

Bedbugs research



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There will be multiple research objectives to gain a clearer understanding of the direction that the entire bed bug pest control industry is moving towards. Since the recent introduction of the low cost no-frills, 'do-it-yourself' equipment, there has been no solid data available to support as to how effective those techniques are nor is there qualitative data on customer's perception as to how effective it is.

Both approaches (quantitative and qualitative) are important since if the customers feel they have fewer bed bugs (qualitative) but empirical analysis shows that in fact the number of bed bugs present in their homes remain the same, such data is of great importance. Unfortunately the perception of customers is more important and their positive word-of-mouth recommendation of the do-it-yourself devices (despite their failure by quantitative measures) will create a huge market for failed products that will do consumers more harm than good in the long run.

The research objectives would be to find out empirically whether the 'Do It Yourself' approach is more effective, less effective or the same as by using the services of a qualified exterminator. After the use of the methodology described below, the test groups would be questioned specifically as to how they felt (qualitative approach) three months later: (a) Their overall feelings/beliefs as if there are less or more bedbugs present; (b) About their feelings/beliefs in the effectiveness of the product that they've used.

The same groups will also have their homes examined at the same time through the use of bed bug detecting dogs and exterminators who were trained in locating bed bugs to see (quantitative) if there were any bed bugs

to be found in the homes. The results gathered from the two groups (described below) will be compared so that a future course of action for Bed Bug Pest Control Of New York Inc. could be formulated. It will be of crucial importance for the company, as well as the bed bug removal industry to find out the effectiveness of different methods of bedbug extermination.

Research Methodology

The first part of the research methodology would be to gather a statistically significant random group of 1000 consumers who have experienced a bed bug infestation in their bedrooms. This group should be halved into two equal groups of 500: Group A and Group B. Individual members of each of the groups must have experienced similar levels of complaints of bed bug infestation as will be measured on questionnaires prior to the inclusion of the individual in the study.

Each of the groups must be willing to try out the devices given to them and agree to the post-extermination interviews as well as inspections by qualified, unbiased exterminators. (Zikmund, 2010) The first group of 500 (Group A) will use what we will define as the Do-It-Yourself (DIY) approach (use of devices such as double edged masking tape, devices to place under the legs of furniture, and other no-frills devices that are marketed on late night television, on websites which make dubious claims, and are found at supermarkets in well designed containers plastered with ‘As Seen on TV’ stickers) to attempt to remove the bedbug infestation from their homes.

To make sure that the devices are applied, a representative of the study will be present to make sure that the devices are used. We feel that without this

mechanism, there is a high degree of uncertainty as to whether the test subjects will truthfully use the devices, thus significantly skewing the results from data gathered from Group A. (Joselyn, 1977) The second group of 500 consumers (Group B) will exclusively use the services of qualified bed bug exterminators and will receive two visits, one week apart, to disinfect their homes using professional bed bug removal technology.

During the first visit, the qualified exterminator will use the steam method of bed bug removal, which uses a vacuum cleaner sized device to shoot 400 degree steam throughout the hard to reach areas of the bedroom, closet and the insides of the bed frame and furniture. This method boils away the bed bug nests as well as destroys the eggs. The second visit will use the scientifically proven cold method of bed bug removal which, through the use of a freezing stream -100 degree compressed carbon dioxide, will reach the deep nests hidden far within the walls, floors and walls that is unreachable by any other means.

Gathering Data Data Sources Many attempts by the company have been made to find any external data available on this subject without success. Due to the fact that bed bugs were practically extinct in the western world since the 1950's, the lack of modern equipment (carbon dioxide removal equipment, many of the current DIY gadgetry), no reliable sources of external data are available. Thus the company will use internal data or more specifically data collected internally from the new website (please see IT section below).

Types of Surveys All data collected will be done through an online website where each individual member of either Group A or Group B will answer the questions on their own. This will be done so the data will not be contaminated by the bias of the individuals who collect the data as well as to make sure that each individual is able to answer each question thoroughly in the comfort of their own home, and not with a member of the research team present. (Dillon, 1994) Observation Studies

This part of the study will be performed by the individuals who at the end of the study will come inside the test subject homes with bed bug sniffing dogs to determine empirically whether any bedbugs are still present within the premises. There is no known method besides the bed bug sniffing dog that can reliably determine their presence. Experiments / Test Markets The individuals to test out the premises of the experiment will be gathered from a specifically set up website that will gather the random individuals who will participate in the experiment.

Use of Information Technology Information Technology will be used in multiple ways throughout the survey to not only save marketing budget dollars for the company but also to make the entire process less intrusive for the test subjects. The 1000 total sample will be gathered through a specially created website which will ask consumers if they wish to receive a free extermination in exchange for their participation.

After a few thousand names are gathered, the individuals will be asked (via email) to return to the website (via a link inside the email) to fill out a detailed survey about their current infestation: (a) How often they were

bitten (b) How often they see bedbugs (c) to rate the level of their infestation (d) to see if they have used any methods to deal with the infestation in the past, etc.. The website will then randomly assign (to make the study double blind) the individuals into two groups described earlier in this presentation.

A simple random generator built into the website can accomplish this, that any second year IT student can write for under \$100. The researchers will not be able to see the names, races, gender or any other information about any specific individual to remove any potential bias. Each of the individuals will also be assigned randomly to an exterminator, who will not know that individual is part of any experiment. (Calabrese, 2011) The post-study interviews will all be done via the internet so as to not inundate the individuals with unwanted visits or telephone calls.

The individuals who participated in the study will receive emails with a link to fill out the qualitative parts of the study, which will ask them not only to rate how they feel (using their own words) about their current bedbug situation but the overall experience. In case of Group A, the questions will include (a) describe the ease/difficulty in applying the DIY products (b) Did they cause a mess? (c) How they felt about the infestation a week later, 2 weeks later, 1 month later (d) Would they recommend it to their friends and why?

McKnight, 2011) The use of web based technology would make the entire process more comfortable and may result in more honest answers since the questions will be answered at the convenience of each individual who participated in the experiment and not at the convenience of the organizers of the experiment. The final data will also be much easier to break up and analyze since every response will be stored in the database and thus the

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final data could be broken down and correlated using a vast array of different scientific approaches.

Reference

<http://www.economywatch.com/world-industries/steel-industry/trends.html>