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CONTENT ANALYSIS OF CONSUMER CONFIDENCE IN FOOD SERVICE IN RELATION TO FOOD SAFETY LAWS, PUBLICITY, AND SALES

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INTRODUCTION

Over the last few years, incidents of foodborne illness outbreaks have increased in restaurants (World Health, 2007). With the discovery of the new types of foodborne illnesses, it is imperative that operators within the hospitality industry stay informed with up to date information as it pertains to federal, state, and local health regulations. Many times, operators are cited for failing to meet the standards established by either Local or State governments because they have been instructed to understand and apply the standards adopted by the National Restaurant Association Education Foundation, which bases its test exclusively on the current FDA model Food Code. While the FDA model Food Code is a basic outline for the food codes adopted by the states and localities, the states and localities have adopted their own versions that are either more stricter or lenient than the recommendations within the FDA model Food Code because "The model Food Code is neither federal law nor federal regulation and is not preemptive." (U.S. Department of, 2005, p. Preface iii)

In 2001, the FDA adopted a 4 year revision program and the current food code was published in 2005consisting of 8 chapters and 7 annexes. The FDA states that the food code is a "…model that assists food control jurisdictions at all levels of government by providing them with a scientifically sound technical and legal basis for regulating the retail and food service segment of the industry…" (FDA Food Code, 1993/2005, para. 1) Unfortunately, with the complexities of the Federal Food Code, and the issuance of revisions every two years up until 2001, the Association of Food and Drug Officials found that in 2004, 48 out of 56 states and territories had implemented some type of food safety program modeled after versions of the FDA model Food Code from the years 1993 to 2005, and with 20, 18, and 2 states each having adopted the 1999, 2001, and 2005 FDA model Food Codes, respectively (Real Progress in, 2002/2006). Since each of the 56 States and Territories are given the opportunity to either adopt the Federal model Food Code, or to create one to their satisfaction, it should be relatively easy to understand why most employees in the food service industry are unaware of some of the minute differences among the states, and even within some local jurisdictions.

For this reason, it is imperative to understand the differences between the food codes of different years and the food codes of the different states and territories, and since Native American Tribal Governments are sovereign nations, the lack of information provided means that the food service employee will need to locate and understand the guidelines for food safety and sanitation within that specific jurisdiction. Considering the information that can be obtained from 56 different states and territories, that utilize up to 7 different versions of the FDA model Food Codes (including those that have no official adoption), and the ability of not only each state to create its own regulations, but also for each county and/or city to create additional regulations that can add to the amount of knowledge required of a food service employee, it could be considered amazing that massive foodborne illness outbreaks are not occurring more often. Employees of the food establishment are the ones that come in contact with the food items being prepared for guest consumption, yet most laws and regulations state that it is the manager is responsible for maintaining the knowledge and expertise required to keep food safe. As found in the 2005 investigation by Dateline, "At a Hardee's in Midlothian, Va., workers served raw, undercooked chicken tenders to children, and some of them got sick. At another Hardees, an employee was eating and then licking their fingers while filling an order." (Dateline MSNBC, 2005, p. 2)

When it comes to food safety, most consumers feel that the laws are not protecting them properly. In fact it has been found that consumer confidence in restaurant establishments drops whenever negative information is printed in the media. de Jonge *et al*, published a study in 2007 that determined "In the context of food safety, confidence may indicate the implicit belief that the consumption of food products will not result in adverse health effects for the people consuming them." (de Jonge, van Trijp, Renes, & Frewer, 2007, p. 730) While the study was trying to understand the conceptualization of consumer confidence in food safety on the basis of optimism versus pessimism, the results indicated that consumer confidence has many varying determinants that can affect the overall outcome of the study. It is important to note, that the study found that "…trust in the government and trust in manufacturers are more strongly related to consumer confidence in the safety of food than trust in farmers and retailers." (de Jonge et al., 2007, p. 736), even though recent outbreaks have involved both farmers and retailers.

Alternatively, while consumer trust, confidence, and perceptions play important roles in an establishment's attitude toward food safety, research into the economic results show that the information that consumers receive is directly related to an establishment's financial stability. As a primary source of information for consumers, media plays an important role in the influence of consumer attitudes toward food products. Richards and Patterson (1999) discussed the impact that the media had on consumers trust in strawberries, after they were incorrectly accused of being the source of a major foodborne illness (cyclospora) outbreak in 1996. In their study, it was determined that the effects of the misinformation caused a drop in strawberry sales by up to 30%, even after it was determined that the illness was caused by imported Guatemalan raspberries (Richards & Patterson, 1999, p. 443). Unfortunately, strawberries were again accused of causing a foodborne illness outbreak of Hepatitis A at a school in Michigan in 1997. While this outbreak was caused by contaminated strawberries, the company that supplied the strawberries to the school had illegally purchased them from Mexico. The United States strawberry industry, particularly the California Strawberry Commission, lost sales valued at up to $40 million, even though the exact figure was still being debated (Richards & Patterson, 1999, p. 443).

Laws, consumer confidence, and negative media can affect the sales of an establishment with regards to food items. While most studies in the past have dealt with each of the items separately, or dealing with food on the supply chain, research into the impact on foodservice operations has proven difficult to locate. This study will focus on triangulating the information from the different sources to establish an understanding of how consumer confidence, laws & regulations, and sales are related in foodservice establishments. As a result, the question that will be answered by this study is: Are fluctuations in sales determined more by food safety laws or incidental outbreaks and therefore would reliance on laws protect an establishment more than how an outbreak is handled?

LITERATURE REVIEW

According to Jesse Lyon, former law researcher for the food and drug administration, ancient food preparation relied on *moral accountability* (doctrine as attributed to religion), while advancements in exchange markets brought about *community accountability* (The golden rule: do unto others as you would have them do unto you) in the production of food. (Lyon, 1998, pp. 737 & 741) It was not until the 19th century that lawmakers determined that threats against the supply of food would be treated as a "crime against society". (Lyon, 1998, p. 745) Even in the last century, many laws developed to protect against foodborne illness outbreaks have been established after a major outbreak has already occurred. For instance, the Hazard Analysis Critical Control Point (HACCP) design of food safety was established in the 1960's as a way to ensure the safety of food in space (Goodrich, Schneider, & Schmidt, 2005); however, in 1993 "…following a highly publicized foodborne disease outbreak in the Pacific Northwest," (Lyon, 1998, p. 750) "Foodmaker, the supplier of Jack-in-the-Box hamburgers, has instituted an HACCP program for all parts of its food system chain, from carcass suppliers to restaurant servers. Both the probability and the level of pathogen contamination have fallen, without a significant increase in costs" Buzby and Roberts' study (as cited in Lyon, 1998, p. 750) Unfortunately, Dateline, the NBC news program, compiled research on restaurant health inspections from the top ten fast food establishments, of which, Jack-in-the-Box is included. According to their report, Jack-in-the-Box listed 5th place in the number of critical health violations per 100 stores, at 164 violations or almost 2 per store. (Dateline MSNBC, 2003) A year later, Dateline completed another study, and Jack-in-the-Box had moved to first place with 45 Critical violations per 100 stores or less than one per store. (Dateline MSNBC, 2005, p. 3) Overall, of the 1000 restaurants researched, the number of critical violations dropped from 1,755 to 959 or approximately a 55% improvement; however, it is difficult to determine if the decrease in the number of critical violations is a result of the stories produced by Dateline, or if the performance is related to some other phenomenon or change in laws or regulations. Future research could determine the impact of laws and regulations on the incidence of critical violations among restaurants over a period of time.

According to MİRAN and AKGÜNGÖR, "An estimate of the economic consequence of a food scare event provides important evidence for the food industry in quantifying the revenue losses associated with the controversy." (MİRAN & AKGÜNGÖR, 2005, p. 226) In their study, research was conducted on the sales of beef after intense media coverage on the possible contamination with *Bovine Spongiform Encepholaphy* (BSE, commonly referred to as Mad Cow Disease). While the intense media coverage ran from April through June of 1996 and then ceased, the overall affect on beef sales dropped 36.4% over that period, to the tune of approximately $6.1 million. (MİRAN & AKGÜNGÖR, 2005, p. 229) It can also be noted that "The more an individual trusts the safety of food products and the organizations guaranteeing this safety, the lower the perceived threat." (Kuttschreuter, 2006, p. 1048) and that "Regarding food safety, the goal is to acquire food products which have the desired consumption attributes, are safe to eat, and are free of contamination and therefore free of worry to the consumer." (Yeung & Morris, 2001, p. 179) How does this affect the overall relation of laws, consumer confidence, employee training, and sales within the foodservice industry? In her study, Yeung notes that consumers will do one of four scenarios when a possible threat to food safety is discovered. Her contention is that consumers will either: stop utilizing the product, reduce use of the product, switch to an alternate product, or continue utilizing the product while understanding the risks involved. (Yeung & Morris, 2001, pp. 179-180) Ultimately, media publicity of incidental outbreaks has a stronger affect on consumer confidence than the government regulations that are established to mitigate the risks of such outbreaks.

METHODOLOGY

Research was conducted by searching journal articles for terms related to: consumer confidence, food safety laws, food safety publicity, food safety controls, etc. Search results located 15 articles related to search criteria, and ranged from journals related to risk analysis, economics, and veterinary science. Each resulting study was analyzed for data relevant to the study at hand. Triangulation of data results was completed through news articles and information published on the internet.

METHODS

The impact of media on data collected was a variable for all studies analyzed. It was found that:

Respondents who recalled a message in the media about a food safety incident were divided into two groups by means of a median split on the basis of the extent to which the recalled message was found to be alarming. The results indicated that respondents who evaluated the media message as alarming were less optimistic and more pessimistic about the safety of food, which demonstrates that in addition to recall per se, the perceived seriousness of food safety incidents plays an important role in the extent to which these incidents influence consumer optimism and pessimism about the safety of food. (de Jonge et al., 2007, p. 734)

In relation to the study on BSE, it was discovered that:

The model proposes that beef demand declined promptly and swiftly right after the first announcements on the possibility of the presence of BSE contaminated beef in the market. The drop in beef consumption continued all through the period during which there was intense media coverage on BSE. The demand recovered promptly after June 1996, right after the intense media coverage ceased and the coverage on the BSE scare was not as intense as before. (MİRAN & AKGÜNGÖR, 2005, p. 229)

Overall, the incidence of a decrease in consumer demand for products after negative media attention has resulted in companies working toward counteracting the negative with positive media. As stated previously, consumer rarely trust the companies that have a stake in the food being publicized; however, results have shown that the positive media attention has resulted in a rebound in sales for affected companies, in such that:

These flexibility estimates also show that both negative and positive media exposure have significant effects on commodity prices, but, as attribution theory suggests, their impact is not symmetric. Consumers appear to react strongly to negative information about a product, but they are less responsive when presented with favorable news. Because many of the positive articles included here were corrections of previous misinformation, this suggests that once the bad news is made public, the damage has been inflicted and little can be done to reverse it. It may also be the case that favorable information provided by the CSC is viewed as "nonunique" or to reflect its own interest, and so is discounted heavily by consumers. Rather than release such defensive communiqués (sic) directly, therefore, it is clearly in a commodity board's best interest to filter this information through organizations consumers perceive as objective, such as universities or government research agencies.

It is also interesting to compare the relative magnitudes of the short-run negative and positive information flexibilities. Whereas a rise in the weighted, cumulative index by one more negative article (a 45% increase, on average) in a typical month is likely to reduce strawberry prices by over 29%, a positive article (a 76% increase) will help the CSC recover 26% of the strawberry price. However, if the percentage change in information stock is held constant across the two scenarios (perhaps if the CSC adopts an equivalent tit-for-tat strategy), the CSC will only be able to raise prices by 15%. Thus, if the CSC seeks to mount an intensive campaign to counter the negative media exposure, it will have to almost double the negative exposure provided by the popular media. Because of the autoregressive model structure, this approach gives estimates of both the long- and short-run effects of information and price changes. (Richards & Patterson, 1999, p. 455)

In this case, the affect of one source of negative media attention might be counteracted by two sources of positive attention, provided that the positive attention comes for an objective source. Ultimately, it is the attention that the media gives to an incidental outbreak that determines the resulting rise or fall of sales for an establishment.

With each and every new media report of incidental outbreaks, government regulators have attempted to react after the incident occurs to try and regulate a solution so that the incident does not occur again. In theory, this would be a way of helping establishments handle related foodborne illness outbreaks; however, studies show that government regulations have very little impact on the reactions of consumers in relation to incidental outbreaks. In fact, "There are indications that people trust consumer organizations the most, and the food industry moderately, whereas government sources are generally not trusted at all". Frewer *et al*. study, (as cited by Kuttschreuter, 2006, p. 1048). In addition, it has been observed that:

Congress, the consortium of food safety agencies, or the judiciary all may be called on to determine how the feasible reduction of foodborne hazards should be defined under the new initiative. Producers and consumers will determine whether that definition maximizes workable food safety.

Given that food producers ultimately bear the responsibility to reduce foodborne hazards where feasible, the Administration's initiative may place the regulatory cart before the market forces to which it is inextricably hitched. (Lyon, 1998, p. 759)

In this context, it is suggested that government regulations are either too late, or designed in a context to fix a problem that has not occurred yet. In addition, the position that consumers do not have confidence in the government to protect them is confirmed when it is established that

The American Federation of Government Employees (AFGE) recently argued before Congress that "[t]he new inspection tasks undertaken as part of the implementation of [HACCP] involve the mere review of company paperwork, rather than the direct inspection of production, equipment or facilities . . . While HACCP could be used to augment food safety, USDA is using it as a back door to deregulate." Inspection Process is Dangerous, AFGE Warns Congress, PR NEWSWIRE (as cited by Lyon, 1998, p. 771)

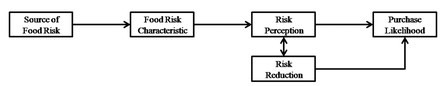
CONCLUSION

Restaurant sales have several variables that attribute to its fluctuations, with consumer confidence being one major variable that must be dealt with. In the area of food service sanitation, the implication of an incidental outbreak can be devastating for the entire supply chain of a product, no matter where along the chain the outbreak occurred. As an example, BSE and E. coli have been mentioned in media articles over the past many years, which have resulted in declining sales in sectors that are mentioned in the media articles. Even as far back as 1993, when Jack-in-the-Box was hit with the negative media attention of the E. coli outbreak that ultimately killed four children in the northwest, the effects of the media attention were felt as far away as El Paso, TX, where a franchisee had sales drop by almost 59%. (Andrew Martin, 2007) This incident and the media backlash that occurred was not enough to cause permanent damage to the company, as the franchisee in El Paso has increased his store ownership to 12 locations (Andrew Martin, 2007), thus showing that recovery is possible after incidence of negative media attention.

Laws and regulations also play a role in understanding the relation of food safeties affect on sales. In January 1994, the 1993 version of the FDA Food Code was announced and became readily available by March 1994. The E. coli outbreak from Jack-in-the-Box occurred in early January of 1993, and would appear to be a catalyst for the design of the FDA food code; however, The FDA had begun to work on revising the food safety laws as early as 1990 (U.S. Department of, 1995, p. 87), with the objective to take three sanitation codes, known previously as the "FDA Unicode" from 1976, and combine them into one comprehensive food code that included information on implementing HACCP objectives (National Restaurant, 2007). Even though HACCP was originally introduced in the 1960's, and the FDA began including it in the 1993 Food Code, it was found that "By 1997, between 75-81% of U.S. food processors had implemented, partially implemented, or were planning to implement HACCP" Morris, C.E. study (as cited by Lyon, 1998, p. 770).

Ultimately, the increase or decrease in sales for food service establishments can be directly related to incidence of foodborne illness reported by the media and the resulting laws and regulations that government introduces. In fact, it can be shown that consumers have an actual systematic method for determining whether or not a potential risk should be avoided or not. (Figure 1)

Conceptual model of consumer food purchase relating to food safety. (Yeung & Morris, 2001, p. 182)



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