maintained an active dealer network in retail locations across the world. Along with their headquarters in El Cajon, they also had a factory 40 miles away in Tecate, Mexico where entry-level guitars in the Taylor line and Taylor guitar cases were produced. In 2009, the company established a distribution warehouse in the Netherlands and two years later partnered with Madinter to purchase the Crelicam ebony mill in Cameroon. Taylor Guitars was recognized for their use of innovative technology, craftsmanship, precision, and playability, which had enticed many celebrated musicians to purchase Taylor Guitars, including Paul McCartney, Neil Young, Taylor Swift, and Jason Mraz.

At 17 years old, Bob Taylor saw a 12-string acoustic guitar in a local store window. Lacking the funds to buy the guitar, he decided to make his own. After building three guitars while in high school, he eventually brought his finished instruments to the American Dream guitar shop, where he met Kurt Listug, an employee there. The shop, owned by Sam Radding, primarily focused on repairs and made only a few guitars. When Radding decided to sell the company in 1974, Bob Taylor and Kurt Listug purchased it and eventually renamed it Taylor Guitars. Almost 50 years later, Taylor Guitars was a leading guitar manufacturer that had sold more than 1 million guitars. In the highly competitive guitar industry, Taylor Guitars competed with top high-end manufacturers such as Fender, Gibson, and Martin. Known for the consistent

craftsmanship and excellent playability of its guitars, Taylor Guitars had created a competitive advantage through their innovative manufacturing process. In 2022, Fast Company named Taylor Guitars one of the Top 10 most innovative companies in the manufacturing sector.

Years earlier, the company pioneered the use of robotic processes, such as computer-controlled milling, laser-cutting, and robotic finish spraying, which enhanced efficiency and productivity. The introduction of robotic processes also helped to manifest the company's commitment to sustainability. The company believed the first step toward improving sustainability was eliminating waste. In the manual production process, much of the raw material – wood in their case – was often cut and wasted. As an innovative company in the industry, Taylor Guitars was the first to use Computer Numerically Controlled (CNC) milling machines in the guitar manufacturing process. The use of robotic processes not only reduced the amount of wood needed, but also minimized wood waste generated. In addition, traditional spray painting often resulted in most of the paint being sprayed into the air rather than sticking to the object. To address this issue, Taylor Guitars introduced a robotic spray paint process that magnetized the paint and the object, allowing the paint to easily attach to the object and greatly reduced the amount of paint needed. This process also minimized the environmental impact of chemicals released into the air.

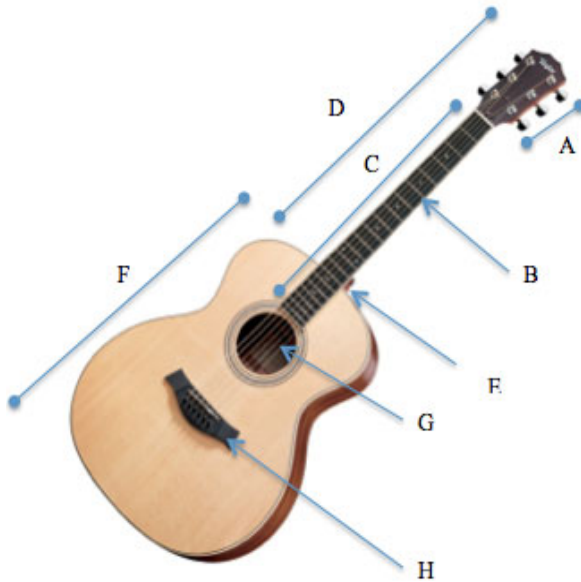
3. Guitar Manufacturing

The guitar-making process began with the procurement of wood, which will be described in more detail later. Once obtained, the wood was placed in an acclimation room with a stable temperature and humidity to ensure that the moisture content of the wood stayed at the ideal level of 4-6% before the next stage. After fully acclimating, the wood pieces were cut using a laser to create the guitar top, back, and sides (Exhibit 1). The guitar top and back then went through a detailed bracing process while the guitar sides were transformed into curved pieces. The next step was to glue the tail and heel to the top, back, and sides. Then the guitar body was hand routed before adding the decorative binding and edges.

In a separate station, the neck underwent rough milling from its original 4x4" board to near the final neck size. Traditionally, the next step would be to glue the neck onto the guitar body, but this eliminated the possibility of replacing the neck if issues arose. Taylor Guitars' innovative New Technology (NT) neck offered a three-piece bolt-on system that demonstrated the company's sustainability efforts. The bolt-on feature enabled easy neck replacement and allowed for proper adjustment of the guitar pieces, improving overall quality and yield from the woods used (Exhibit 2). Next, the heel was

glued onto the neck and the neck was carved and sanded smooth. It also underwent a precision cutting process which included fly-cutting the neck to establish a surface for the fretboard to be glued on, binding the neck and fretboard, and inserting the frets. In the past, the neck and heel were carved out of a single piece of wood, resulting in wasted material. Taylor changed this process by first gluing two pieces of wood together to form the overall shape of the neck and then gluing the heel to one end, finishing the detail with CNC machines (Exhibit 3). This new process helped sustainability efforts by reducing waste without sacrificing quality.

Exhibit 1 – Guitar Components



A	Headstock
B	Frets
C	Fret Board
D	Neck
E	Heel
F	Body
G	String
H	Bridge

