

Removing the Undesirables: A Case Study

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Introduction

Bennett Gage's desk chair was comfortable but he still couldn't relax. The firm had expended a lot of time and effort, and today was the moment of truth. Bennett saw the team, Abe and Ryker, come into view on the computer screen.

Abe, who was in front, moved down the corridor with clear purpose. Behind him followed Ryker, the team leader, a man who Bennett thoroughly trusted. Bennett switched screens. The final decision was his and he needed visual confirmation. The room appeared empty. Abe, who had entered the room first, behaved as if he thought otherwise.

As Abe moved along the wall near the bed, Bennett saw him abruptly stop, fix his gaze on something out of view on the floor, and then sit. Ryker moved past Abe, stooped down close to the floor and picked up a small container. He then patted Abe on the head and said, "Good boy!" Neither the container's occupants - three live bed bugs - nor the team itself heard Bennett exhale an enthusiastic, "Yes!" This dog was ready. Bennett would make the arrangements for him and three others in the upcoming days.

The Basics, or What Are These Critters?

Cimex lectularius, or bed bugs as they are commonly called, are reddish-brown insects that feed on blood - primarily human blood. Adults have a flat-oval shape and are small in size, measuring about 1/4 of an inch in length. Under normal conditions, bed bugs live roughly four to six months, but they are prolific. Over the course of her life, a female may lay up to 500 eggs, a few each day (Bedbugs.org 2015).

Body heat and carbon dioxide aid bed bugs in finding a blood source. Their nocturnal nature allows them to move about and feed largely unnoticed. A bed bug is capable of consuming its body weight in about five minutes. Though their bites may cause irritation, they are not known to carry disease. Once a food source is

successfully located, bed bugs will hide relatively close by in floor cracks, carpet or upholstery. While they generally feed every few days, a single meal can provide sustenance for up to six months (Bedbugs.org).

Bed bugs are wingless, but they are capable of climbing on many types of surfaces. They will also crawl lengthy distances to reach a host. Because of their size and shape, this travel can even involve movement through the spaces between rooms. Travel over much greater spans, even between cities and countries, is not uncommon because they can hitchhike in suitcases, clothing, bedding and furniture.

Undesired Closeness

For centuries, bed bugs have been interacting quite closely with humans. In Egypt, archeologists discovered fossilized bed bugs in association with human dwellings that were over 3500 year old. This close interaction has persisted because there have been so few techniques available to address their presence.

Physical methods of prevention were initially used (for example, putting oil on the legs of a bed). These techniques didn't kill the bed bug, but inhibited its ability to get from its hiding place to the person sleeping. Throughout the 20th century, the number of options available for physical prevention such as washing machines and vacuum cleaners increased.

The real advance in dealing with bed bugs came with the development of synthetic insecticides, which reduced bed bug populations and provided long-term residual control. But these chemicals, which poisoned and reduced bed bug populations, had detrimental effects on humans too. For this reason, some insecticides, such as DDT, were deemed unacceptable and their usage banned. The milder insecticides that are currently approved do not last as long nor are they as potent. The bed bug population has also developed some resistance to chemical controls. Because insecticide treatment is less effective than it once was, bed bug control and prevention efforts must be more integrated and focused.

The Lodging Industry

The lodging industry has been particularly challenged by the bed bug's resurgence. Bed bugs are primarily associated with places where people sleep and most of these places are properties associated with the lodging industry such as hotels, motels and bed & breakfasts.

In the United States, this industry is massive. The lodging industry's leading trade association states that there were almost 53,000 properties with 4,926,543 guestrooms in 2014, and these figures consider only properties with 15 or more rooms (American Hotel & Lodging Association 2015). In dollars spent, over 1 billion

rooms were sold in 2011 alone, with over 100 billion dollars in room revenue for the U.S. Hotel Industry. In addition, ancillary revenue spent elsewhere in lodging establishments was roughly \$30 billion (Hood 2011). Another fact about the lodging industry that is particularly pertinent is length of stay. Roughly 63% of business travelers stayed only one or two days and over 76% of leisure travelers stayed only one or two days (American Hotel & Lodging Association).

In sum, there are a large number of properties with a lot of guestrooms which experience substantial turnover. These facts suggest a problem could become sizeable and expand exponentially in a relatively short period of time. The potential financial impact means the industry has cause to remain attentive to this issue.

Lodging Industry Response

In the past, initial responses to bed bug infestations by individual properties have typically been very aggressive and expensive, resulting in lost capital goods, service expenses and downtime for rooms. When infestations continued to resurface, firms realized that the problem couldn't be managed as a one-time event - a more reasoned approach was needed. The result was an integrated effort that has several critical components: *prevention* (actions to keep from getting an infestation), *monitoring* (actions to identify the presence of an infestation), and *treatment* (actions to eliminate an infestation). These efforts must be maintained as well.

For prevention, mattress covers and certain types of furniture reduce the number of potential places bed bugs can hide. Thorough and regular cleaning of bedding and linens, combined with powerful vacuums, can reduce numbers if an infestation is present. In terms of monitoring, staff must be trained to identify bed bugs and the signs of an infestation. Treatment is generally handled by professional Pest Control Operators (PCOs) and must balance various considerations. There are government restrictions on the chemicals that can be used for treatment, especially in an enclosed space in which people will sleep. Also, if an infestation is present, it is important to address it swiftly so it does not spread to other rooms on a property through adjoining wall spaces or traveler movement.

Although these efforts do not prevent reinfestation, they reduce its likelihood and allow a property to identify and address any problem swiftly. This is a critical consideration as the detrimental impact on company profitability is two-fold - there are both treatment costs and lost rental revenue.

Sniffing Dog Trainers, Inc.

Bennett Gage became aware of the resurgence of bed bugs in the lodging industry by accident. A friend mentioned that a local hotel had experienced a bed bug

problem. Later he ran across an article about the use of canine scent detection to find bed bugs. He was intrigued.

His firm, Sniffing Dog Trainers, Inc., trained canine scent detectors. The firm's training services were currently focused on drug and explosive sniffers for law agencies, but the training techniques were not all that different. He knew the training process for bed bug sniffers had to be much less complicated in terms of sourcing and storage of training materials. Also, dealing with municipalities and government had become much more onerous than in years past. It seemed to Bennett an idea with substantial potential.

His initial efforts had been a side venture. Once he'd learned how the certification process worked with the National Entomology Scent Detection Canine Association (NESDCA), it was not too difficult to adjust his training methods. There was tremendous latent demand for his trained dogs by PCOs - firms that were incorporating canine sniffers into their service regime. This was only one business model that he thought could be used though.

A New Approach?

The longer Bennett was engaged in this new enterprise and the better he began to understand how it worked, the more he speculated that there might be a more lucrative way to be involved. After all, his firm provided the most critical resource involved in canine scent detection and he had the ability to expand its production.

Bennett began pondering a franchising model. His initial idea was to establish a service franchise that focused exclusively on bed bug monitoring services. Focusing exclusively on monitoring would let him present his services to lodging properties as more objective than PCOs which both located an infestation and then treated it as well. It would also allow his franchises to skip all the additional regulations with which PCOs had to deal. He could help franchisees get set up with a branded service, trained canines, and all the necessary handling certifications. They would then use their local knowledge of a market to establish contracts with lodging properties in their area.

Bennett had read some materials about branding and he thought he had some good ideas in that regard. He had read that one of the key aspects of branding was a strong and memorable brand name, one that really communicated the service being offered. His wife suggested "Bedbugs-R-Us". He liked that name and to support it, he had designed a logo using the silhouette of a bedbug with a big red "X" across it. He thought that design would both complement the brand name and be attractive on company uniforms and vehicles. He had discussed his ideas with several friends, who indicated that they thought he was very creative.

Even at a price of \$300 per hour, a canine/handler team could save a lodging property a large amount of money. Canine sniffers were much more effective than most alternatives. They boast a substantially higher accuracy rate in finding infestations compared to trained humans using visual detection (97% vs. 30%) (Bedbugs.org, Pfiester, Koehler & Pereira 2008). They could also cover a greater area in a shorter amount of time, a quality that would be attractive to properties that needed swift turnaround times. He was confident that many lodging properties would be attracted by such a service, on the basis of a simple cost/benefit analysis.

Bennett thinks there is real potential for growth using a franchising model. He is asking for your advice now.

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Relevance to Marketing Educators, Researchers and Practitioners: This paper is useful in a classroom setting to examine branding and distribution strategies for various businesses.

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